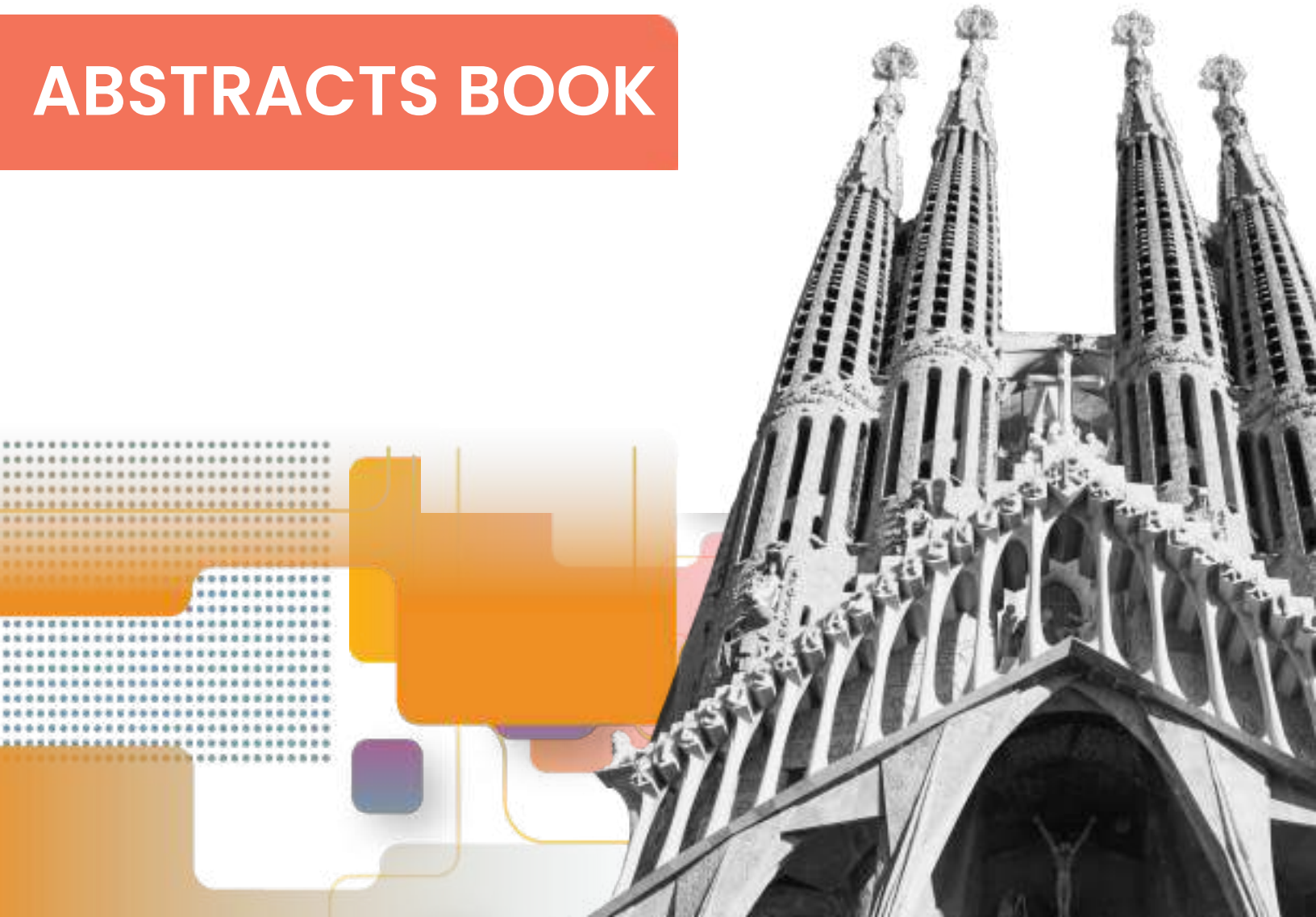
EHMC

European Health Management Conference

Future-proofing health systems for a changing world: from strategy to action

10 - 12 June 2026 - Barcelona, Spain

ABSTRACTS BOOK



The European Health Management Association

The European Health Management Association (EHMA) is a not-for-profit membership organisation. Active since 1982, our vision is excellent health management for a healthy Europe.

We support the spread of knowledge on effective health management. Our actions focus on health management capacity and capabilities and aim to support the successful implementation of health policy and practice. We are a recognised and respected amplifier of best practices in the evolution of health management, with a European and global reach. Through our efforts, we make a difference across Europe to improve health for all citizens.

We are open to all those committed to improving health and healthcare. We play a crucial role in engaging with the full European health management ecosystem. We are a highly accessible and well-established place where people can debate and engage in issues that affect them, where they feel they can advocate for change, and find solutions. Through our members and networks, we reach local, regional, national, and international levels.

About the European Health Management Conference

The European Health Management Conference (EHMC) is Europe's preeminent conference on health management. Each year it gathers the full healthcare ecosystem, including health managers and leaders, healthcare professionals, researchers, academics, industry representatives, and decision-makers from Europe, and beyond.

The EHM Conference provides a platform to discuss the latest health management research, tools and evidence from renowned researchers, academics and professionals. It is concerned on translating research into practice. It creates opportunities for dialogue and exchange on solutions to ensure the sustainability and resilience of health systems.

The European Health Management Conference 2026

The European Health Management Conference 2026 marked the 31st edition of our prestigious annual event, co-hosted by our members, La Unió – the Catalan Hospital, Health and Social Services Association and IESE Business School. This year's theme, '*Future-proofing health systems for a changing world: from strategy to action*', highlighted the need to translate ambitious visions for healthcare into concrete, sustainable change.

Across Europe and beyond, health systems face demographic pressures, workforce shortages, rapid digital transformation, and the need to strengthen resilience, sustainability, and equity. This year's conference explored how to bridge long-term vision with day-to-day implementation — addressing priorities such as prevention, workforce transformation, digital innovation, sustainability, and equity in access.

Future-proofing requires leadership that connects policy with practice, fosters cross-sector collaboration, and empowers communities to co-create solutions. By turning strategy into action, health managers can ensure that systems are not only high performing today but also ready for the challenges and opportunities of tomorrow.

Acknowledgements

EHMA acknowledges the expert guidance of the Abstract Reviewers in assessing and selecting 442 research abstracts out of the 493 received as part of the Call for Abstracts for EHMC 2026.

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Partnering with staff for access and sustainability: process redesign that tripled margins in a critical-access rural hospital (ID 1)

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Context: Outpatient Therapy Services (OTS) at Adventist Health Tillamook—a small critical-access hospital on the Oregon coast—specialises in oncology, haematology, and wound care. By early 2024, the department was operational but underperforming, generating only about $70 000 net in the first six months while patients faced long waits and first-available appointments booked months out. Staff frustration, overtime costs, and inefficient workflows further strained access and morale. Leadership launched a comprehensive improvement effort to stabilise finances, shorten patient wait times, and strengthen engagement so that this high-complexity service line could sustain quality cancer and infusion care for a rural population with limited alternatives.

Methods: A structured DMAIC (Define–Measure–Analyse–Improve–Control) approach guided the redesign. The new director began with a one-month "severe listening" campaign to engage every OTS nurse, scheduler, and partner department—finance, registration, pharmacy, and diagnostic imaging—to identify root causes of delays and waste. Quantitative measures (throughput, overtime, margin) and qualitative insights informed prioritised "tests of change," each co-designed and executed by frontline nurses over one-month cycles. Interventions included: (1) a revised nurse-acuity model raising thresholds from 18 → 21 points per RN, (2) quick-lab and injection cubby areas freeing treatment rooms, (3) dual-infusion room conversions, (4) elimination of unnecessary lab-result delays, and (5) a shortened ketamine-infusion protocol reducing procedure time from 10 → 6 hours. Each pilot was evaluated for safety, efficiency, and staff/patient satisfaction before standardisation into policy.

Results: From January–June 2025, OTS net earnings rose to ≈ $210 000—a three-fold (≈ 300%) increase over the same 2024 period. Patient throughput expanded within existing staffing and square footage, while overtime costs were eliminated. The acuity-index redesign enabled balanced workloads without compromising safety or nurse satisfaction. Morning lab pre-ordering and the cubby workflow saved 15–30 minutes per patient and reduced room congestion, allowing faster daily starts and improved flow. Appointment availability improved from months-long backlogs to near-real-time scheduling for most treatments. Staff engagement remained high (Gallup mean = 4/5) but with far stronger ownership and morale. Collectively, these targeted micro-improvements transformed OTS into a financially stable, high-access, patient-centered department capable of adapting to fluctuating demand.

Discussion: The OTS transformation shows how small rural hospitals can future-proof specialty services by coupling financial discipline with frontline empowerment. Instead of imposing top-down change, leadership facilitated structured listening, collaborative experimentation, and rapid-cycle learning. The result was a sustainable model that expanded access, improved fiscal margins, and reduced burnout—all without additional FTEs or facility expansion. This demonstrates that resilience arises from staff ownership, data-driven decision-making, and willingness to pilot and iterate before standardising. The model is now being scaled to Adventist Health Tillamook's rural health clinics using the same participatory methodology. The lessons—listen deeply, measure carefully, test small, and standardise success—apply broadly across resource-limited health systems striving to strengthen access and economic stability in an increasingly uncertain healthcare environment.

Patient-reported experience, patient-reported outcome and overall satisfaction with care: what matters most to people with diabetes? (ID 6)

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Background: Diabetes management has become a critical healthcare challenge globally, emphasising the need for patient-centred care to improve the quality of services and enhance treatment outcomes. Patient experiences, perceived outcomes, and satisfaction are crucial to optimising healthcare delivery, but each reflects different aspects of care. Understanding how these measures relate to each other is key to improving healthcare evaluation and avoiding dependence on a single metric. This study examines how patient-centred care (PCC) is associated with patient-reported experience measures (PREMs) and patient-reported outcome measures (PROMs), as well as overall patient satisfaction (PS) among people with diabetes.

Method: This study uses cross-sectional quantitative data from a structured, interviewer-administered questionnaire in 47 primary healthcare centres in Jeddah, Saudi Arabia, and is reported in accordance with the CROSS (Consensus-Based Checklist for Reporting of Survey Studies) guidelines. A total of 594 people with diabetes were recruited using random sampling from these centres. PCC was measured using the PCC-36 instrument. PREMs and PROMs were assessed using items adapted from the Swedish National Diabetes Register, while PS was measured using a validated single-item scale. Each was evaluated as a continuous measure, where higher scores indicate more positive experiences, outcomes, or satisfaction. A regression analysis was conducted to investigate the interrelationships between PREMs, PROMs, and PS and control for the effect of relevant sociodemographic and health-related characteristics. The data analysis was carried out using STATA 18.

Result: The results of the study indicated that PCC had a significant positive relationship with PROMs ($\beta = 0.316$, $p < 0.01$), PREMs ($\beta = 0.063$, $p < 0.05$), and PS ($\beta = 0.689$, $p < 0.01$). A strong residual correlation was observed between PREMs and PROMs ($\beta = 0.734$, $p < 0.01$), while the residual association between PREMs and PS was minimal ($\beta = 0.063$, $p < 0.05$). Emotional support was significantly associated with PROMs ($\beta = 0.170$, $p < 0.01$) and PREMs ($\beta = 0.078$, $p < 0.01$) but had a negative association with PS ($\beta = -0.084$, $p < 0.1$). Family and friends' involvement was a significant predictor of PROMs ($\beta = 0.193$, $p < 0.01$), PREMs ($\beta = 0.125$, $p < 0.01$), and PS ($\beta = 0.082$, $p < 0.05$). Physical comfort was positively associated with PS ($\beta = 0.128$, $p < 0.01$) but negatively associated with PROMs ($\beta = -0.143$, $p < 0.01$) and PREMs ($\beta = -0.056$, $p < 0.05$). Access to care is significantly associated with PS ($\beta = 0.176$, $p < 0.01$).

Conclusion: This study highlights the crucial role of PCC, showing that higher levels of PCC are associated with more positive patient experiences, health outcomes, and satisfaction among people with diabetes. Key PCC factors include emotional support, involvement of family and friends, and access to care. Thus, patient-centered practices must be integral to quality improvement strategies in diabetes care. Although variations in PCC largely explain variations in patient-reported measures and satisfaction among people with diabetes, variations in omitted or unobserved factors drive these measures. These findings highlight the importance of further investigating the nature and relation between PS, PROMs, and PREMs and their use in tailoring care to patient priorities.

The Cooperative Health Insurance System Coverage in Saudi Arabia: insight from the Household Health Survey 2018 (ID 7)

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Background: This study examines how key socioeconomic factors influence coverage status in Saudi Arabia's Cooperative Health Insurance System (CHIS), with a focus on differences across age groups. Understanding these patterns is essential to identify underserved population segments and informing policy strategies aimed at improving the healthcare system and achieving Universal Health Coverage (UHC).

Methods: A cross-sectional analysis was conducted using data from a nationally representative survey of 12,089 individuals conducted by the Saudi General Authority for Statistics. Logistic regression models were used to assess the association between CHIS coverage status and key socioeconomic variables, including age, gender, nationality, education, income, marital status, household size, employment status, and residency.

Results: CHIS coverage status was significantly associated with multiple socioeconomic factors. Children aged 0–9 were less likely to be insured, while those aged 10–18 had higher odds compared to adults. Women, Saudi nationals, individuals with lower education and income levels, larger households, and rural residents had lower odds of CHIS coverage. These differences appear to be shaped by employment patterns and government policy.

Conclusions: CHIS coverage in Saudi Arabia is significantly influenced by socioeconomic factors. Differences exist across age, gender, nationality, education, income, marital status, household size, employment status, and residency. These differences are shaped less by eligibility criteria and more by employment patterns and government policy. To promote more equitable health coverage and to progress toward UHC and the Vision 2030 goals, targeted reforms are needed such as extending coverage to public sector employees.

Patient participation in value-based maternity care in the southwestern Netherlands (ID 13)

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Context: In 2022, 72.8% of births in the Netherlands occurred in hospitals. Despite a stable birth rate, increasing staff shortages are placing significant pressure on hospital-based maternity care, also in the southwestern region. This pressure threatens the quality, safety, and patient-centeredness of care. Patient participation is increasingly recognised as a strategic intervention to improve care delivery, enhance patient satisfaction, and support workforce sustainability. This thesis examines the maturity of patient participation in secondary maternity care in hospitals in the southwestern Netherlands and explores how participation can be structurally embedded and enhanced within the framework of value-based healthcare at the organisational level.

Methods: This thesis comprises five empirical studies examining patient participation in hospital-based maternity care. Chapter 1 presents a systematic review of organisational-level patient engagement in value-based healthcare, applying Carman et al.'s continuum of engagement. Chapter 2 investigates negative effects of patient participation on safety through qualitative interviews with patients and professionals in an Obstetrics department. Chapter 3 identifies 18 mitigating actions based on a qualitative study using interviews with patients and professionals, categorised into five domains: structure, culture, education, emotional, and physical/technology. Chapter 4 applies Q-methodology to explore women's preferences for care during labour and birth, combining interviews with factor analysis to identify viewpoints. Chapter 5 examines associations between socioeconomic factors and Patient-Reported Experience Measures (PREMs) using a retrospective study in a Dutch hospital, applying logistic regression and multivariate analysis. Together, these studies offer a multidimensional understanding of patient participation and provide insights for improving maternity care quality and equity.

Results: Chapter 1 reveals that patient engagement at the organisational level is predominantly limited to consultation methods such as surveys and interviews, with minimal use of higher-level engagement strategies like co-design or shared leadership. Chapter 2 identifies five forms of patient participation in patient safety and four negative effects: patients' confidence decreases, the patient-professional relationship can be negatively affected, more responsibility can be demanded of the patient than they wish to accept, and the professional has to spend additional time on a patient. Chapter 3 outlines 18 mitigating actions across five domains, emphasising structural and cultural change. Chapter 4 identifies four distinct perspectives on birth care preferences: personal, empowering, expert-driven, and needs-based. Chapter 5 shows that women living in deprived areas and those with low social support report poorer birth experiences, highlighting disparities in perceived care quality. These findings underscore the limited maturity of patient participation and need for targeted strategies.

Discussion: The maturity of patient participation in hospital-based maternity care in the southwestern Netherlands is low. To transition toward value-based, patient-centred care, systemic changes are needed. Clear roles must be defined for insurers, government bodies, and hospital leadership in promoting and monitoring patient participation. Participatory competencies should be integrated into both medical education and clinical training. Medical leadership must evolve toward collaboration, responsiveness, and service orientation. To translate patient participation into sustainable practice, investment in the availability and capacity of maternity services is essential, enabling professionals to engage meaningfully with patients and take participation to the next level in daily care. This shift entails recognising patients not only as recipients of care but as active partners in designing, evaluating, and improving care processes. Embedding this participatory logic into organisational structures and culture will be essential to achieving sustainable and measurable improvements in care quality, safety, and equity.

Addressing Public Health challenges: decoding anti-vaccine communication to prevent childhood vaccine hesitancy in Spain (ID 18)

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Context: Vaccination remains one of the most cost-effective strategies for the prevention of infectious diseases, yet parental vaccine hesitancy continues to challenge global health systems and leads to increased healthcare costs. In Spain, the landscape of anti-vaccine messaging has shifted notably since the COVID-19 pandemic: YouTube previously dominated this space, but Odysee has since become a primary dissemination channel. This study aims to systematically analyse and compare the communication techniques and persuasive strategies employed in pre- and post-pandemic anti-vaccine videos targeting childhood immunisation, addressing a significant evidence gap in public health communication research.

Methods: A total sample of 500 videos was collected, divided equally between two platforms: 250 YouTube videos published prior to the COVID-19 pandemic and 250 Odysee videos published subsequently. To ensure ecological validity, all searches were conducted using clean browsers, without user login, and surfing as a guest, to simulate the experience of the general public searching for childhood vaccine-related content. Identical keywords and collection protocols were used for both samples to minimise selection bias. Quantitative and qualitative content analysis was performed, focusing on the variation in communication techniques, source credibility, video format, channel type, and persuasiveness between the two periods. Comparative statistics and thematic analysis informed the findings.

Previous Results: Before COVID-19, most anti-vaccine videos were lengthy (30–60 minutes) and often recorded at public congresses related to healthy living. Speakers used to be a doctor or a therapist specialised in non-conventional treatments. Videos are shown in public channels owned by companies.

Post-pandemic, Odysee videos against childhood immunisation became significantly shorter and more numerous, with a broader mix of formats (e.g., interviews, documentaries, videoconferences, and online interviews). While healthcare and alternative medicine professionals remained prominent, new actors, including journalists, entered the discourse.

Most channels are private. People curate and redistribute existing content. Cross-posting of videos among private channels increased content reach and repetition.

Discussion: This analysis constitutes a component of a broader research initiative on decoding anti-vaccine video content and persuasive tactics in the context of childhood vaccination. The findings highlight the evolving nature of anti-vaccine communication and its adaptation to new digital platforms.

Our first results allow us to dive into a parent-centric perspective to manage the information disseminated on the internet. This information provides health professionals with tools to deal with parents' hesitancy.

Health professionals can leverage these insights to refine interventions, tailor communications that address parental concerns, and identify persuasive triggers used in online misinformation. Future strategies to promote immunisation should consider both the messaging techniques and the changing media environment, optimising approaches to counteract vaccine hesitancy effectively in Spain.

Evidence-based management: from data to strategic decisions in the experience of the Public-Private Partnership (PPP) organisational model between COQ and ASL VCO (ID 19)

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Context: The Italian National Health Service is currently facing significant challenges due to reduced public funding and increased demand for healthcare services. In this scenario, the Centro Ortopedico di Quadrante (COQ) and the ASL VCO have developed a Public-Private Partnership (PPP) model aimed at improving both the efficiency and quality of orthopaedic services. This model is based on the concept of a "focused hospital," which involves concentrating resources and expertise within specialised facilities to optimise both clinical and managerial outcomes.

Methods: The project adopted a multimethod approach, structured in several phases and strongly oriented towards the integration of objective data to guide decision-making. The main methodological steps included:

- A review of Italian and international literature on "focused hospital" models;
- Analysis of orthopedic surgery activity data from the three ASL VCO facilities (using Hospital Discharge Records and National Outcome Plan - PNE data);
- Assessment of specialist resources, available technologies, and Diagnostic-Therapeutic Care Pathways (PDTA);
- Definition of strategic choices for the "focused hospital" and its interconnections with other hospitals in the corporate network;
- Development of a dashboard of indicators for performance monitoring.

Results: The project has already yielded significant results, with further optimisation potential:

- Cost reduction: The cost of a prosthesis at COQ is €1,144 (VAT included), approximately 40% less than the average market price;
- Increased efficiency: COQ currently manages 75% of scheduled orthopedic procedures within ASL, with the potential to reach 85%. Reorganisation of activities would allow for the release of professional resources and operating slots in other facilities, improving waiting lists;
- Separation of patient flows: Distinguishing between emergency/urgent and scheduled surgery enables more efficient resource management and reduces unforeseen interruptions;
- Improved clinical outcomes: Concentration of intervention volumes is correlated with better clinical results (as highlighted by Ministerial Decree 70/2015 and PNE reports on post-prosthesis readmissions);
- Optimisation and retention of resources: The introduction of itinerant teams promotes operational flexibility, cost reduction, and greater staff satisfaction, positively impacting retention and turnover.

Discussion: The PPP experience between COQ and ASL VCO demonstrates how a data-driven and focused model can effectively address the challenges of the healthcare system, optimising resources and outcomes. Concentrating activities in a "focused hospital" enables economies of scale, improves care quality, and makes the management of human and technological resources more sustainable. Separation of patient flows and team mobility represent innovative strategies to address staff shortages and flexibility needs. However, the project also highlights the necessity for constant monitoring and continuous adaptation of strategies to fully realise benefits and address emerging critical issues.

PREVENT - Healthy chef and active school (ID 21)

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In Europe alone, cancer is responsible for approximately 1.3 million deaths each year, and up to 50 % of cases are considered preventable. The European Union's Mission Cancer programme supports six innovative projects in the field of prevention and early detection. Among these, the PREVENT project, funded under the Horizon Europe framework, focuses on preventing childhood obesity from an early age as a key modifiable risk factor for later-life cancer.

PREVENT brings together a broad consortium of European universities, health centres, municipalities and educational institutions to co-develop evidence-based policies, scalable digital tools and living labs in diverse community settings. Its aim is to instil healthy habits in the domains of nutrition, sleep and physical activity, and thereby to contribute to more resilient, equitable and prevention-oriented health systems.

Part of PREVENT research focuses on two complementary tools for children, designed to be used either during school hours or throughout students' lunch periods. The first tool is Healthy Chef, an educational exergame for desktop that integrates motion recognition technology through a standard webcam and a joint-tracking system to translate real body movements into virtual actions. Students control virtual avatars by running in place to collect ingredients, using arm movements to prepare meals, and collaborating to serve healthy dishes. The system supports gameplay by one or two teams of three students. This playful approach promotes active learning, teamwork, and reinforces the principles of a balanced diet.

The second tool is Active School, a digital platform that promotes daily physical activity among students by enabling participating schools to accumulate kilometres and embark on a virtual journey through iconic Olympic cities. The initiative employs Les Mills instructional videos to guide structured exercise sessions, encouraging consistency, engagement, and the development of healthy habits within the school environment.

By engaging children in interactive, nutrition and sports-aware gameplay, Healthy Chef and The Daily Mile help to establish healthy lifestyle patterns early. In doing so, they align with PREVENT's broader objective of embedding prevention into everyday contexts, not as an afterthought, but as a natural part of school life and community culture. Lastly, these tools contribute to building health systems that are more prevention-oriented, enabling early intervention, reducing health inequities and lowering the risk factors associated with cancer.

The economics of technological innovation in healthcare: enhancing efficiency and eliminating low-value care (ID 24)

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Context: Healthcare systems worldwide face increasing pressures from rising costs, aging populations, and inefficiencies in resource utilisation. A significant portion of care is considered low-value care, defined as clinical interventions providing minimal benefit relative to their cost, which consumes substantial resources without improving patient outcomes. Technological innovations, including telemedicine, digital health platforms, and real-time location systems (RTLS), offer potential solutions to enhance efficiency and eliminate low-value care. Understanding the economic implications of adopting such innovations is critical for policymakers and hospital managers seeking to optimise both clinical outcomes and financial sustainability. This study develops a theoretical framework linking technological innovation to improved hospital efficiency and cost reduction.

Methods: This research employs a theoretical and conceptual approach to model the economic impact of technological innovations on healthcare efficiency. A systematic review of literature on telemedicine, digital health systems, and hospital operations informed the development of a framework connecting innovation adoption to key efficiency and cost-effectiveness indicators, including patient flow, bed occupancy, and resource utilisation. The model identifies mechanisms through which technologies can eliminate low-value care, streamline workflows, and reduce unnecessary costs. Economic principles, such as cost-effectiveness analysis, economies of scale, and resource optimisation, were incorporated to evaluate potential financial gains. No primary data collection is required, as the focus is on theoretical relationships and projections derived from established evidence. The framework is designed to be adaptable across different healthcare settings, providing a foundation for practical implementation.

Results: The proposed framework demonstrates multiple pathways through which technological innovations can improve hospital efficiency and reduce low-value care. Telemedicine decreases unnecessary in-person visits, reducing resource consumption and patient waiting times. Digital health platforms enable real-time monitoring and predictive scheduling, optimising patient flow and minimising bottlenecks. RTLS improves operational visibility, allowing better allocation of staff and equipment, thereby preventing low-value procedures and improving care quality. Economic modelling indicates that adopting these technologies can generate measurable cost savings, enhance resource utilisation, and contribute to financial sustainability. While exact numerical outcomes depend on local context, the framework provides practical insights for decision-makers to prioritise innovations with the highest potential impact on efficiency, cost-effectiveness, and reduction of low-value care.

Discussion: This study emphasises the strategic importance of integrating technological innovation into healthcare systems to simultaneously enhance efficiency and eliminate low-value care. The theoretical framework provides a tool for hospital administrators and policymakers to evaluate the economic implications of adopting new technologies prior to implementation. By focusing on cost-effectiveness and operational optimisation, it supports evidence-informed investment decisions, aligning clinical quality with financial sustainability. Future research can extend this work through case studies or simulations to quantify precise cost savings and efficiency gains. The conceptual approach ensures relevance across multiple healthcare settings internationally, making it applicable beyond a single country or system. Ultimately, this research underscores the potential of innovation-driven economic strategies to strengthen healthcare delivery, improve patient outcomes, and achieve sustainable and resilient health systems, while systematically addressing the pervasive challenge of low-value care.

Decoding disinformation and emotional persuasion in Spanish anti-vaccine videos: a comparative study on YouTube and Odysee before and after COVID-19 (ID 26)

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Context: Vaccination is one of the most cost-effective health interventions (Lahouati et al., 2020). However, parental vaccine hesitancy endures as a significant barrier to disease prevention, driving public health expenditures upward. In Spain, anti-vaccination discourse was highly visible on YouTube before COVID-19 and has since shifted predominantly to Odysee. This study aims to explore the prevalence and strategic use of disinformation, pseudoscience and emotional appeals in Spanish-language anti-vaccine content across both platforms, before and after the pandemic. Despite its urgency, there is a notable lack of inductive studies analysing the structure and persuasive mechanisms of such content in this context.

Methods: We conducted an inductive content analysis using Grounded Theory (Corbin & Strauss, 2015). We worked with two samples, one with videos released prior to Covid-19 and another one with videos published after Covid-19. Both samples are slated for analysis. We select the most frequent videos for YouTube and the most shared videos for Odysee in all the searches until reaching the saturation point, when the text does not show new ideas nor relations. Codes and themes were developed iteratively, emphasising the management and use of persuasive strategies and emotional framing as they emerge in the data.

Results: Preliminary findings reveal that disinformation and pseudoscience serve as core persuasive resources in anti-vaccine video communication. In a first study focused on childhood vaccination videos, we found a high frequency and intensity of disinformation. In this analysis we establish a first gradation of disinformation of the content of disinformation and pseudoscience, highlighting the nuanced and evolving tactics used to sway parental attitudes.

Discussion: Effective health communication strategies to promote vaccination must directly address the sophisticated use of disinformation and emotional resonance evident in anti-vaccine discourse. Interventions should recognise the diversity of persuasive design strategies and the shifting online environments where vaccine-related debates occur. Ongoing monitoring and tailored educational campaigns are necessary to counteract the evolving dynamics of vaccine hesitancy in social networks. There is a need to rethink the present management of health communication strategies to address parents' vaccine hesitancy, considering the content of childhood anti-vaccine videos online.

Exploring the impact of ehealth innovations on process waste and variability: a lean management perspective in healthcare (ID 29)

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Context: The integration of eHealth innovations holds significant promise for fostering patient self-reliance, thereby alleviating demand on healthcare systems and contributing to their long-term sustainability. This potential is particularly critical in the face of escalating care demands driven by aging populations and persistent staff shortages. From a Lean management perspective, eHealth innovations are posited to enhance care processes by reducing process waste and variability—key tenets of operational efficiency. However, improvements on the provider side must not inadvertently introduce new forms of waste or variability for patients. This study investigates how eHealth innovations influence these dimensions, identifying which types of waste and variability are mitigated, and which may be exacerbated by their implementation. In addition, we aim to understand which waste and variability types are especially susceptible to eHealth influence, and which types are more resistant in terms of eHealth influence.

Methods: This study employs a qualitative research design, adhering to the COREQ guidelines, to explore the relationship between eHealth innovations and waste reduction in a university hospital setting. Lean management principles serve as the analytical framework, with a focus on waste and variability reduction. Primary data collection includes 22 semi-structured interviews with purposively selected stakeholders (e.g., nurses, administrators, IT specialists) and direct on-site observations. Secondary data comprises internal documentation (e.g., process maps, performance reports, presentation slides). Thematic coding is applied to analyse the qualitative dataset, ensuring a rigorous and systematic interpretation of findings.

Results: The study will commence in January 2026, with preliminary results anticipated by early May 2026. At the time of the conference, we aim to present emerging insights from the initial phases of data collection and analysis. This should fit well with the scientific dialogue sessions, and it would allow us to refine our interpretations and incorporate expert feedback, thereby improving the final study.

Discussion: This research represents one of the first empirical explorations of eHealth innovations through the lens of Lean management. While Lean principles have been successfully applied to healthcare process improvement, the role of eHealth in reducing waste and variability remains underexplored. By addressing this gap, our study offers a novel contribution to both theory and practice, informing the design and implementation of eHealth solutions to maximise their efficiency and patient-centred benefits.

As the system speaks, the employees fall silent: institutional constraints on employee voice in healthcare (system-level communication structures and the silencing of employee voice) (ID 30)

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The persistent weakness of employee voice in healthcare organisations can be understood as the outcome of mutually reinforcing institutional and communicative mechanisms operating across system, organisational, and individual levels. In highly regulated healthcare systems, coercive and normative isomorphic pressures shape not only formal structures but also communication styles, decision-making logics, and organisational cultures. This study examines how system-level governance and ownership-related communication patterns are reproduced within hospitals and how these patterns, mediated by organisational culture, affect the emergence of employee voice.

Drawing on neo-institutionalist theory (DiMaggio & Powell, 1983; Meyer & Rowan, 1977), Organisational Silence Theory (Morrison & Milliken, 2000), and macro–micro perspectives inspired by Structuration Theory, the research conceptualises employee silence as a structurally embedded phenomenon rather than a purely organisational or individual choice. The central research question asks whether the healthcare system "speaks" to hospitals in the same manner that hospitals "speak" to their employees, and how institutional isomorphism manifests in communication practices across levels.

Methodologically, the study applies a qualitative mixed-methods design combining system-level document analysis and thematic analysis with in-depth qualitative interviews at the organisational level. System-level communication was explored indirectly through a comprehensive document analysis, as direct access to system actors was not feasible. The analysed materials included legislation, regulatory and financing documents, central ownership and supervisory instructions, strategic health policy materials, official reports, and public communications issued between 2021 and 2025, complemented by international and national secondary analyses (e.g. OECD, WHO, European Commission reports). In addition, public media statements and official press communications were examined to capture the tone, language, and responsiveness of formal system-level communication. The documents were analysed following Bowen's (2009) and Prior's (2003) framework and thematically coded using a deductive coding scheme based on institutional isomorphism, governance logic, communication style, hierarchy, and feedback mechanisms (Braun & Clarke, 2006; 2019).

At the organisational level, qualitative semi-structured interviews were conducted with hospital leaders to examine how system-level logics are translated into internal communication and management practices. The empirical material includes interviews with top managers, expert interviews on hospital management control systems, professional life-course interviews, and additional leadership-focused interviews, enabling a nuanced exploration of leadership perceptions, communication flows, and the channelling of employee feedback.

The findings indicate that the system's predominantly top-down, instruction-oriented, and feedback-poor communication style is mirrored within hospital organisations. Through coercive and normative isomorphic mechanisms, system-level governance patterns cascade downward, shaping organisational culture, leadership practices, and psychological safety. As a result, employee voice is weakened, informal communication channels dominate, and formal feedback mechanisms stagnate. The study concludes that limited employee voice in healthcare is not merely an organisational deficiency but a structurally produced outcome of system-level regulatory and communicative logics, underscoring the need for interventions at both system and organisational levels to improve voice, learning, and ultimately the quality of patient care.

Building a future-ready health management workforce: competency-based and AI-enhanced learning for sustainable leadership (ID 31)

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Context: Healthcare systems are increasingly operating in rapidly shifting VUCA conditions driven by demographic changes, economic constraints, global crises, and accelerated digital transformation. These pressures demand leaders who can navigate uncertainty, manage complexity, and guide organisations through continuous change. Traditional health management education, which prioritises content acquisition, often fails to equip learners with the cognitive, interpersonal, and intrapersonal competencies needed for twenty-first century leadership. In response, educational institutions are adopting competency-based learning models and integrating digital and AI-driven tools. This strategic shift introduces both opportunities and challenges for preparing future healthcare managers to operate effectively in turbulent environments.

Methods: This research presents a multi-phase educational model rooted in empirical studies conducted in health management programs. The model integrates competency-based learning, digital concept mapping, collaborative platforms, simulations, and AI-supported problem-based learning. Data were drawn from several cohorts: 223 students participating in AI-integrated PBL, 65 students engaged in digital concept mapping, and additional learners involved in Padlet-mediated collaborative activities. Mixed-methods analysis, combining quantitative pre-post measures and qualitative reflections, was used to evaluate how these interventions develop critical competencies essential for effective health system leadership.

Results: Four core findings emerged across the studies:

(1) Strengthened Cognitive Competencies - Competency-based and PBL approaches improved critical thinking, information literacy, and structured decision-making. AI-enhanced PBL specifically strengthened evaluation skills.

(2) Enhanced Interpersonal Skills - Collaborative digital platforms fostered teamwork, communication, empathy, and conflict-resolution abilities, all of which are central to managing multidisciplinary teams.

(3) Improved Intrapersonal Capabilities - Digital concept mapping significantly increased self-regulation, goal setting, time management, and reflective capacity. Students shifted toward more complex epistemological understanding and personal responsibility in learning.

(4) Hybrid Learning Advantages - Findings show that neither traditional nor AI-driven methods alone are sufficient. Hybrid models combining human-centered pedagogy with digital and AI tools provided the most balanced and sustainable competency development.

Discussion: Across all interventions, the findings indicate that preparing future healthcare managers for a VUCA environment requires a shift from knowledge transmission to skills-oriented, technology-supported learning. Competency-based frameworks, supported by digital and AI tools, cultivate leaders who are adaptable, analytically rigorous, ethically aware, and capable of managing complex health systems. However, integrating AI also raises new challenges, including uneven skill development and concerns about over-reliance on automated assistance.

To build a resilient and future-ready workforce, health management programs must adopt hybrid, practice-oriented, and reflective learning strategies. By doing so, organisations can strengthen leadership capacity, enhance system responsiveness, and ensure that future managers are equipped to guide healthcare systems through ongoing uncertainty and transformation.

Co-creation as a prologue for organisational development: managers' and employees' perspectives on mental health promotion in the workplace (ID 32)

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Context: Mental wellbeing is essential for sustainable work, driving productivity, creativity, and innovation. Rising mental health-related absenteeism threatens organisations' financial and social sustainability. Different mental health promotion (MHP) and prevention approaches are utilised in organisations, although focus is often on reducing problems through downsizing and decreasing sickness absences. This study examines co-creation of MHP initiatives in organisations. MHP commonly focuses on individual strategies, while organisational interventions are critical for resiliency and psychological safety at workplaces. Culture is difficult to assess and transform; since culture is shared values, norms, and practices. Although culture is expressed through organisations' everyday routines.

Methods: Six organisations participated in the co-creation of MHP initiatives. MHP initiatives were based on Act-Belong-Commit (ABC) campaign developed in Western Australia and endorsed by the World Health Organisation, European Union and OECD as best practice. Twenty-three semi structured interviews were conducted with managers (13) and employees (10). Interviews focused on sense-making, responsibilities and adaptation of ABC at workplace capturing how organisational culture influences collaborative efforts to embed mental health strategies into everyday routines. Interviews were analysed thematically, strategies which managers and employees deploy during the co-creation were identified.

Results: The study results guide the audience through the process. As the interviewees participated in co-creating a resilient culture and management in practice the experiences revealed certain dimensions of the organisational culture. Merging MHP with co-creation in organisational context surfaced variety of strategies as challenges, unmet needs, and call to action. Co-creation revealed tensions between norms and participatory approach and highlighted challenges in sustaining change. Managers and employees voiced concerns.

Managers described a dual role in co-creation: playing an active role and alternatively emphasising employees' role. Additionally, managers value the increased understanding of colleagues' and employees' perspectives on wellbeing at work. Employees stressed the importance of managerial commitment as leadership in implementation. They also valued the space for dialogue without managers as an opportunity to identify gaps. Employees' and managers' experiences indicate the importance of roles and responsibilities in organisational-level mental health promotion.

Discussion: Co-creation acts as a catalyst for system change, while moving organisations toward participatory approach and integrated workforce well-being strategies. To develop integrated strategies the sustainment of change emerged as a critical driver. Managers' dual role and employees' need for space are practical implications from co-creating mental health promotion. Results demonstrate how organisations begin to operationalise cultural change through shared responsibility and clarified roles.

Aligning organisational development principles with MHP supports the creation of sustainable, psychologically safe workplaces. Embedding MHP into organisational routines co-creation reflects a system change approach, moving beyond individual interventions toward integrated strategies that reshape management and organisational culture.

Driving integrated, person-centred long-term care through digital maturity assessment: findings from the LAUREL project (ID 35)

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Context: Community based Long Term Care (LTC) provision for people living at home and requiring support with daily activities and/or nursing assistance is one of the main management challenges currently faced by health and care systems. The ageing of European population has dramatically increased the demand for LTC, but the service provision remains fragmented, lacking coordination between multiple and diverse providers. Health technology and digital transformation are used worldwide to facilitate and support the delivery of integrated person-centred services. Yet, progress has been slow, mainly because of difficulties related with implementation: readiness, digital skills, data sharing, interoperability, financial constraints.

Methods: Laurel is a European project by the HORIZON Europe programme that aims to support the development of stronger and better integrated long-term care (I-LTC) systems. Through its Digital Maturity Assessment Toolkit (DMAT), Laurel provides a structured, multi-dimensional framework for evaluating the readiness, relevance, adoption and impact of digital innovations in long term care.

The toolkit comprises two complementary tools:

Tool 1: Digital Maturity Questionnaire for Organisations engaged in an I-LTC Initiative
This tool assesses the digital maturity of the organisation, focusing on governance, IT capabilities, workforce digital skills, interoperability, strategic planning, data analytics, patient-centred care, cybersecurity, and ethical considerations.

Tool 2: Digital Maturity Questionnaire for I-LTC Initiatives
This tool evaluates the digital maturity of a specific I-LTC initiative or practice within the organisation. It examines system readiness, service readiness, technology maturity, and effectiveness of digital solutions in long-term care services, as well as societal impact and ethical issues.

Results: The DMAT was pilot-tested with the I-LTC SISS (Servicios Integrados de Salud Social / Serveis Integrats de Salut Social) initiative in Manresa, Spain. The preliminary version of the Digital Maturity Assessment Toolkit (DMAT) was applied to evaluate the readiness and maturity of various digital solutions and their integration into SISS Manresa's long-term care system. The assessment revealed that the long-term care services maturity levels varied from moderate to advanced, highlighting areas of strong digital capability while also identifying operational gaps requiring further development. Based on the pilot experience, the toolkit has now been converted into an online questionnaire-based instrument. Selected I-LTC practices have been recruited to complete the assessment. While the questionnaire provides a self-evaluation of readiness across five core dimensions -technical, service, business, societal, and ethical, its primary value lies in supporting managerial decision-making, guiding investment priorities, and enabling targeted improvement actions for sustainable digital transformation.

Discussion: The Laurel DMAT provides a comprehensive, multi-dimensional analysis that helps LTC organisations and initiatives identify strengths, gaps, and areas for improvement in their digital transformation journey. The toolkit enables managers to make informed decisions on strategic planning, resource allocation, policy development, adoption of new technology solutions and targeted interventions to enhance digital integration in long-term care. It is particularly relevant for I-LTC providers seeking to strengthen coordination, improve digital workflows, and enhance person-centred care. Beyond implementers, DMAT outputs can generate value for policymakers and funders in understanding the digital readiness of I-LTC services and prioritising investments; as well as technology developers aiming to align their solutions with the needs and maturity levels of LTC organisations. Through its structured methodology and actionable insights, the Laurel DMAT supports more efficient, sustainable, and equitable digital transformation I-LTC services responding to the needs of ageing populations and individuals with complex health and social needs.

Evaluating the 'Rotating CEO-on-duty' leadership model and its impact on patient care and operational efficiency in a tertiary care teaching hospital in South India (ID 40)

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Context: Traditional hierarchical management in hospitals often creates barriers in communicating grassroots-level but important issues related to daily hospital operations to senior leadership. This results in delays in decisions, unresolved patient-care concerns, and operational inefficiencies, especially during off-hours when senior leaders are unavailable. To address this, Believers Church Medical College Hospital, a 750-bed tertiary care centre, introduced a Rotating CEO-on-Duty model in 2018. Junior and mid-level staff from diverse departments are empowered with CEO authority on a 24-hour rotation, enabling direct leadership access, real-time decision-making, and rapid problem resolution. This study evaluates its impact on Patient Care, Operational Efficiency, and organisational communication.

Methods: This study used a mixed-methods design to assess the impact of the Rotating CEO-on-Duty model. Three years of CEO-on-Duty reports were collected and systematically reviewed. Concerns were categorised into four domains: Patient Care, Finance, Staff Welfare, and Operational Efficiency. Trends were analysed to assess frequency of concerns, time to resolution, and resulting policy or process changes. To evaluate leadership outcomes, 30 structured interviews were conducted with former CEOs-on-Duty from diverse clinical and administrative backgrounds, focusing on skill development, decision-making experiences, and challenges. In parallel, an online stakeholder survey was distributed hospital-wide to capture staff perceptions regarding responsiveness, operational support, and overall effectiveness, using Likert-scale and open-ended questions. A structured interview with the hospital administrative committee was also conducted to evaluate organisational impact and feasibility. Quantitative data underwent descriptive and trend analysis using Excel/SPSS, while qualitative responses were analysed through thematic coding to identify recurring patterns and key insights.

Results: A total of 996 CEO-on-Duty reports were analysed (April 2022–March 2025). Doctors handled 462 duties (46.4%), non-medical staff 282 (28.3%) and non-medical clinical staff 252 (25.3%). Mean daily patient load was 1,656.1±662.4 (inpatients 368.9±51.0; outpatients 1,204.1±655.9; emergency 79.7±16.5). Mean concerns per day were 2.0±2.0, including patient-care (0.9±1.0), operational-efficiency (0.8±1.1), finance (0.3±0.6) and staff-welfare (0.1±0.4). Total concerns resolved averaged 1.6 ± 1.6/day; 0.7 ± 1.0 were resolved directly by CEOs, and 0.9±1.1 after escalation, with an overall resolution rate of 60.8 ± 44.0%. Mean daily concerns decreased from 2.4±2.2 (2022–23) to 1.7±1.6 (2024–25). Stakeholder survey responses (N=27), rated on a 5-point Likert scale, showed a median score of 4.0 (IQR 1–2) for off-hour issue resolution, responsiveness, collaboration, and work-environment impact. Administrative committee responses (N=8) showed 100% agreement on operational improvement. CEO feedback (N=34) reported a median overall rating of 5 (IQR 1), with 97.1% Positive/Very Positive.

Discussion: The Rotating CEO-on-Duty model demonstrated measurable benefits in operational oversight and real-time problem solving across a large tertiary hospital. The decline in daily reported concerns over three years suggests progressive improvement in system responsiveness and issue prevention. A 60.8% overall resolution rate, with 27% of issues resolved directly by duty CEOs, indicates effective decentralisation of decision-making during off-hours. High stakeholder satisfaction (median Likert score 4.0) reflects improved accessibility and responsiveness of leadership at the point of need. Administrative committee consensus (100% agreement) confirms organisational value in maintaining continuity, policy refinement, and communication flow. The overwhelmingly positive feedback from CEOs-on-Duty indicates that the system also functions as a leadership-development platform, strengthening decision-making, problem-solving, and cross-department coordination. These findings support the Rotating CEO-on-Duty model as a feasible approach to bridging communication barriers and enhancing operational efficiency in resource-intensive hospitals.

Global and regional trends in multidrug- or rifampicin-resistant tuberculosis, 2000-2024 and a forecast to 2030 (ID 43)

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Objectives: Tuberculosis remains the world's leading infectious killer, with 8.2 million new cases reported in 2023. Multidrug- or rifampicin-resistant TB (MDR/RR-TB) continues to drive disproportionate mortality worldwide. To analyse trends in MDR/RR-TB prevalence across World Health Organisation (WHO) regions from 2000 to 2024.

Methods: We conducted a systematic review and meta-analysis to assess MDR/RR-TB prevalence among tuberculosis patients. Five databases (PubMed, EBSCO, SCOPUS, Web of Science, Google Scholar) were searched for studies published between 01/2010 and 06/2025. Pooled prevalence was estimated using a random-effects model, with heterogeneity quantified via I^2 statistics. Subgroup and sensitivity analyses stratified results by age, sex, WHO region, study period, sample size, and TB burden.

Results: Our meta-analysis included 102 studies (4.12 million cases; 66.1% male, weighted mean age 39.47 years [SD 5.7]) across 52 countries. Global pooled MDR-TB prevalence declined significantly from 14.4% (95% CI 9.0–19.8) in 2000–2009 to 2.6% (2.3–2.9) in 2020–2024. Africa reported the highest regional burden: prevalence fell from 31.0% (17.3–44.6) to 4.9% (2.8–7.1) over the same period, exceeding other WHO regions in 2020–2024 (Americas: 1.3%; Europe: 1.4%; South-East Asia: 2.6%). Globally, prevalence was higher among males (12.0%, 10.8–13.3) than females (9.7%, 8.6–10.7) and markedly elevated in previously treated patients (19.8%, 18.2–21.4) versus new cases (5.9%, 5.2–6.6). Africa demonstrated distinct epidemiology: the male-female gap narrowed (males: 16.9% [13.5–20.4]; females: 16.3% [12.7–20.0]), and patients aged <40 years faced disproportionately high prevalence (16.9% [13.8–20.0] vs. global: 4.9% [4.1–5.7]). Previously treated African patients had the highest burden (26.2%, 19.6–32.8), exceeding the global average (18.2%, 16.4–19.9). The pooled prevalence of MDR/RR-TB in HIV coinfection patients in Africa (22.2% [95% CI 17.2–27.1]) is 2.3-fold higher than the global average excluding Africa (9.7% [8.5–10.9]). The future forecast indicates a lack of the WHO goals in African regions.

Conclusions: While global MDR/RR-TB prevalence has significantly declined, Africa continues to bear a disproportionate burden, particularly among retreatment cases, young adults, and HIV-positive patients. These findings highlight the urgent need for targeted interventions in high-burden populations and regions.

The integrated system of competencies (ID 44)

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The Integrated System of Competencies (ISC) is a structured, data-driven framework for assessing and monitoring competencies in complex healthcare organisations. It maps essential skills, evaluates individual performance, and guides targeted and continuous training to ensure professionals meet evolving healthcare demands. Through periodic assessments, ISC identifies strengths, skills gaps and areas for improvement, supporting continuous learning and aligning development with organisational goals. It enhances the quality of patient care and fosters a culture of continuous learning, inclusivity, and innovation across all professional categories.

The ISC was implemented and evaluated at IRST, an Italian onco-haematology research and treatment institute, using a mixed-methods approach: qualitative analysis explored professionals' experiences and interactions, while quantitative methods measured participation, evaluation consistency, and alignment of planned versus delivered training. The research began as a case study in three pilot Operative Units: Thoracic Pathology doctors, Specialist Nurses, and Diagnostic Laboratory researchers. A multidisciplinary working group, including managers, nurses, biologists, IT specialists, and training staff, designed and oversaw the initiative. ISC activities included regular competency assessments combining self- and hetero-evaluation with negotiation meetings; development of Individual and Group Training Dossiers to identify skill gaps and guide personalised and team-based learning; targeted training programs covering leadership, soft skills, equity, diversity and inclusion, and health literacy. Continuous monitoring and evaluation involved annual performance reviews, process indicators, and staff satisfaction surveys. Managerial training emphasised feedback, interview techniques, and negotiation skills. Participatory task-sharing engaged professionals, managers, the Training Manager, and Training and Competencies Referents in co-developing competence profiles and training plans, fostering a culture of continuous learning and professional growth.

ISC implementation at IRCCS IRST "Dino Amadori" led to measurable improvements in workforce engagement, skill development, and organisational performance. Participation in competency assessments increased from 78.5% in 2023 to 94.7% in 2024 and 98.3% in 2025, reflecting strong engagement across professional groups. In 2024, 80% of Unit Managers completed targeted training on evaluation, negotiation, and feedback, enhancing leadership and promoting a shared assessment culture. Training activities closely matched identified needs, with 95.3% of planned initiatives (161/169) delivered effectively. Across the three pilot Units, professionals completed an average of 57 training hours, indicating strong commitment to continuous learning. Patient satisfaction improved notably between 2021 and 2024, particularly in clarity of information provided by healthcare (58.5%→75.3%) and non-healthcare staff (59.2%→84.8%).

ISC implementation was facilitated by strong institutional leadership, strategic alignment, interdepartmental collaboration, and full organisational ownership, including self-funding. Active involvement of Unit Managers and partnerships with academic experts strengthened methodological rigor and adoption. Challenges, such as subjectivity in competence evaluations, time/resource constraints, and initial resistance, were addressed through structured negotiation, training in feedback and evaluation techniques, and clear behavioural guidance. Mixed-methods evaluation demonstrated ISC's effectiveness in addressing professional development with strategic goals, increasing participation in assessments, and improving coherence between planned and delivered training. Key lessons include fostering a culture of continuous learning, reflective practice, and early bidirectional communication. Future improvements could integrate automated data tools, reciprocal evaluation, patient perspectives, and structured onboarding. These findings suggest that an evidence-based, adaptable competency framework can enhance workforce development, engagement, and organisational performance, providing a replicable model for other healthcare systems.

You get what you reward: the adverse effects of policy incentivising inter-organisational collaboration to address healthcare's wicked problems (ID 46)

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Context: The sustainability of health systems is under pressure due to the wicked problems (e.g. increasing demands for care and workforce shortages) they face. As a solution, health and social care are increasingly organised in integrative ways, specifically in organisational forms in which multiple organisations collaborate to address these problems. Governments can play a crucial role in facilitating or hindering such collaborative efforts, yet little is known about how policies influence inter-organisational collaborative behaviour. This paper studies the effect of a policy implemented to financially incentivise regional collaboration on the behaviour of organisations in health and social care.

Methods: In 2022, the Netherlands implemented a policy enabling regional inter-organisational collaborations to apply for funding to develop and execute initiatives aimed at addressing challenges in health and social care. Since the implementation of the policy, we followed one region for three years, conducting observations of all meetings of two regional collaborations (one executive network, 58 hours; one tactical network, 36 hours) and two subregional collaborations (21,5 and 10 hours). In total, we performed 125,5 hours of observations and collected almost 2000 pages of documents, including meeting minutes, regional project plans, and policy documents. The data (observation and document notes) were analysed in Atlas.ti and the findings were regularly discussed in the research team. This provided us with a unique opportunity to see the effects of the policy on the collaborative behaviour of organisations, illuminating how policy influences collaboration in health and social care.

Results: Our findings indicate that, during the initial phase of policy implementation, the region demonstrated an ability to organise at a regional level by establishing regular meetings across social, curative, and long-term care, and public health. Nevertheless, despite organisations expressing a commitment to serving the region, they did not prioritise projects. This lack of strategic alignment resulted in organisations pursuing their individual plans independently outside of formal collaboration meetings, primarily to secure funding for their respective projects.

The policy itself regularly changed during implementation, leading to frustration among regional stakeholders. Additionally, the policy was developed into a highly hierarchical system centred around key performance indicators (KPIs) and accountability mechanisms, where organisations only received funds after KPIs were realised. This led to easily achievable KPIs being formulated and incentivised the demonstration of KPI achievement regardless of whether the underlying data and methods were appropriate, undermining the proper evaluation of the impact achieved.

Discussion: The results of this study show that financially incentivising inter-organisational collaboration through governmental policy may have adverse effects on the motivation of why organisations collaborate. Misaligned financial incentives can shift focus from collaborating to address wicked problems, to collaborating to gain financial resources. This has several implications. First, it is crucial for policymakers to make policy that incentivises health and social care organisations to focus not on collaboration as an end in itself, but as a means to create long-term impact on wicked problems. Additionally, evaluation of collaborative efforts should not focus on rewards or penalties but rather focus on learning and improving so that networks can work towards creating such long-term impact. Finally, governments should take responsibility for evaluating the outcomes of such collaborative efforts rather than delegating this to the regions themselves to ensure proper data and methods are used enabling meaningful comparison of initiatives across regions.

Partners in co-diagnosis quasi-experimental study: a new collaborative approach in healthcare quality improvement (ID 48)

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Context: Shared decision-making with patients extends beyond clinical practice. Most partnership methodologies focus on co-designing care that fits patients' needs and expectations rather than focusing on the initial step of the quality improvement cycle, diagnosis. Through creating a holistic audit tool that patient partners will utilise, the study aims to evaluate the partnership in the co-diagnosis approach.

Methods: 50 patients were chosen as co-diagnose partners in a quasi-experimental study design without controls to audit healthcare delivery procedures following the Lebanese accreditation standards.

Results: The highest compliance percentage in the inpatient audit was 98.6% for Patients and Family Rights standards. The mean inpatient audit score was M=106.96; SD 6.88 out of 120.

Among the outpatient audit priority focus areas, the highest fully met percentage was 94.9% for Ethics and Attitudes standards. The mean outpatient audit score was M=69.18; SD 10.51 out of 84. Partners' characteristics were not significantly different among audit scores. Out of 50 partners, 92.6% "agree" to "strongly agree" that there was communication and support for participation, 94.6% strongly agree with the positive impacts and influence of the engagement initiative, and 94% were satisfied with this engagement initiative.

Discussion: Providing comprehensive development ideas integrated into the design of the healthcare system could be possible when patients are empowered, along with quality professionals. Embedding patient partners in the diagnostic phase of quality improvement not only strengthens shared decision-making but also advances healthcare management by fostering accountability, system responsiveness, and sustainable organisational development.

Cost minimisation analysis of digital-first healthcare pathways in primary care (ID 49)

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Context: Digital primary care is increasingly promoted as a response to rising demand and financial pressure in publicly funded healthcare systems, driven by population aging and the growing burden of chronic disease. Despite its promise to improve efficiency and optimise resource use, real-world evidence on the economic impact of digital care remains limited. This study evaluates whether initiating minor acute primary care episodes through a digital-first pathway is associated with lower episode-level costs compared with traditional care. The analysis is conducted in a large-scale Finnish public primary care setting, providing contextual evidence to inform policy and implementation decisions.

Methods: We conducted a retrospective, registry-based cost minimisation analysis in the Päijät Häme Wellbeing Services County, where patients with acute primary care needs can initiate care either via a chat based digital clinic or through traditional channels (telephone or in person visits). From 637,923 primary care encounters recorded between May 2023 and September 2024, we identified 64,969 eligible minor acute episodes across five common clinical presentations: dermatologic symptoms, gastroenteritis, ophthalmologic symptoms, respiratory infections, and urinary tract infections. Episodes were defined as all contacts occurring within 14 days from the initial consultation. Using propensity score matching on age, sex, comorbidity burden (Charlson comorbidity index, CCI), and prior healthcare utilisation, we created 19,697 matched episode pairs, each comprising one digital first and one traditional episode within the same diagnostic category. Costs were estimated from the provider perspective using regional production cost data and decomposed into encounters, laboratory tests, and imaging.

Results: Mean total episode costs were significantly lower in the digital-first pathway than in the traditional pathway, €170.74 versus €220.91, corresponding to an average cost reduction of 22.7% ($P < .001$). Savings were consistent across all five clinical presentations, ranging from 10.3% for respiratory infections to 52.5% for gastroenteritis (all $P < .001$). The savings observed were driven mainly by lower encounter-related costs. Use of laboratory tests and imaging was also lower in the digital group. Follow up utilisation did not indicate that digital care generated additional downstream demand: overall episode level contact counts were very similar between groups after matching and follow up visits were generally fewer in the digital pathway, with a modest increase only for respiratory infections. Sensitivity analyses using 7- and 30-day episode windows, analyses of unmatched data with multivariable regression, alternative costing assumptions, and inverse probability of treatment weighting all supported the robustness of these findings.

Discussion: These findings reinforce the view that, in an integrated public primary care setting, a digital-first approach for minor acute conditions can serve as a true substitute for traditional care rather than an additional step in the care process, while delivering comparable episodes of care at lower cost. The economic advantages observed appear to be driven mainly by improvements in care delivery processes and organisational efficiency, rather than by reduced diagnostic intensity or delayed care. From a system-level perspective, digital-first pathways may provide a scalable means of responding to growing primary care demand without proportional increases in staffing or infrastructure. Nonetheless, achieving sustained benefits depends on effective integration within existing care pathways and continuous attention to clinical quality and equity of access.

Coverage and utilisation of digital healthcare services: a registry-based observational study (ID 50)

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Context: Digital health is increasingly embedded in public primary care, yet real-world coverage, utilisation, and equity implications remain incompletely described. This retrospective, registry-based analysis describes the uptake, user characteristics, and clinical scope of a digital primary care clinic (Päijät-Sote application) integrated within the Finnish public health system in the Päijät-Häme region. The study aimed to assess trends in primary care coverage, the volume of digital visits, user demographics, and the diagnostic spectrum of digital encounters following the clinic's introduction as part of the Harjun terveys joint venture.

Methods: The study utilised data from 2,635,708 primary care encounters recorded between 2019 and 2024 to examine patterns of care before and after the digital clinic's implementation in 2021 and its centralisation in 2023. Outcomes included annual service coverage (proportion of residents with ≥1 encounter) and utilisation (encounters per 1,000 residents), stratified by modality. Digital users were defined as individuals with ≥1 digital clinic encounter per year. Diagnoses were analysed using ICPC-2 and ICD-10 codes. Demographics (age, sex), comorbidity (Charlson Comorbidity Index [CCI]), and diagnostic profiles were compared using χ^2 tests and t-tests (two-tailed, P<.05).

Results: Coverage increased from 25.3% (2019) to 28.3% (2024), and utilisation rose from 1,473 to 1,886 encounters per 1,000 residents: digital care accounted for 12.7% of encounters in 2024. Uptake was highest among younger adults and women. In 2024, digital users were younger than traditional users (mean age 22.8 vs 38.1 years; *P*<.001) and less comorbid (CCI≥1: 6.0% vs 12.2%; *P*<.001). Coverage among adults ≥75 years remained near pre-pandemic levels, indicating a potential digital divide. Digital consultations predominantly addressed low-acuity concerns – respiratory infections, general symptom/health maintenance, dermatologic issues, and throat/eye complaints. Among physician-level digital encounters, common ICD-10 codes included conjunctivitis, acute cystitis, and prescription renewals. Following a digital nurse consultation, 24.7% had same-day physician chat and 14.4% had a new appointment booked; excluding pre-booked care, 5.0% had a new encounter within 48 hours, 14.9% within 14 days, and 21.0% within 30 days, most often in-person.

Discussion: Findings indicate that an integrated digital clinic can broaden access and resolve a substantial share of low-acuity presentations at the nurse-led level, with nearly half of care pathways terminating without digital physician consultation and the remainder efficiently triaged to appropriate follow-up. Lower uptake among older adults and individuals with chronic illnesses underscores the need for targeted strategies to increase adoption among older adults and individuals with chronic illnesses.

How is Person-centred Integrated Care (PCIC) experienced in practice? PCIC as experienced by older people and carers in the context of a national community-based integrated care programme in Ireland (ID 51)

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Context: Knowledge gaps exist regarding the successful application of person-centredness in integrated care contexts and older people's experiences (Greenfield, 2014; Baxter et al, 2018; Berntsen et al, 2018; Liljas et al, 2019).

Methods: This study explored older peoples' PCIC experiences in the context of the Irish National Integrated Care Programme for Older People (NICPOP), applying the Person-centred Practice Framework (PCPF) (McCormack and McCance, 2021) as its overarching theoretical framework. Its overall aim was to explore older peoples' experiences of PCIC in the context of the Irish National Integrated Care Programme for Older People (NICPOP). Its four research objectives were: i) to explore the nature of relationships experienced within integrated care; ii) to explore the integration of personhood within PCIC; iii) to ascertain the enablers and barriers to the delivery of PCIC; and iv) to identify the outcomes of PCIC. Using qualitative multi-case study methodology, the research design consisted of focus groups with three community multidisciplinary staff teams using diverse models; staff summaries relating to interventions; 29 semi-structured interviews with 23 older people and carers.

Results: Ten themes articulated the experiential dimension of PCIC: 1) Feeling under an umbrella; 2) Being cared for holistically; 3) Knowing that someone has my back; 4) Being able to trust the system over time; 5) Being seen and known in my own home; 6) Being supported to live well independently; 7) Knowing what to expect from integrated care; 8) Feeling involved in my care; 9) Enjoying care; and 10) Being supported as a carer.

Discussion: The six key insights of this study were: 1) Importance of holistic PCIC approaches informed by lived experience and psychosocial context; 2) PCIC optimises care experiences and supports older people to live well independently; 3) Experiences of coordination and management continuity of care are essential for positive PCIC experiences; 4) Significance of relational care and relationship between staff and older person; 5) Feeling involved and enjoying care as central outcomes of PCIC; and 6) Carers as service users with PCIC needs.

Implications: This study made recommendations for policy and practice for the future development and expansion of NICPOP and to optimise PCIC experiences generally. These include: prioritising experiences of coordination, continuity, holistic care, relational care and involvement in care; importance of home care for the most complex needs; implementation of community-based social care; and holistic assessment and provision of practical supports. This study also makes recommendations for further research, including: retrospective, longer-term national impact of the NICPOP intervention; further exploration and focus on carer experiences and needs as PCIC service users; enhancement of PPI and the involvement of those with lived experience in future service and evaluation design.

Making digital health work for physicians: adoption drivers, barriers and workflow implications (ID 52)

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Context: Health systems increasingly rely on digital technologies to improve access, quality and efficiency of care, yet successful transformation depends on how physicians adopt and use these tools in daily practice. In the Russian Federation, large-scale investments have created a nationwide digital infrastructure, but heterogeneous uptake and persistent barriers at the clinical frontline may undermine impact. This study examines how physicians in Russia perceive, adopt and integrate key digital health technologies, aiming to inform management decisions that align digital strategies with real clinical workflows and professional needs.

Methods: A nationwide, two-phase mixed-methods study was conducted among practising physicians in Russian cities with over 100,000 inhabitants. In phase one, in-depth semi-structured interviews with 10 physicians from different specialties explored experiences with digital tools and informed the development of a structured questionnaire. In phase two, a cross-sectional online survey was carried out among 450 physicians working in public and private medical organisations, with at least three years of specialty experience and regular direct patient care. The questionnaire assessed awareness, use, trust and satisfaction with telemedicine, patient monitoring devices, artificial intelligence–based diagnostic tools and clinical decision support systems, as well as perceived drivers and barriers to digital transformation.

Results: Overall, 95% of physicians were familiar with telemedicine, 89% with patient monitoring devices, 62% with AI-based diagnostic technologies and 39% with clinical decision support systems. Patient monitoring devices demonstrated the highest trust and satisfaction (66%). Key reported barriers included fear of making wrong decisions (25% of physicians) when relying on digital tools, technical difficulties (25%), and concerns about legal uncertainty (21%). Different technologies were characterised by different profiles of perceived barriers. Main drivers for adoption were time saving (59%), clear practical benefits for clinicians (55%) and legal security (54%). A further key factor was the convenient organisation of training, including access to free training (53%) and the provision of study leave (52%). Distinct physician profiles were identified, ranging from active digital adopters to cautious users who restrict digital tools to administrative tasks. Based on these findings, key recommendations for the implementation of digital transformation in medical organisations were formulated.

Discussion: From a management and operations perspective, physician-centred digital transformation requires moving beyond technology deployment to active co-design with clinicians, differentiated support by physician profile and continuous product improvement based on real-world feedback. Practical recommendations for the use of digital technologies by physicians should be tailored to physician profiles, the specific type of technology, and the key barriers and drivers influencing its adoption. Implementation of digital technologies should be underpinned by targeted training, redesign of clinical workflows to ensure that time savings are clearly realised in practice and strengthened governance over data quality and legal transparency in digitally supported decision-making. Embedding these measures into organisational strategies can increase effective use of digital tools, support safer decision-making and help future-proof health systems by aligning digital innovation with professional practice and patient care needs.

Artificial intelligence for hospital billing: a qualitative study of applications and barriers in Germany (ID 54)

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Context: The increasing complexity of hospital reimbursement systems and growing administrative burdens have intensified interest in the use of artificial intelligence (AI) in healthcare administration. In Germany, hospital billing is highly regulated and resource-intensive, making it a promising field for digital innovation. This study examines the current use of AI in German hospital billing processes, with the aim of identifying existing applications, experiential insights from key stakeholders, and the potential benefits and limitations of AI adoption within this domain.

Methods: The study employed a qualitative research design based on 15 semi-structured expert interviews. Participants were selected from three central stakeholder groups involved in hospital billing: billing professionals from hospitals, representatives of statutory health insurance funds, and staff from companies providing billing-related technologies. The interviews explored experiences with AI, perceived application areas, organisational prerequisites, and anticipated impacts. Data were analysed using qualitative content analysis, allowing for systematic coding, categorisation, and interpretation of recurring themes. This approach enabled an in-depth understanding of current practices and contextual factors shaping AI use in hospital billing rather than a quantitative assessment of performance outcomes.

Results: The findings indicate that AI is currently applied only in limited segments of hospital billing, primarily in medical coding and invoice review. Broader implementation remains rare. Key barriers include complex organisational and regulatory structures, insufficient data quality, lack of interoperability between IT systems, and legal uncertainties regarding accountability and compliance. Despite these challenges, experts identified substantial potential for AI, particularly in automating standardised processes, reducing manual errors, and improving efficiency in rule-based tasks. Respondents also emphasised the possibility of relieving administrative staff from repetitive workloads and supporting more consistent adherence to billing regulations.

Discussion: Overall, the study suggests that the successful deployment of AI in hospital billing depends less on technological maturity than on organisational, structural, and regulatory conditions. While technical solutions already exist for specific use cases, their scalability is constrained by fragmented data infrastructures and unclear legal frameworks. Addressing these issues could enable hospitals and insurers to better leverage AI's potential to increase efficiency and reduce administrative burden. Future efforts should therefore focus on improving data interoperability, establishing legal clarity, and fostering organisational readiness. These findings contribute to a more nuanced understanding of AI adoption in healthcare administration and highlight prerequisites for sustainable implementation in complex regulatory environments.

Results of the practical implementation of a digital asset assessment framework in the Catalonia health system based on CEN/ISO 82304-2 (ID 56)

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Health assessment has become one of the biggest challenges among healthcare systems in Europe over the last year, with several assessment frameworks (AFs) emerging across the continent. Catalonia did not fall behind: in 2015, the government signed an mHealth agreement, and Fundació TIC Salut i Social (Department of Health) took the lead in developing a specific AF for Catalonia. Then, in 2021, a Technical Specifications reference was made (CEN/ISO 82304-2), and Catalonia adapted its assessment framework during the European project Label2Enable to combine the international standard with Catalonia's specific criteria. This new assessment framework has now been tested and implemented.

The assessment process begins when the entity responsible for the app completes the evidence form covering all required criteria, some of which are evidence-based and others use-based. Once the assessment is concluded, a certificate issued by the public administration and an assessment report are delivered to the entity. The results are then published in an official health apps library to promote transparency regarding the assessment outcome. This is achieved through a Health App Quality Label and a Health App Quality Leaflet. Both outputs provide citizens, healthcare professionals, and healthcare providers with confidence by offering verified information on reliable content, accessibility, data protection, and technological robustness of the assessed health app. During the first testing phase, the need for changes to the assessment framework (AF) was appropriately identified and incorporated into the final version. Finally, the Label and the Leaflet were tested, iterated, and validated through a standardised study with citizens.

The main result was the consolidation of a new assessment framework that is transparent, objective, evidence-based, Catalan-specific, and aligned with international standards of (CEN/ISO 82304-2).

A total of eight apps were assessed: four during the testing phase and the others within the implemented process. During testing, needs and insights were identified and integrated into the final process and framework. New criteria sections, such as specific Catalonian design system requirements, AI, and interoperability, were added, and labels and leaflets were revised and iterated following a participatory workshop with citizens and professionals. These changes were retrospectively applied to the four tested apps.

Finally, the outcomes of all assessments, reports, labels, and quality leaflets are being published and highlighted in the health app directory, and healthcare providers are being informed.

Improvements in the quality of the assessed apps, trust in health apps, and the potential for cross-border recognition have been demonstrated.

An AF must be adaptable enough to address new needs arising from constantly emerging technologies. This flexibility has been a positive aspect in our project, allowing updates to the AF and the AP as requirements evolve. At the same time, it is easy for an AP to become overly complex, making evaluations inaccessible for many entities that want to have their product assessed (specially startups, spin-offs or public initiatives). Simplifying the AP has therefore been one of the most significant improvements. Additionally, citizens and healthcare professionals have expressed greater trust, confidence, and peace of mind when they can view an official, public administration made, label or leaflet.

Across Europe, there is a strong commitment to assessing health apps safely, and this methodology could pave the way for regions that are still in the early stages. Implementing and AP and further steps such as digital health adoption can deliver substantial benefits.

Digitalisation of management control in hospitals: an interventionist case study (ID 58)

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Context: Healthcare organisations are increasingly investing in digital technologies to improve management control (MC) systems and cope with growing complexity, resource constraints, and uncertainty. While prior literature highlights the potential of digitalisation to transform MC practices and the role of controllers, empirical evidence on how this transformation unfolds in practice, especially in healthcare, remains limited. Existing studies often focus on single technologies or isolated control tasks, offering a fragmented view of digitalisation. This study addresses this gap by adopting a processual perspective to investigate how the digitalisation of MC systems develops over time and how it reshapes controllers' roles within a hospital setting.

Methods: The study is based on a longitudinal interventionist case study conducted in a large Swiss multi-site public hospital. From 2022 to 2025, researchers actively collaborated with the hospital's controlling function to support and observe the digital transformation of MC processes. Data were collected through multiple sources, including in-depth interviews, group-feedback sessions, observations, internal documents, meeting records, and access to business intelligence tools and dashboards. The interventionist approach enabled real-time observation of change processes and iterative cycles of diagnosis, action, evaluation, and learning. Data were analysed through triangulation to identify recurring digitalisation patterns, concrete use cases, and related changes in MC practices and controllers' roles.

Results: The findings show that the digitalisation of MC did not follow a single, linear trajectory but unfolded through three distinct patterns linked to specific use cases. First, data visualisation tools were leveraged to enhance performance measurement and strategic alignment, enabling broader access to real-time, multidimensional performance information. Second, business intelligence and analytics supported the partial automation of operational review meetings, reducing manual data handling and shifting controllers' focus from data provision to performance facilitation. Third, predictive analytics were introduced to support dynamic forecasting and risk management, transforming planning processes from static budgeting to forward-looking scenario analysis. Across these patterns, controllers' roles evolved from traditional scorekeeping toward more fluid configurations that combine data stewardship, performance leadership, and business partnering.

Discussion: These findings suggest that digitalising management control in healthcare is not a uniform transformation but a context-dependent process unfolding through multiple patterns shaped by organisational needs and technological maturity. Rather than simply increasing efficiency, digital technologies redefine how control processes support coordination, learning, and decision-making across organisational levels. The study shows that controllers do not move toward a single new role; instead, digitalisation reinforces hybrid and fluid role configurations that combine traditional control responsibilities with performance leadership and business partnering. For healthcare managers, this implies that successful digital transformation of MC systems requires investing not only in technologies but also in controllers' digital, analytical, and relational competencies. From a practical perspective, the study highlights the importance of aligning digital tools with concrete use cases and managerial routines to ensure that digitalisation translates into actionable insights and improved organisational performance.

Value-based *military* healthcare: aligning patient-centred outcomes with governance and readiness (ID 59)

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Military Health Systems (MHSs) operate in complex, high-risk environments, delivering care both routinely and under extreme operational conditions. Escalating geopolitical tensions, renewed emphasis on collective defence, and the growing likelihood of high-intensity conflict have intensified pressure to ensure operational readiness, surge capacity, and long-term sustainability while safeguarding health outcomes for service members. Traditional performance metrics focus on activity, capacity, and readiness but offer limited insight into health outcomes that matter to patients or support system resilience and readiness.

Value-Based Healthcare (VBHC), defined as achieving meaningful outcomes relative to resources used, has gained traction in civilian health systems as a management framework to improve quality, transparency, and sustainability. For military healthcare, VBHC offers a strategic opportunity to complement readiness-focused metrics with outcome-oriented governance. However, its relevance and applicability under military operational constraints - characterised by uncertainty, safety imperatives, logistical complexity, and rapid decision-making - remain insufficiently explored.

This dissertation draws on a multi-method research programme conducted across several European military contexts to examine whether and how VBHC can be meaningfully applied within MHSs. The programme integrated: a systematic review of VBHC components in military (post-)operational trauma care; a Delphi study involving wounded service members, healthcare professionals, and military leaders to identify military-specific outcome priorities and implementation preconditions; cross-sectional and mixed-method surveys assessing familiarity with VBHC and perceptions of its desirability and feasibility among healthcare professionals and military leadership in Western and Central-Eastern Europe; and international consensus development of patient-centred outcome measures for major injury care applicable to both civilian and military systems. A design-thinking approach was applied to translate stakeholder perspectives into actionable management insights while accounting for organisational and operational constraints.

Across contexts, several VBHC components were already partially embedded within MHSs, particularly outcome measurement, integrated care pathways, and civil-military collaboration. However, these elements were rarely aligned within a coherent, system-wide strategy or governance framework. Stakeholders consistently perceived VBHC as desirable and contextually feasible when adapted to military realities such as deployment conditions, mass-casualty preparedness, and constrained resource environments. Key challenges included fragmented digital infrastructures, limited outcome and cost transparency at system level, and concerns regarding operational tempo. Leadership engagement, interoperable data systems, and systematic use of patient-reported outcome measures emerged as critical enablers.

In an era of heightened geopolitical instability, this work demonstrates that VBHC can function as a strategic governance instrument for MHSs, enabling leaders to align patient-centred outcomes with organisational performance, readiness, and resilience. When contextually adapted rather than directly transferred from civilian models, VBHC supports informed decision-making, cross-system learning, and sustainable performance in complex, high-reliability healthcare systems. For health system leaders and policymakers, this research provides transferable insight into strengthening healthcare governance at the intersection of health, security, and societal responsibility.

Medical and care organisations within the patient pathway: what nursing competencies in the patient pathway? Nursing work and cross-functional roles: a descriptive study within hospital care pathways (ID 61)

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Context: Shifts in healthcare needs, driven by population aging and the rise of chronic diseases, are transforming care practices toward more integrated models. Advanced Practice Nurses (APNs) play a key role in this transition by delivering high-quality care and helping reduce costs. However, confusion persists around their responsibilities, as they share several care activities with other nursing roles. This qualitative study aims to analyse the role of APNs, Care Coordination Registered Nurses (CCN), Therapeutic Patient Education Nurses (TPEN), and nurses involved in cooperation protocols (NCP) within the care pathway of patients with diabetes, heart disease and cancer.

Method: This qualitative study, conducted in diabetes, cardiology, and oncology departments, focused on the activities of various categories of nurses (APNs, CCN, NCP, TPEN). It included 32 interviews, three focus groups, and 40 hours of observation to identify specific areas of practice, examine interprofessional interactions, and analyse the challenges and barriers to the implementation of their roles. Data were supplemented by an analysis of job descriptions and mission statements, with particular attention to APN responsibilities, while ensuring participant confidentiality.

Results: The nurses involved in this study have relatively extensive experience, with an average of 11 years in practice, and many especially APNs hold university-level degrees. Despite distinct missions, confusion remains regarding their roles, particularly between nurses engaged in cooperation protocols or therapeutic education and APNs. This ambiguity is reinforced by overlapping activities such as adjusting insulin doses. Collaboration between APNs and other nurses, although present, is often hindered by differing perceptions, complicating continuity of care. Nevertheless, participants agreed on the importance of a coordinated, patient-centred approach.

Conclusion: Our study highlights the value of more effective interprofessional collaboration. Integrating the specific skills of each nursing role through clear communication and optimised coordination is essential to improving continuity and quality of care. Such a holistic approach would better meet patient needs throughout their care journey while enhancing the visibility and value of nursing expertise.

Improving follow up of microscopic haematuria in patients diagnosed with urinary tract infection in primary care (ID 63)

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Context: Microscopic haematuria is a common finding in patients presenting with urinary tract infection (UTI) in primary care. Current NICE guidelines (2025) recommend repeat urinalysis following completion of antibiotic treatment to confirm resolution of haematuria in order to exclude underlying pathology. This is clinically important as underlying haematuria may indicate significant conditions including urological or gynaecological malignancy and renal disease. Evidence suggests that while UTI is the most frequent cause of haematuria, up to 40% of patients may have an underlying significant pathology, including malignancy (King et al 2014). Despite clear guidance, follow-up testing is often inconsistent in routine practice.

Methods: This QI project was conducted in a single GP practice using a before and after design with three sequential PDSA cycles over six months. Baseline data was collected via an EMIS search identifying patients diagnosed with UTI and microscopic haematuria over a six-month period. The primary outcome measure was completion of repeat urinalysis following antibiotic treatment. Interventions included clinician education on NICE guidance, patient education, staff reminders, and iterative modifications to the urinalysis template. Data was reviewed at the end of each cycle to assess progress against predefined improvement targets. Ethical approval was not required, patient data was anonymised, handled confidentially, and remained within the GP practice in accordance with data protection policies.

Results: At baseline, 65 patients met the inclusion criteria, of whom 32% received a repeat urinalysis following completion of antibiotics. After cycle one, which focused on clinician education, 48% of patients completed follow up urinalysis. Cycle two showed a slight decline, only 45% of patients receiving follow up, failing to meet the improvement target. Qualitative feedback identified usability issues with the urinalysis template as a contributory factor. Following template redesign and the addition of memory aids, cycle three demonstrated substantial improvement, with 65% of patients completing follow-up urinalysis. The project resulted in a 33% increase in appropriate follow up testing compared with baseline.

Discussion: This QI project demonstrated that targeted, low-cost interventions can significantly improve follow up of microscopic haematuria in patients treated for UTI. The introduction of clinician education, improved documentation tools, and embedded memory aids led to a sustained increase in repeat urinalysis rates, exceeding the predefined improvement targets. Improved follow-up has direct implications for patient safety, enabling earlier identification of serious pathology and timely referral for further investigation when indicated. The approach used in this project is transferable and could be adopted by other GP practices to improve guideline adherence and enhance quality of care for patients presenting with haematuria.

Applying a shock-cycle framework to health financing adaptation during full-scale war: evidence from Ukraine (ID 66)

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Context: Ukraine's full-scale invasion by the Russian Federation in February 2022 constituted an extreme and prolonged shock to a health financing system that had been undergoing profound reform since 2017. While universal health coverage (UHC)-oriented reforms are often assumed to enhance health system resilience, empirical evidence from active, high-intensity war settings within a functioning national health system remains limited. This study applies a four-stage shock-cycle framework – preparedness; shock onset and alert; shock impact and management; recovery and learning – to analyse how Ukraine's health financing system adapted during the first years of the full-scale war.

Methods: A qualitative system-level assessment was conducted using national legislation, Programme of Medical Guarantees (PMG) revisions, National Health Service of Ukraine (NHSU) purchasing regulations, and secondary system reviews in 2022-2023. The analysis applied a dual framework: (i) the four shock-cycle stages (preparedness, onset and alert, shock impact and management, recovery and learning), and (ii) core health financing functions (revenue raising, pooling, coverage policy, and purchasing). This combined approach enabled a structured assessment of both the timing and functional content of wartime financing adaptations.

Results: Preparedness. Although Ukraine lacked an explicit wartime health financing contingency plan, pre-war reforms created strong foundations for resilience. Centralised pooling through the NHSU, and explicit PMG entitlements enabled institutional readiness and rapid resource mobilisation to sustain provider payments and access to care.

Shock onset and alert. The escalation of hostilities in early 2022 triggered immediate adjustments. Provider contracts were extended, facilities shifted to simplified global budgets, reporting requirements were relaxed, and health spending was protected despite a nearly 30% GDP contraction and major fiscal reallocation towards defence.

Shock impact and management. From mid-2022, purchasing evolved into a hybrid model combining global budgets with activity-based payments for priority services. Primary health care played a central stabilising role in service continuity, especially in frontline areas.

Recovery and learning. By 2023, emergency measures transitioned into structured adjustments, including the expansion of rehabilitation, mental health, and the institutionalisation of payment adjustments for conflict-affected areas.

Discussion: Ukraine's experience shows that UHC-oriented health financing reforms can create significant absorptive and adaptive capacity under conditions of armed conflict. The institutional foundations established since 2017, reinforced by policy learning from the conflict that has continued since 2014, enabled rapid purchasing adjustments and resource reallocation to sustain service delivery under acute disruption. Yet this resilience was achieved despite severe fiscal compression, widening financial protection gaps and mounting institutional strain. The findings suggest that while UHC reforms can buffer health systems against extreme shocks, their continued effectiveness in a prolonged war depends on maintaining budgetary space, making evidence-informed prioritisation within purchasing, and ensuring that short-term emergency measures evolve into structured, sustainable reforms. Ukraine's experience therefore offers important lessons for designing health financing systems capable of functioning under conditions of fragility and conflict.

Developing leadership for sustainability in healthcare: an inner development goals–based programme at Hospital de Sant Pau (Barcelona) (ID 67)

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European health systems are under growing pressure to respond to climate change, resource constraints, workforce challenges, and rising social inequities. While sustainability strategies are increasingly embedded in health policies, their implementation often remains limited by prevailing management cultures and leadership models. Addressing sustainability therefore requires not only technical or regulatory solutions, but a transformation of healthcare management and leadership capacities. This initiative, developed at Hospital de Sant Pau (Barcelona), applies the Inner Development Goals (IDGs)—a framework emerging largely from the Karolinska ecosystem—to bridge personal development, organisational culture, and system-level sustainability. The programme positions leadership and people management as critical enablers of sustainable and resilient health systems.

The programme was implemented as an institutional capacity-building and governance innovation initiative within a large public hospital. It followed a blended and participatory methodology structured in three phases: (1) an introductory learning phase on sustainability, ESG principles, and the IDGs; (2) a co-creation process engaging sustainability ambassadors from clinical, technical, and administrative departments; and (3) the development of a Manual for Sustainability Champions compiling tools, exercises, and good practices. Learning activities were grounded in experiential and reflective methods, peer exchange, and systems thinking. The IDGs framework guided the development of self-awareness, collaboration, ethical decision-making, and action under uncertainty. Continuous feedback loops ensured alignment with real managerial and operational challenges in healthcare.

The programme directly engaged over 60 professionals across diverse hospital units, resulting in measurable organisational and cultural outcomes. Key results include increased leadership confidence in addressing sustainability challenges, strengthened cross-departmental collaboration, and the integration of sustainability objectives into departmental plans. The co-created manual was validated by the hospital's ESG governance structures and disseminated institution-wide as a reference tool. Participants reported enhanced capacity to navigate complexity, foster shared responsibility, and translate strategic sustainability goals into operational actions. The initiative has been recognised internally as a best practice in leadership development and organisational transformation, contributing to a growing community of practice around sustainability and people-centred governance.

This experience demonstrates that future-proofing health systems requires transforming management and leadership models through intentional investment in inner development. By operationalising the Inner Development Goals within healthcare management, the programme connects human capacities with systemic sustainability and resilience. It contributes to the Sustainable Development Goals by strengthening human capital, inclusive governance, and organisational adaptability. The model is transferable to other healthcare organisations seeking to move from sustainability strategies to concrete action. Ultimately, the initiative shows that sustainability in healthcare is not only a technical or managerial challenge, but a cultural and human transformation process essential for resilient health systems.

Rehealms: caring for those who care – reimagining hospital spaces through co-creation, art, and governance innovation (ID 68)

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Health systems are increasingly challenged to respond to demographic ageing, chronic conditions, and social vulnerability, placing growing pressure on informal caregivers and frail patients. While caregivers play a critical role in sustaining health systems, their wellbeing, emotional burden, and social needs often remain overlooked. Sustainable and resilient health systems must therefore extend care beyond patients to include those who care for them, embedding wellbeing, inclusion, and community support into healthcare environments. REHEALMS is a European project developed under the New European Bauhaus framework that addresses this challenge by reimagining hospitals as caring, participatory spaces. Led by Hospital de Sant Pau (Barcelona), the project places caregivers, frail patients, and communities at the centre of governance, design, and sustainability strategies

REHEALMS was implemented as a living lab combining health management, arts, community engagement, and participatory research. A core focus was the involvement of caregivers through the Hospital de Sant Pau's *Escola de Cuidadors*, recognising caregiving as a key dimension of health system sustainability. The project unfolded through a sequence of co-creative activities, including theatre (Pájaras), dance (Danza), participatory emotional mapping (Mapathon), and an intensive co-design process (Creathon). These methodologies engaged caregivers, frail patients, healthcare professionals, citizens, and public authorities. A central intervention activated the hospital's therapeutic garden as a shared healing space, supporting wellbeing, social connection, and respite for caregivers and vulnerable patients. Governance processes promoted shared responsibility, adaptive management, and learning across institutional and community actors.

REHEALMS engaged over 300 participants from diverse backgrounds, including caregivers, frail patients, healthcare professionals, artists, researchers, and local residents. The project strengthened recognition of caregivers as key stakeholders in health system sustainability and generated safe spaces for expression, mutual support, and collective learning. Tangible outcomes include the consolidation of a community of practice around care and sustainability, the integration of the therapeutic garden into activities linked to the *Escola de Cuidadors* and rehabilitation programmes and increased institutional awareness of the emotional and social dimensions of care. From a management perspective, the project enhanced cross-sector collaboration, fostered more people-centred governance, and improved organisational readiness to address vulnerability and complexity.

REHEALMS demonstrates that future-proofing health systems requires expanding the notion of care to include caregivers and frail populations as central actors in sustainability and resilience strategies. By combining artistic co-creation, community participation, and governance innovation, the project translates sustainability principles into lived, human-centred action. It contributes to the Sustainable Development Goals by strengthening social cohesion, reducing health-related inequalities, and promoting inclusive, caring environments. The REHEALMS model is transferable to other healthcare settings seeking to integrate care for caregivers, public space, and community wellbeing into management and governance processes. Ultimately, the project shows that caring for those who care is essential to building sustainable and resilient health systems.

Strengthening continuity of post-stroke rehabilitation through community-oriented social enterprise in rural Thailand: implications for governance, primary care integration and service sustainability (ID 69)

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Context: Rural stroke survivors often face persistent barriers to ongoing rehabilitation, including long travel distances, shortages of rehabilitation personnel, and limited structured follow-up after discharge. These gaps undermine continuity of care and place a significant burden on families and community providers. This participatory action initiative (2021–2023) engaged stroke survivors, caregivers, community volunteers and primary care teams across three rural districts to co-design and pilot a Community-Oriented Social Enterprise (COSE) approach that complements, rather than substitutes for, formal rehabilitation services.

Method: Through iterative design cycles, stakeholders developed shared role definitions, structured home-based practice routines, and coordination mechanisms such as scheduled follow-up contacts, shared care logs between community groups and primary care teams, and routine case-review meetings. Qualitative field observations and routine service monitoring indicated more regular contact with primary care, clearer accountability for follow-up, and strengthened community capacity to support daily mobility and functional activity practice, while preserving professional oversight of clinical decision-making.

Results & Discussion: The emerging COSE model demonstrates how locally owned community structures can extend the reach and continuity of rehabilitation in underserved areas through decentralised support, partnership governance, and long-term organisational stewardship. Although piloted in Thailand, the approach offers transferable lessons for health systems facing rural access gaps and workforce constraints, including in parts of Europe. In particular, the model illustrates how role-sharing, structured coordination, and community capability investment can reinforce primary-care-led rehabilitation pathways and advance policy priorities on equity, sustainability, and continuity of long-term care.

Low-carbon transport of biological samples in regional laboratory networks (ID 71)

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Context: Laboratory services, particularly the transport of biological samples, are a relevant yet underexplored contributor to healthcare-related emissions. In Catalonia, a public laboratory service provider has implemented a structured decarbonisation plan for healthcare logistics through the progressive replacement of fossil-fuel vehicles with electric alternatives. In collaboration with the contracted logistics operator, high-density urban and metropolitan routes were prioritised, covering multiple municipalities and connecting hospitals, primary care centres, and laboratories. This initiative translates sustainability strategy into operational action, aligning climate mitigation with quality standards and service resilience within routine laboratory services.

Methods: Between 2023 and 2025, a regional public laboratory network covering 45 municipalities implemented a structured decarbonisation programme for biological sample transport. During 2023, a public procurement process was prepared, incorporating sustainability-weighted technical criteria into the tender specifications. The resulting contract entered into force on 1 November 2024. Baseline carbon footprinting was conducted using kilometres travelled, fuel type, vehicle efficiency, and route frequency, expressed in tonnes of CO_2 equivalent (tCO_2e), calculated using the *Sanidad por el Clima* carbon footprint calculator. Operational interventions included route optimisation, consolidation of pick-up schedules, and the electrification of 8 high-density transport routes prioritised for urban and metropolitan settings. The project followed a quadruple-helix approach involving healthcare organisations, logistics providers, public institutions, and sustainability experts.

Results: The implementation of the decarbonisation programme resulted in the electrification of 8 transport routes covering 45 municipalities. These routes account for more than 350,000 kilometres travelled annually using electric vehicles, supplied entirely with certified renewable electricity, with a total annual consumption of approximately 65,000 kWh. The transition led to an estimated reduction of around 120 tCO_2e per year, corresponding to a 35% decrease in emissions associated with biological sample transport compared to the baseline scenario.

Beyond environmental outcomes, the initiative generated relevant operational and health-related benefits. More than 3,000 healthcare professionals were directly benefited through reduced exposure to air and noise pollution in their working environments, while over 500,000 patients were indirectly impacted as users of hospitals and primary care centres included in the electrified routes. Additional co-benefits included reduced urban noise levels, lower fuel-related costs, and increased organisational and public awareness of climate action within healthcare services.

Discussion: This experience demonstrates that meaningful carbon reductions in healthcare logistics can be achieved through operational redesign and targeted electrification rather than major infrastructural investment. The project underscores the importance of governance, cross-sector collaboration, and data-driven operations in translating sustainability strategies into routine practice.

However, relevant limitations remain. The current driving range of electric vehicles constrains their application to long-distance or extended-duration routes. In addition, preanalytical requirements in laboratory medicine do not always allow intermediate stops for vehicle recharging, as interruptions may compromise sample integrity and analytical quality. These constraints necessitate careful route selection and phased implementation. Despite these challenges, the environmental and operational benefits observed support further replication at regional and national levels. Future work should integrate technological advances in vehicle autonomy and charging infrastructure, alongside economic evaluations, to expand the feasibility of low-carbon transport in healthcare systems.

Universal health coverage and rural primary care in Georgia: barriers and opportunities in Guria's three municipalities (ID 72)

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Context: Implemented over a decade ago, Georgia's Universal Health strategy has not fully secured Primary Health Care (PHC). This challenge stems from systemic flaws in the mixed delivery model—comprising the Universal Healthcare Program (UHCP) and Village Doctor Program (VDP)—and broader policy weaknesses. This particularly affects the rural population (nearly 40% of the country), who face geographic and infrastructural barriers. Consequently, resolving these issues requires a deliberate, systemic reform process. This study evaluates PHC accessibility in the Guria region to identify critical barriers within this mixed model and propose evidence-based recommendations.

Methods: To clarify the study's framework, it is essential to concisely state its global goal: evaluating PHC accessibility for Guria's rural population through a comparative analysis of UHCP and VDP state programs. This process aimed to develop a recommendation package for phased system improvements aligned with the National Health Strategy. The research integrated two main methods: Desk Review and Focus Group Discussions (FGDs). The Desk Review involved an in-depth analysis of legislative, financial, and quality components of UHCP and VDP, alongside a broad documentary base including statistical data, epidemiological parameters, and mission assessment protocols. Following Creswell's (2013) qualitative design, nine FGDs were conducted across Lanchkhuti, Ozurgeti, and Chokhatauri municipalities using purposive sampling, semi-structured moderation, and thematic analysis involving village doctors, specialists, and rural beneficiaries.

Results: The current mixed model of PHC delivery, combining Universal Healthcare and Village Doctor state programs, fails to meet universally recognised WHO standards. This failure stems from strategic deficits in program design, financing, and management. Systemic challenges are particularly acute within the Village Doctor Program, characterised by critical personnel shortages—especially among nurses—low motivation, and only episodic access to professional development. Infrastructure suffers from an irrational distribution of medical points that ignores geographic and demographic factors, alongside severe inadequacies in working conditions, IT equipment, and internet access. Furthermore, a near-total lack of coordination between the two state programs creates significant deficiencies in the referral mechanism for integrated care. Finally, neither program possesses adequate monitoring and evaluation instruments, rendering evidence-based assessment and timely reform impossible.

Discussion: The study confirms that the current PHC provision crisis is multidimensional; previous sporadic, fragmented interventions have failed to yield sustainable results. The independent existence of the VDP is identified as an anachronism, fostering administrative dualism that obstructs coordination. Consequently, the VDP must be fully integrated into a reformed UHCP to establish a seamless referral system. Furthermore, the ambulatory component requires fundamental modernisation, moving beyond simple renovations to a network design strictly based on geographic, demographic, and logistical factors. Drawing on GeoDP's longitudinal experience and current findings, it is evident that sustainable improvement requires deep systemic reform rather than superficial adjustments. Success depends on a multi-stakeholder approach that is fully aligned with the National Health Strategy to finally secure universal access for the rural population.

Nursing policy dialogue in Uruguay: advances and challenges 2021–2025 (ID 74)

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Objective: To analyse the advances and challenges of the Nursing Policy Dialogue in Uruguay initiated in 2021, based on the experiences of nurses who actively participated in its process and follow-up of the agreements in order to improve health management.

Methods: Qualitative exploratory study with a hermeneutic-dialectic approach. In-depth interviews were conducted with 12 nurses selected through theoretical-purposive sampling. The interviews were transcribed and analysed using content analysis.

Results: Five main categories were constructed: partial achievements under critical scrutiny; need to design policies; challenging collective construction; local networks of professional action; representation and emerging leadership. These categories reflect both the advances achieved and the challenges, obstacles, and opportunities that persist in the development of the national Nursing plan.

Conclusions: This study identified advances and challenges, including partial achievements, the need for specific public policies, collective construction, and the emergence of territorial leadership. The nursing policy dialogue represents the beginning of a path that requires continuity, political will, and institutional commitment to achieve concrete and sustainable policies. Political dialogue between nurses, doctors, local and national authorities, patient associations and other relevant actors can greatly contribute to improvements in health management in countries.

Medical technology suppliers in hospital-at-home care: navigating interoperability and scalability challenges (ID 77)

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Context: The global healthcare landscape is being challenged by ageing populations, longer life expectancy and workforce shortages, creating a need for a transition from traditional hospital-centric models to Hospital-at-Home (HaH) care. HaH delivers acute, hospital-level treatment within the patient's home, utilising digital health technologies. However, the successful scaling of these models is hindered by a lack of strategic alignment among technology suppliers and non-standardised care delivery. While existing research focuses on operational efficiencies, there is a critical gap in understanding how suppliers coordinate product, service, and governance processes to support interoperable and scalable ecosystems.

Methods: This study employed a mixed-method, exploratory research design centred on data collected at the MEDICA fair in Düsseldorf (2025), the leading medical trade fair in Europe. A structured, two-step sampling approach involved pre-fair screening and on-site recruitment. Data collection involves semi-structured face-to-face interviews (4–15 minutes) that focus on interoperability, target markets, and regulatory barriers. To identify underlying strategic patterns, analysis followed a dual approach. Hierarchical cluster analysis was used in SPSS to identify quantitative patterns, while qualitative insights were interpreted through the lens of diffusion of innovations (DOI) theory to reveal nuanced supplier strategies.

Results: Data were collected from 35 suppliers. A total of 12 suppliers consented to audio recording, while for all other interviews, extensive handwritten notes were taken and expanded immediately to capture deep qualitative insights and further discussion points. The analysis yielded substantial results, identifying three distinct strategic clusters of suppliers within the HaH ecosystem:

Cluster 1: Global Interoperability Champions (n=12), prioritising scalable, universal solutions (91%) and placing a high importance on interoperability; Cluster 2: Regional Customisation Specialists (n=14), emphasising local adaptability and partnerships, with 57% relying on local distributors; and Cluster 3: Local Partnership-Driven Suppliers (n=9), focusing on niche, user-friendly solutions with a low emphasis on interoperability.

Discussion: These findings provide a novel advancement to the field by extending DOI theory to describe supplier behaviours as dynamic adoption stages. Global champions as early adopters driving standardisation, regional specialists as the early majority tailoring proven innovations, and local suppliers as late adopters focusing on practical, niche needs. The study contributes to global knowledge by emphasising that scaling HaH requires a balanced approach between global standardisation and local customisation. For an international audience, the results suggest that policymakers must develop harmonised interoperability frameworks and flexible reimbursement models to reduce market fragmentation.

Shaping care transitions: exploring and mapping stakeholder interactions in the transition from hospital-based to hospital-at-home care (ID 78)

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Context: As global healthcare systems are carrying the increasing burden of an ageing population, which is projected to exceed 2.1 billion people over age 60 by 2050, and rising chronic disease costs reaching an estimated $47 trillion by 2030, the transition from traditional hospital-based care to Hospital-at-Home (HaH) models has become a critical priority. Despite the advantages of HaH, such as reduced infections and improved patient comfort, its implementation remains fragmented. Current research primarily focuses on first-line stakeholders (healthcare providers, patients and caregivers), often neglecting second-line stakeholders (suppliers and funders). This study addresses the need for a holistic framework that coordinates interactions across strategic and operational levels to ensure continuity of care at patients' homes.

Methods: Adopting a hybrid design science research methodology within the Dutch healthcare context, the study was conducted in three phases. First, an exploration phase combined a literature review with a survey of the Dutch landscape to visualise a "current-state" map of existing stakeholder interactions and operational gaps. Second, co-design workshops were held with a mixed group of stakeholders, including healthcare providers, suppliers of medical products, services and technologies, and funders, to iteratively develop a "future-state" transition map. These sessions utilised speculative design to challenge current constraints and imagine optimised coordination scenarios. Finally, the framework was refined through expert-driven validation sessions with innovation specialists to ensure its feasibility and generalisability.

Results: The research produces a comprehensive evidence-based transition map that visualises multi-level stakeholder dependencies and resource flows. Key findings reveal misalignments between top-down policy frameworks and bottom-up operational realities, particularly regarding reimbursement mechanisms and supply chain integration. By making these interactions explicit, the map provides a structured model for identifying where, when and why stakeholder objectives overlap or conflict, particularly for second-line stakeholders who focus on the financial, regulatory and technological feasibility of HaH care.

Discussion: This study offers a significant advancement in the field of integrated care by expanding the traditional provider-patient-caregiver triad to include the perspectives of second-line stakeholders as the systemic enablers. It contributes to global knowledge by offering a validated, actionable tool that can be adapted to various international healthcare systems to improve resource allocation and decision-making. By bridging the gap between theory and implementation, the transition map serves as a provocative catalyst for policy reform, urging a shift from disease-centred to interaction-based system design. Ultimately, this framework empowers policymakers and practitioners to move beyond fragmented pilot programs toward scalable, multi-stakeholder HaH ecosystems.

From awareness to action: determinants of surgeons' adoption of environmentally sustainable practices in European healthcare systems (ID 79)

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Context: Climate change presents an increasing challenge to healthcare systems, both by raising the demand for medical and surgical care and by expanding the environmental footprint of healthcare delivery. Surgery, in particular, is one of the most resource- and energy-intensive medical activities. Although technological solutions to promote environmentally sustainable surgical practices are becoming more accessible, their success relies on clinicians' acceptance and their integration into everyday practice. Despite growing policy focus, there is limited empirical evidence on how surgeons view and adopt sustainability-focused innovations, especially in various European healthcare settings.

Methods: This study uses a quantitative, cross-sectional approach based on the Technology Acceptance Model (TAM) to examine how surgeons adopt environmentally sustainable surgical practices. An online survey was distributed to 263 surgeons working in emergency, trauma, and general surgery across 18 European Union countries. The questionnaire assessed perceived usefulness, perceived ease of use, intention to adopt, and self-reported use of green surgical practices, along with selected demographic and professional factors. Data were analysed using covariance-based structural equation modelling to test hypothesised relationships among variables and evaluate model fit. Control variables included gender, professional experience, role, and institutional setting.

Results: The results strongly support the proposed TAM-based model. Perceived usefulness was the most influential predictor of surgeons' intention to adopt environmentally sustainable practices, followed by perceived ease of use. In turn, the intention to adopt significantly predicted actual implementation in clinical practice. Among control variables, gender had a significant effect, with female surgeons showing higher intention to engage in sustainable practices. Other professional and organisational characteristics did not significantly affect adoption. Overall, the findings suggest that surgeons' engagement with green surgical innovations is mainly driven by cognitive evaluations of value and feasibility rather than by structural or institutional factors alone.

Discussion: The study emphasises the crucial role of clinicians' perceptions in promoting sustainability in surgical care. By applying the Technology Acceptance Model to environmentally sustainable surgery, the findings indicate that performance is increasingly viewed in two ways: clinical results and environmental impact. The results highlight the need to create sustainability-focused innovations that are not only environmentally sound but also clinically valuable and easy to adopt into daily routines. From a management and policy standpoint, targeted training, supportive guidelines, and leadership, including female surgical leaders, can help turn sustainability goals into everyday practice. The study adds to the health management literature by providing evidence-based insights into the behavioural foundations of greener healthcare delivery.

Surgeon well-being, work–life balance and career sustainability: evidence from Italy and an international comparison (ID 80)

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Context: Surgeon well-being is increasingly recognised as a crucial factor in healthcare quality, organisational performance, and workforce sustainability. In several European countries, including Italy, surgical specialties face growing challenges in attracting new postgraduate trainees, raising concerns about the long-term resilience of surgical services. In this context, the World Society of Emergency Surgery (WSES) and the European African Hepato-Pancreato-Biliary Association (E-AHPBA) endorsed an international study to assess surgeons' well-being across various professional areas. The study then compares the situation in Italy with the international sample from the investigation.

Methods: This ongoing, multicenter, cross-sectional study is based on an anonymous, structured survey designed to explore surgeons' well-being across six domains: job satisfaction and organisational relations, professional identity, workload and duties, working environment, work–life balance, and leadership and managerial support. The questionnaire includes validated Likert-scale items addressing clinical, organisational, and psychosocial aspects of professional life. Surgeons at various career stages (residents, senior consultants, and department directors) were invited to participate through national and international scientific societies. Descriptive and comparative analyses were conducted to examine differences across professional roles and between the Italian cohort and the international sample, with statistical significance set at conventional thresholds. The sample consisted of 246 physicians working in Italy and 569 respondents from around the world.

Results: Results show significant differences across career stages and national contexts. In the Italian group, senior consultants consistently reported lower levels of job satisfaction, perceived organisational support, workload sustainability, and work–life balance compared to residents and department directors. In contrast, department directors exhibited higher satisfaction in most areas. In the international sample, directors also reported significantly higher well-being indicators, especially in leadership support, organisational trust, and working environment. Professional identity was stronger among residents and directors in Italy, while internationally it was highest among directors. Both samples indicated that workload intensity and work–life balance are key factors influencing perceived well-being.

Discussion: These findings indicate that surgeon well-being is heavily influenced by career stage and organisational environment, with senior consultants being a particularly vulnerable group, especially in Italy. Decreased satisfaction and perceived imbalance during mid-career may lead to reduced appeal of surgical training paths and potential future workforce shortages. International comparisons show that supportive leadership structures and clearer integration of clinical and managerial roles can help reduce professional distress. Therefore, addressing surgeons' well-being should be a strategic priority for healthcare management, not only to safeguard professionals' health but also to maintain the sustainability and effectiveness of surgical systems. Further research will help refine these comparisons and guide targeted organisational strategies.

Co-creating a national health workforce strategy: a governance model built on collaboration and shared leadership (ID 81)

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Context: health systems across Europe face mounting workforce shortages, changing demographic needs, and increasing pressure on service delivery. Slovenia has long recognised the need for a coherent national strategy for the management and development of the health and care workforce. In 2025 the Ministry of Health initiated a structured, collaborative and evidence-informed process to design the National Strategy for the Management and Development of the Health Workforce for the next decade, building on World Health Organisation's (WHO) regional Human Resources in Health (HRH) framework and extensive stakeholder engagement. The strategy represents a landmark example of how coordinated governance, communication, and cross-sector cooperation can drive long-term workforce reform.

Methods: the Ministry of Health prepared a multi-phase participatory governance model, involving systematic engagement of institutions, professional associations, education providers, policy bodies, and social partners. Key activities included:

- Interinstitutional coordination meeting with National Institute of Public Health, Statistical Office of the Republic of Slovenia and WHO experts to establish a shared evidence baseline and workforce forecasting capacity (January–May 2025).
- Capacity-building 2-day workshop, including WHO-supported training on HRH forecasting tools (May 2025).
- Structured stakeholder consultation, involving a national survey completed by 66 organisations representing all major sectors of the health system.
- Two National Dialogues (June and November 2025) bringing together ministries, educational institutions, public healthcare providers, professional chambers, and unions to co-shape goals, activities, and implementation mechanisms.
- Public consultation, resulting 148 substantive proposals from institutions, associations and individuals.
- Intersectoral coordination, which resulted in further alignment and a clear definition of the responsibilities of individual sectors.

This process ensured transparency, legitimacy, and shared ownership of the strategic direction.

Results: the participatory process produced a comprehensive 10-year national workforce strategy consisting of 1 vision, 4 strategic purposes, 6 strategic goals and 59 activities, addressing education reform, recruitment, retention, optimisation of work processes, improvement of working conditions, and systematic national workforce planning. Stakeholder engagement strengthened coherence across ministries and aligned workforce planning with demographic and system needs. The consultations directly shaped strategic goals-such as modernising health professions education, building mechanisms to retain staff, and establishing long-term planning structures-ensuring the strategy reflects real-world challenges and operational realities. The process also strengthened trust among actors who had not previously collaborated systematically, demonstrating the value of coordinated leadership and shared decision-making.

Discussion: this work shows that meaningful collaboration, transparent communication and sustained stakeholder participation are essential for achieving long-term workforce reform. By integrating evidence, expert guidance and broad stakeholder input, the Ministry of Health created a strategy that is not only technically robust but socially and institutionally supported. The process confirmed that complex systemic challenges-such as workforce shortages, skills mismatch and retention-cannot be solved by isolated measures, but require intersectoral governance, co-creation and collective accountability. The Slovenian experience demonstrates how ministries can act as facilitators and conveners, transforming fragmented discussions into a shared national vision.

Conclusion: the strategy provides concrete evidence that effective collaboration enables systems to achieve greater progress through solutions that are both operationally feasible and strategically future-oriented. This model illustrates how a coordinated approach can support the long-term sustainability of the health workforce.

Perception, trust, and cost dynamics in the use of generic drugs: a mixed-method study (ID 82)

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Context: Pharmaceutical expenditures pose a significant challenge to healthcare sustainability, making generic drugs vital for cost-effectiveness and access. Although regulatory authorities ensure bioequivalence, patient acceptance remains limited due to brand loyalty and trust deficits, compromising budget efficiency. In Turkey, where generic usage (45%) lags behind developed nations, success depends on managing demand-side perceptions rather than supply alone. This study evaluates the dynamics of generic drug use in Trabzon, Turkey, exploring the gap between "scientific equivalence" and "perceived equivalence" through the dual perspectives of pharmacists and patients.

Methods: This exploratory and descriptive mixed-methods study was conducted between March and June 2025 in Trabzon. The qualitative phase involved semi-structured in-depth interviews with pharmacists (n=5) selected via purposive and snowball sampling to explore recommendation behaviours and observations of patient resistance. Data were processed using thematic analysis. The quantitative phase utilised a survey administered to 376 patients and relatives selected through convenience sampling to assess drug preferences. Data were analysed using descriptive statistics and frequency distributions via SPSS software to identify the determinants of generic versus original drug choices.

Results: Qualitative analysis revealed that while pharmacists view generic drugs as scientifically reliable, their recommendations are constrained by patient habits and "nocebo"-like anxieties regarding side effects. Quantitatively, 44.7% of patients preferred generic drugs, while 33.0% explicitly rejected them. Economic factors were the primary driver for generic preference (49.1%), whereas original drug preference was motivated chiefly by "trust" (39.8%) and "perceived efficacy" (30.7%). Notably, pharmacist recommendations influenced 16.8% of generic users, highlighting the impact of professional guidance on decision-making.

Discussion: The findings confirm a dichotomy between scientific bioequivalence and patients' perceived equivalence, with trust acting as the critical barrier. While cost advantages drive generic uptake, they are insufficient to overcome the psychological hurdles of brand loyalty. The study concludes that increasing generic utilisation requires shifting from purely economic policies to trust-based communication strategies. Strengthening the counselling role of pharmacists is essential to transform patient perception. Future interventions must focus on transparent bioequivalence education and active healthcare provider endorsement to mitigate safety concerns and improve treatment adherence.

General surgery training and workforce sustainability in Italy: a national Delphi consensus among program directors (ID 83)

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Context: General surgery residency programs across Europe are facing a growing crisis in workforce sustainability and applicant recruitment. In Italy, this problem is worsened by generational shifts in expectations, organisational constraints within the National Health Service, and regulatory measures introduced during the COVID-19 emergency. A national Delphi consensus was conducted among Directors of all officially accredited General Surgery residency programs in Italy to identify key weaknesses and priority areas for intervention in modern surgical training, to inform evidence-based policy and health system governance.

Methods: A structured Delphi methodology was employed during the First National Conference of Directors of General Surgery Residency Programs held in December 2025 in Pavia, Italy. Directors from all accredited Italian programs participated in iterative, moderated discussions focusing on regulatory frameworks, training quality, workforce sustainability, well-being, and technological innovation. The initial themes were derived from healthcare management literature centred on organisational innovation, human resource management, surgical technologies, and surgical innovation. Consensus statements were formed through plenary discussions and thematic working groups, with convergence assessed qualitatively across multiple rounds. Data were synthesised into key domains reflecting shared priorities, perceived risks, and proposed reforms relevant to educational governance and health system management.

Results: A strong consensus emerged on several key issues, linking surgical training quality to workforce retention and system sustainability. Directors noted a significant decline in the appeal of general surgery, driven by poor work–life balance, limited economic incentives, and limited career options. Training quality was found to vary widely, with residents complaining about being pulled into service duties and administrative work. Emergency policies permitting early employment of residents outside academic settings were seen as harmful to training quality and legal protection. Key solutions included enhancing academic oversight, standardising mentorship, implementing advanced simulation tools and digital logbooks, increasing pre-graduate surgical exposure, and exploring post-residency fellowships while maintaining the generalist approach.

Discussion: The national Delphi consensus among Italian Directors of general surgery residency programs emphasises the urgent need to realign surgical training with workforce sustainability and current generational expectations. Although existing regulations are structurally sound, their execution is hampered by systemic workforce shortages and organisational pressures. Policy responses should focus on strengthening academic–hospital partnerships, safeguarding training time, investing in simulation-based assessments, and addressing economic and organisational disincentives to hospital-based careers. Without coordinated national action, Italy will shortly face a significant shortage of general surgeons. These findings offer a strategic framework for stakeholders such as policymakers, academic institutions, and healthcare managers to redesign surgical training as a resilient and appealing professional pathway, providing policy-relevant insights for healthcare managers and decision-makers.

Evaluation of the impact of physiotherapy workshops on medication use and the frequency of medical consultations in patients with chronic nonspecific low back pain (ID 85)

Evaluation of the Impact of Physiotherapy Workshops on Medication Use and the Frequency of Medical Consultations in Patients with Chronic Nonspecific Low Back Pain Sofia Florencia Carelli Gosende, Evaluation of the Impact of Physiotherapy Workshops on Medication Use and the Frequency of Medical Consultations in Patients with Chronic Nonspecific Low Back Pain Marc Llado Corvillo
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Evaluation of the Impact of Physiotherapy Workshops on Medication Use and the Frequency of Medical Consultations in Patients with Chronic Nonspecific Low Back Pain Sofia Florencia Carelli Gosende

Context: Low back pain is highly prevalent, and although many episodes resolve spontaneously, some become chronic, increasing healthcare demand. Group physiotherapy workshops based on education and active exercise have been introduced to improve management. This study evaluates their effectiveness by examining the relationship between workshop participation, analgesic medication use, and medical consultations for chronic nonspecific low back pain. An observational, descriptive, cross-sectional, and retrospective study was conducted using data from the CAP Can Bou Primary Care Center between 2023 and 2025, analysing 21 groups with a total sample of N = 161.

Methods:

- Study Design and Setting: Observational, descriptive, cross-sectional, and retrospective study conducted at the CAP Can Bou Primary Care Center.
- Study Population: Patients who attended the APIC physiotherapy workshop between 2023 and 2025.
- Inclusion Criteria: Adults aged 20–100 years with a diagnosis of chronic nonspecific low back pain.
- Exclusion Criteria: Patients under 18 years, those with acute low back pain, or requiring referral to rehabilitation or surgery

Outcomes: Patient satisfaction, use of pain medication at 6 months, 1 year, 18 months, and 2 years, number of medical consultations for low back pain, and type of medication used. Outcome indicators included prevalence of medication use and consultations, mean and median number of consultations, recurrence rate of medication use, and McNemar's test for qualitative variables.

Results: The results of this study indicate a progressive and sustained reduction in the use of analgesic medication and in the frequency of medical consultations for chronic nonspecific low back pain after participation in group physiotherapy workshops. These findings support the hypothesis that non-pharmacological interventions, particularly those based on patient education and therapeutic exercise, can play a meaningful role in improving the management of chronic low back pain. By promoting active self-management and reducing reliance on medication and healthcare services, physiotherapy workshops may represent an effective complementary strategy within primary care.

Discussion: The decrease in medication use—from 24% at 6 months to 5.6% at 24 months—indicates reduced dependence on pharmacological treatments and suggests sustained clinical improvement. The McNemar test confirmed that this reduction was not due to chance, providing solid statistical support for the intervention's effectiveness. The low recurrence rate further reinforces the idea that the workshops promote more stable pain control. In parallel, the marked decline in medical consultations—particularly in primary care, with a 76% reduction over two years—shows that patients acquired self-management strategies that reduced the need for recurrent healthcare visits. This benefits both patient quality of life and healthcare system efficiency. Participant satisfaction adds additional value, as positive perceptions of professional guidance, clarity of information, and trust in the process indicate that the workshops influence not only clinical outcomes but also patient experience. Although the observational design and lack of a control group are limitations, the consistency of results strengthens the conclusions.

Systemic barriers and macro-level megatrends in mental healthcare access across the EU (ID 86)

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Context: Ensuring equitable access to mental healthcare is a priority for EU health systems, yet vulnerable populations - including migrants, refugees, LGBTQIA+ individuals, persons with disabilities, ethnic, religious and racial minorities, older adults, low-income groups, and youth - continue to face major systemic barriers. Although governance fragmentation, digital inequities, socioeconomic disparities, discrimination, and administrative complexity are frequently cited, evidence remains fragmented across disciplines and policy domains. As a result, decision-makers lack an integrated, supply-side understanding of how these barriers interact and generate access failures. This study addresses this gap through a multi-source, EU-wide synthesis of macro-level determinants of mental healthcare access, systematically mapped to the Levesque framework.

Methods: A semi-systematic scoping review was conducted in accordance with JBI methodology and PRISMA-ScR guidance. Keyword-based Boolean searches were applied across PubMed, Web of Science, and Google Scholar, complemented by structured screening of grey literature from the WHO, OECD, European Commission, Mental Health Europe, and national agencies. In total, 208 academic and policy documents from EU Member States and the WHO European Region were included. The analysis focused on macro-level policy, economic, social, and geographic determinants of mental healthcare access for people in vulnerable situations. Data were charted using a structured extraction template and thematically synthesised. Identified barriers and megatrends were systematically mapped to the five supply-side dimensions of the Levesque framework—Approachability, Acceptability, Availability & Accommodation, Affordability, and Appropriateness—to reveal cross-cutting systemic patterns transcending population groups and national contexts.

Results: Across all five dimensions of the updated framework, the study identified major clusters of barriers and future-oriented megatrends:

- Approachability: Inclusive mental-health information gaps, digital inequities, fragmented care integration, complex administrative pathways, weak crisis preparedness, climate-related disruptions, and insufficiently culturally attuned access points.
- Acceptability: Persistent stigma, lack of cultural competence, insufficient trauma-informed practices, inadequate disability inclusion, rights-based gaps, and limited empowerment in shared decision-making.
- Availability & Accommodation: Uneven workforce distribution, digital exclusion, underdeveloped telehealth ecosystems, fragmented service coordination, non-responsive or centralised models, low demographic adaptability, and limited climate-ready capacity.
- Affordability: Funding gaps, exclusionary insurance models, income-based disparities, limited employment-linked entitlements, and overall financial insecurity of vulnerable users.
- Appropriateness: Insufficient person-centred care, weak trauma-informed and culturally competent practices, limited disability and demographic adaptation, and inadequate agility during crises.

These findings reveal systemic fragmentation, underinvestment, and governance misalignment barriers across Europe.

Discussion: The results demonstrate that improving mental-health accessibility for vulnerable populations requires transformational system-level change, not isolated clinical interventions. EU health systems must move toward integrated, decentralised, culturally safe, and digitally inclusive governance models. The Levesque framework offers a pragmatic managerial tool for redesigning service pathways, funding arrangements, and workforce strategies through an equity lens. Key priorities include strengthening community-based and decentralised care models, embedding trauma-informed and disability-inclusive competencies and ensuring digital equity strategies. Addressing these structural determinants will enhance institutional trust, service effectiveness, and long-term sustainability. This scoping review provides actionable insights for policymakers, managers, and system leaders building fair, resilient, future-ready European mental health systems.

Acknowledgments: This study was carried out within the framework of the EQUICARES project, funded from the European Union's Horizon Europe Research and Innovation Action under Grant Agreement No. 101156500.

Towards a data-driven learning healthcare system: progress from the Netherlands Heart Registration (ID 90)

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The Netherlands Heart Registration (NHR) is a nationwide quality registry for cardiovascular care in which cardiologists and cardiothoracic surgeons register baseline, procedural and outcome data across all invasive cardiac interventional, electrophysical and surgical procedures.[1,2]The NHR database currently covers over 1.5 million cardiac procedures and yearly over 80,000 procedures are added for medical conditions such as percutaneous coronary interventions, coronary artery bypass grafts, aortic valve replacements and implantations, catheter ablations, pacemaker and implantable cardioverter defibrillator procedures. Besides this, some diagnosis registrations are in place, like heart failure (HF) and atrial fibrillation.

Within the NHR there are different methods available for using real-world data for quality evaluation and improvement using the NHR. We will show some examples.

For each NHR quality registry, cardiologists and/or cardiothoracic surgeons represent their hospital in the registration committee determining standard sets of variables and periodically discuss the completeness and quality of data and patient-relevant outcomes. In the case of significant variation in outcomes, processes of healthcare delivery are discussed and good practices are shared in a non-competitive and safe setting. Each individual hospital can monitor their own data in a secure online environment and compare them to aggregated data from other hospitals. Through this, outcome monitoring and identification of practice variation leads to quality improvement of cardiac care.[3]

Based on insights from the registries, also multicentre quality improvement projects are initiated in the registration committees. OPTIMISE-PCI is one of the examples, investigating if post-dilatation after stenting improves outcomes after PCI.[4]

Real-world data from the NHR can also be used for evaluating guideline adherence, e.g. to medical therapy.[5] For instance, the HF registration is used for measuring the implementation of the ESC HF guideline for the four class Ia recommended medications in the TITRATE-HF study. By providing feedback to new HF-patients and physicians the IMPLEMENT-HF study aims to further improve guideline adherence.

To assess comparative effectiveness in real-world settings, real world data from clinical registries are re-used in registry-based randomised clinical trials (RBRCTs). Within the DCVA Heart4Data consortium a national and sustainable infrastructure and platform for cardiovascular registry-based research was built.[6]The DCVA Health Data Hub platform was created where expertise in registry-based research is collected and standard documents are available.[7]In 2025, the REPEAT-AF trial was started, comparing pulsed field ablation versus conventional radiofrequency ablation for re-interventions in atrial fibrillation after a failed first procedure. In 2026, SELEQT-HF will start to enrol patients, studying the added value of selenium-coQ10 in HF patients.

Concluding, the quality registries of the NHR are leading in quality improvement. Various innovation projects are initiated which effectively supporting quality evaluation, healthcare access and improvement of cardiovascular care.

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How effective is national breast cancer screening? Evidence from a regression discontinuity on French data (ID 91)

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Breast cancer is the most common and deadliest cancer among women worldwide, with incidence and mortality varying across countries. In France, incidence is 45% higher than the European average, although mortality has gradually declined due to advances in early diagnosis and treatment. To further reduce breast cancer mortality and address health inequalities, the French government launched the National Breast Cancer Screening Programme (NBCSP) in 2004, offering free biannual mammography at accredited radiological centres to women aged 50–74 without significant risk factors. Despite being the largest EU screening initiative, voluntary participation remains below the European target of 70%, with substantial regional disparities in both mortality and programme uptake. Rising incidence among women under 50, alongside persistent inequalities, highlights the need to evaluate the NBCSP's impact on breast cancer mortality.

This paper evaluates the effectiveness of France's national breast cancer screening in reducing breast cancer mortality amid suboptimal participation, using a rich dataset spanning 13 French regions from 2005 to 2021. Mortality data from CépiDc for women aged 25–74 were matched with regional screening participation, socioeconomic indicators from Insee, and healthcare infrastructure data from the Institut National du Cancer, including the number of hospitals and Regional Cancer Screening Coordination Centres (CRCDCs). To estimate the programme's causal impact, and to address voluntary participation and imperfect compliance, a parametric Fuzzy Regression Discontinuity Design (RDD) was employed, exploiting the age eligibility threshold of 50 as an instrumental variable for effective participation. A sharp regression discontinuity design was also implemented to investigate the expected benefits of the programme, capturing the intention-to-treat effect (ITT).

Findings show that assignment to the treatment around the threshold increases the probability of participation by approximately 3.9 percentage points. Two-stage least squares (2SLS) estimates indicate that this increased participation significantly reduces breast cancer mortality, although suboptimal uptake limits the programme's effect to approximately half of the intent-to-treat impact. Additional factors, such as the number of hospitals offering breast cancer treatment and the presence of CRCDCs, also contribute to mortality reduction. Robustness checks using non-parametric RDD methods and standard validity tests confirm the reliability of these results.

This study provides new evidence that population-based breast cancer screening in France effectively reduces mortality among women at the guideline-recommended age. However, achieving its full potential depends critically on effective engagement. The findings highlight that increasing participation rates and addressing regional disparities are crucial to fully realising the programme's benefits. Policies targeting access barriers, socioeconomic inequalities, and healthcare infrastructure could further enhance NBCSP effectiveness. The rising incidence among women under 50 raises important policy questions regarding the optimal age for screening initiation, suggesting that extending eligibility may further reduce mortality.

Reducing early turnover among new healthcare employees: a multi-component retention strategy at Meir Medical Center (ID 92)

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Context: Early turnover among newly recruited healthcare employees is a major challenge affecting workforce stability, care continuity, and organisational costs. At Meir Medical Center, internal analyses from 2022 revealed that employees were most likely to leave within their first two years of employment, with a baseline early turnover rate of 27% (24 out of 88 new recruits). In response, the Human Resources Department developed and implemented a new organisational indicator to monitor early turnover and introduced a structured, multi-component retention program aimed at reducing attrition and pre-empting dissatisfaction before resignation decisions in this critical period.

Methods: A hospital-wide intervention was launched in 2023 to identify risk factors for early attrition and to implement targeted retention tools. The program included:

- A new early turnover indicator quantifying resignations among employees with ≤2 years' seniority (excluding temporary hires).
- Sector-specific HR focal points maintaining continuous contact with new employees and managers.
- Early identification of at-risk employees using structured check-ins and follow-up protocols designed to address identified triggers such as teamwork challenges, career changes, and challenges returning from maternity leave.
- Job Realistic Preview tools to enhance expectation management prior to hiring.
- Manager awareness initiative, including training and guidelines for proactive retention practices.
- Mandatory compensation clarification meeting at the end of the second month of employment to prevent misunderstandings about salary structures.

Data were analysed across professional sectors to identify trends and high-risk roles, guiding ongoing optimisation.

Results: Baseline data from 2022 showed both the magnitude of early turnover (27%) and its distribution across various sectors. Implementation of the multi-component strategy led to a dramatic and measurable reduction in early resignations. By 2025, the early turnover rate dropped significantly to 13.2%. This reduction was observed across several sectors during 2023–2025, particularly in positions previously identified as "high-risk" like nursing and administrative staff. Managers reported improved awareness, better communication with new staff, and an increased ability to pre-empt dissatisfaction before resignation decisions were finalised, resulting in a 50% decrease in attrition compared to the 2022 baseline.

Discussion: This initiative demonstrates that a structured and proactive HR model combining early monitoring, expectation alignment, managerial engagement, and personalised follow-up can significantly reduce early employee attrition in a level II trauma center hospital. By halving the early turnover rate (from 27% to 13.2%), the organisation successfully moved from reactive to predictive and proactive management of workforce risks. This case study highlights the importance of people-centred HR processes in shaping the workforce of the future, particularly in healthcare settings facing shortages and high workload. The Meir Medical Center experience provides a scalable, data-driven model for health organisations seeking to stabilise and strengthen their workforce.

Internal validity and content of the pilot Rwandan Medical Birth Register (ID 94)

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Context: Medical Birth Registers provide essential data to healthcare professionals and policy makers. The Pilot Rwandan Medical Birth Register (MBR), implemented in May 2023, was designed to collect data on maternal and fetal/child health outcomes, including maternal background characteristics. This study aimed to evaluate the quality of data in the Pilot Rwandan MBR by assessing its completeness and internal validity, and to identify areas for improvement prior to a full-scale implementation of a national MBR.

Methods: An observational study conducted in the Northern Province of Rwanda included ten selected health facilities: eight health centres and their two affiliated district hospitals. We examined a random sample of 540 medical records of women from the MBR who delivered between May and December 2023. Completeness was assessed by comparing MBR medical records with primary sources, and internal validity was evaluated through agreement and correlation analyses.

Results: Completeness in primary sources exceeded 96% for most variables, whereas the completeness of MBR variables ranged from 54.3% to 100%. High agreement rates were observed between categorical data from primary sources and MBR variables, indicating satisfactory internal validity for several variables, especially mode of delivery (Cohen's Kappa = 0.993) and place of delivery (Cohen's Kappa = 0.946). Certain variables, particularly diagnoses, exhibited low completeness and agreement, with prevalences not accurately reflecting pregnancy and delivery outcomes.

Discussion: The Pilot Rwandan Medical Birth Register was designed to conform with international standards while addressing Rwandan needs. Most variables demonstrated a very good degree of completeness, agreement and internal validity compared to primary data sources. Low prevalence rates for examined diagnoses resulted in lower Cohen's Kappa values, indicating limitations in accurately capturing health conditions in MBR. The study highlights the importance of precise reporting and recording of diagnostic information in MBR for effective health policy and planning.

Development of a national model for follow-up of gender dysphoria care in Sweden from a patient perspective (ID 95)

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Context: Sweden's national healthcare model for treatment of gender dysphoria involves a combination of national highly specialised care for certain treatments and local care. Centralising highly specialised care aims to secure cutting-edge expertise and best resource utilisation. Coordination at the national level is also expected to increase accessibility and the effectiveness of the care chain. However, these and several other challenges remain, not least the lack of robust data to support evidence-based care for gender dysphoria. For ensuring quality at all care levels, the Swedish National Board of Health and Welfare developed a coherent national model for follow-up of gender dysphoria care.

Methods and results: A national follow-up model was developed. The model describes a comprehensive, people-centred framework for evaluating healthcare quality, focusing on the patients journey through different levels of care: from referral to diagnosis, through different treatment steps to the follow-up of treatments and their effects.

The model consists of 19 national indicators and 4 key metrics monitoring structures, processes (treatments as well as transitions between levels of care), outcomes, as well as patient experiences (satisfaction, quality of life). National indicators were developed in collaboration with medical experts and discussed with professionals from the national centres for gender dysphoria, professionals from local level of care as well as patient- and civil society organisations. We also explored how data in the National Patient Registry could be best utilised for following up people with gender dysphoria and which additional requirements on data sources, standardised methods of data registration etc. are needed to achieve a long-term follow-up.

This model will in the long term allow us to:

- evaluate quality and equality in care for gender dysphoria
- monitor treatments and their long-term effects
- achieve evidence-based care for gender dysphoria.

This report also presents data from the National Patient Registry on the incidence and prevalence of gender dysphoria in Sweden, how the diagnosis has developed over time, as well as occurrence of concomitant mental health disorders in this patient group. National data is also presented for indicators such as puberty suppressing treatment, gender-affirming hormone treatment and gender-affirming surgery. Outcome measures including suicide and occurrence of conditions associated with long-term hormone treatment were also assessed in this patient group, compared with a control population.

Discussion: The population with gender dysphoria in the Swedish National Patient Registry is currently small and also relatively young, which currently impedes comprehensive evaluations regarding whether the care provided contributes to better health in the long term. Nonetheless, the proposed indicators are structured with a long-term perspective in mind. By developing indicators and proposing how and where these should be registered in a standardised manner, the National Board of Health and Welfare's proposed model has created a basis for monitoring and evaluating care for gender dysphoria in the long term.

More structured follow-up and access to registry data also enable high-quality research studies to be carried out, contributing to new knowledge being generated at a faster pace.

Validating digital scribes: a scoping review of evaluation practices and clinical use (ID 98)

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Context: Clinical documentation takes up a substantial share of clinicians' working time and contributes to administrative burden and reduced patient-facing care. AI-driven digital scribes, combining automatic speech recognition (ASR) and large language models (LLMs), aim to automate the creation of clinical notes from patient–provider conversations. Although these systems show promise, it remains unclear how they are validated and whether existing evidence supports safe and reliable use in practice. This study examines how digital scribes are currently validated, both technically and clinically, and evaluates whether current evidence supports their integration into clinical workflows. Understanding these practices is crucial to ensure that such systems can be responsibly implemented in real-world care.

Methods: We conducted a scoping review to map published validation strategies for digital scribes. Studies were screened for design characteristics, data sources (simulated, retrospective, or real-world), evaluation metrics, and approaches to workflow assessment. Extracted data covered both technical validation (e.g., ASR accuracy, note completeness) and clinical validation (e.g., clinician assessment, usability). Analytical methods included qualitative synthesis and categorisation of evaluation approaches into thematic frames. Because the study relied exclusively on published literature without involving human participants or identifiable data, no ethical approval was required.

Results: Digital scribes showed potential improvements in documentation efficiency, yet validation practices were highly heterogeneous. Most studies relied on simulated encounters or retrospective datasets, whereas prospective real-world evaluations were rare. Technical validation frequently focused on transcription accuracy and content correctness; however, clinical validation varied widely and was often limited to small clinician samples or subjective assessments. Three motivational frames were identified across studies: human-, performance-, system-oriented. These frames shaped how systems were evaluated and what outcomes were prioritised.

Discussion: Current validation of digital scribes is fragmented and predominantly based on simulated or retrospective data, limiting assessment of their clinical reliability. Existing evidence suggests potential efficiency gains, but consistent evaluation standards and prospective real-world studies are lacking. To support safe and effective adoption in clinical practice, structured validation frameworks and workflow-aligned assessment methods are urgently needed.

Multi-criteria decision framework for orphan drug reimbursement in Türkiye (ID 99)

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Context: Orphan drugs pose a major decision-making challenge for health systems due to limited clinical evidence, low patient prevalence, high levels of uncertainty, and substantial budgetary implications. Reimbursement assessments that rely predominantly on cost-effectiveness approaches often fail to adequately reflect the clinical, ethical, and system-level specificities of rare diseases. This limitation has increased the need for transparent, structured, and context-sensitive decision-support models. This doctoral research aims to address this gap by developing a multi-criteria decision framework for orphan drug reimbursement in Türkiye, with the objective of supporting evidence-informed, accountable, and consistent policy decisions.

Methods: A three-stage mixed-method design based on multi-criteria decision-making (MCDM) was employed. In the first stage, a systematic review was conducted to identify criteria used in orphan drug reimbursement and health technology assessment processes. Based on these findings, a Delphi study was carried out to establish a context-specific criteria set tailored to the Turkish healthcare system. A multidisciplinary expert panel consisting of 23 participants—including policymakers, clinicians, academics, reimbursement specialists, and representatives of patient organisations—took part in multiple Delphi rounds. As a result, an initial list of 40 criteria was refined to a final set of 31 criteria grouped under four main dimensions. In the final stage, the Best–Worst Method (BWM) was applied to determine the relative importance of both dimensions and criteria, improving comparison consistency, reducing cognitive burden, and generating quantitative weights.

Results: The Delphi process resulted in a high level of expert consensus, leading to the reduction of the initial 40 criteria to 31 criteria organised under four main dimensions. BWM analysis indicated that Clinical Effectiveness and Safety received the highest dimensional weight (W = 0.3310), followed by Disease Burden and Unmet Need (W = 0.2865) and Economic and Financial Impact (W = 0.2789). The Health System and Access dimension was assigned a comparatively lower weight (W = 0.1272). Examination of global weights revealed that Clinical Effectiveness (0.0626), Treatment Effectiveness (0.0582), Morbidity (0.0542), Disease Severity (0.0513), and Treatment Cost (0.0456) emerged as the five highest-priority criteria. Overall, the findings demonstrate that reimbursement decisions prioritise clinical value and unmet need while integrating economic considerations in a balanced manner. Consistency ratios confirmed the methodological robustness of expert judgments.

Discussion: This study presents a transparent and operational decision framework that integrates expert consensus with formal MCDM techniques for orphan drug reimbursement. Unlike conventional assessment approaches, the proposed model explicitly incorporates uncertainty, rarity, and ethical considerations into the decision-making process. From a policy perspective, the framework offers a practical decision-support tool that enhances consistency, legitimacy, and accountability in reimbursement decisions. Although developed within the Turkish context, the methodological approach and core dimensions are transferable to other health systems facing similar challenges. The findings underline the importance of combining consensus-based methods with quantitative weighting techniques to support balanced and defensible orphan drug reimbursement policies.

*This study was supported by Scientific and Technological Research Council of Turkiye (TUBITAK) under the Grant Number 224K562. The authors thank to TUBITAK for their supports.

Management of hospital care during the COVID-19 pandemic: lessons learnt from five European countries (ID 100)

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Background: The COVID-19 pandemic required significant adjustments in hospital management across Europe. This article explores the challenges faced and lessons learnt in managing hospital care, aiming to improve future pandemic preparedness and resilience.

Methods: Hospital management during the pandemic in Denmark, France, Germany, Hungary and Italy was investigated using a qualitative case study approach based on document analysis and 57 semi-structured interviews with senior hospital staff conducted in the spring and summer of 2022. The country case studies were subjected to an overarching analysis focusing on successes and failures in hospital pandemic management.

Results: Hospitals faced an overwhelming surge of patients, leading to the conversion of regular wards into COVID-19 units and the postponement of elective surgery, affecting the care of chronically ill and non-urgent patients. Telemedicine was crucial but faced challenges in terms of acceptance by elderly patients and physicians. Staff shortages and high workloads affected patient care and staff wellbeing. In addition, shortages of medical supplies led to a re-evaluation of logistics and warehousing. Many hospitals found existing policies and pandemic plans inadequate, leading to the formation of internal task forces.

Conclusion: The pandemic highlighted gaps in hospital preparedness and the need for improved resilience. Strategies to improve pandemic resilience, such as better working conditions and collaboration with primary care, would also improve health system performance in "normal times". Pandemic-specific measures, such as postponing elective surgery, are necessary but need to be carefully managed to minimise the negative impact on overall patient care.

Co-producing safety: translation, cultural adaptation and field evaluation of a patient-incident reporting tool in oncological care transitions (ID 105)

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Context: Transitions in cancer care are high-risk phases for patient safety, characterised by frequent miscommunication and medication errors. However, existing reporting systems inadequately capture these risks, as they largely reflect professional perspectives and rarely include patient-reported safety concerns, such as psychosocial and communication impairments. Consequently, patient-relevant safety information remains largely invisible to organisations for monitoring and decision-making purposes. To date, no instrument exists in the German context, or specifically for oncology care transitions, that systematically captures patient-reported safety incidents. This study aims to translate, culturally adapt and validate the Patient Incident Reporting Tool (PIRT) for use in German oncology care transitions, examining the type, frequency and patterns of patient-reported safety incidents, as well as their associations with routine clinical data.

Methods: The prospective, two-phase observational study comprises (1) the translation and cultural adaptation of the PIRT according to established guidelines and (2) field-related validation and evaluation with oncology patients. At discharge (T1), participants complete a brief survey about safety-critical events experienced during their inpatient stay. This is followed by a four-week reporting period (T2), during which participants are asked to report safety-critical events as soon as possible after the event and spontaneously via an online questionnaire. A final assessment at four weeks post-discharge (T3) is conducted, in particular to check criterion and construct validity. The qualitatively recorded, patient-reported events are evaluated using qualitative content analysis based on the modified PISA framework. Quantitative data will be analysed descriptively and inferentially to explore prevalences, types, and patterns, and to evaluate the validity of the PIRT.

Results: Preliminary results will be available by May 2026.

Discussion: This study addresses a significant shortcoming in the current safety monitoring system by systematically capturing patient-reported safety incidents during transitions in oncological care. Patient-reported concerns highlight vulnerabilities in processes at discharge and in the early post-discharge phase that are not adequately reflected in professional reporting systems. This study will make a validated patient-incident reporting questionnaire available in German for the first time, enabling standardised collection of patient-reported safety data in oncological care transitions. The adapted PIRT enables longitudinal reporting and links patient-reported incidents with routine clinical data, supporting organisational monitoring, the prioritisation of safety risks, and evidence-informed management decision-making across care transitions. The findings offer practical insights to help health service managers strengthen patient engagement, improve transition processes, and promote organisational learning in integrated, person-centred oncology care.

14 years of abdominal aortic aneurysm management in Korea (2010–2023): insights into temporal trends, treatment inequities, and outcome determinants (ID 107)

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Context: Abdominal aortic aneurysm (AAA) is a life-threatening condition with increasing prevalence in South Korea's rapidly aging society. While the therapeutic paradigm has shifted from open surgical repair (OSR) to less invasive endovascular aneurysm repair (EVAR) globally, comprehensive national-level, population-based evidence on treatment patterns and outcomes remain insufficient. Furthermore, understanding disparities in treatment selection and treatment outcomes across socioeconomic and institutional characteristics is essential for improving healthcare quality and equity. This study evaluates the real-world trajectory of AAA management in Korea over a 14-year period using comprehensive health insurance claims dataset.

Methods: We analysed National Health Insurance claims data (2010–2023) for all patients diagnosed with AAA (intact n=16,065; ruptured n=3,859). The cohort was stratified by treatment modality (EVAR, OSR for Intact EVAR, OSR, NONE for rupture). Primary outcomes included 30-day and 365-day mortality, 30-day readmission rate, and mean length of stay (LOS). Multivariate Logistic regression was used to identify predictors of EVAR selection and mortality/readmission. Generalised linear models (GLM) analysed LOS. Variables included demographics (age, sex, income quintile), residential area (urban/rural), insurance type (health insurance/medical aid), comorbidity burden (CCI), and hospital characteristics (tertiary vs. general; hospital surgical volume (Q1–Q5)). Temporal trends were examined through year-stratified analysis. Subgroup analyses by sex, age, income, insurance type, and residential area were performed.

Results: In intact AAA, EVAR utilisation increased from 56.2% in 2010 to 72.8% in 2023. EVAR showed superior short-term outcomes, while OSR was associated with a 3.3-fold higher 30-day mortality risk (OR 3.31, 95% CI 2.66–4.11). Hospital volume was strong prognostic factor; patients treated at the lowest-volume hospitals had a 2.9-fold higher 30-day mortality (OR 2.92) compared with those at high-volume centers. Advanced age (≥80 years, OR 2.26) and higher comorbidity (CCI ≥ 3, OR 1.40) favoured EVAR selection, whereas lower income (OR 0.80–0.88) reduced its likelihood. In ruptured AAA, 42.2% received conservative management with a 30-day mortality of 57.98%, markedly higher than surgical treatment (29.02%). EVAR and OSR achieved comparable outcomes in rupture cases. The probability of receiving surgery for rupture was 8.1 times higher in Q5 hospitals than in Q1. Medical Aid patients exhibited higher mortality, reflecting persistent socioeconomic inequities.

Discussion: This nationwide analysis confirms EVAR's superiority in short-term outcomes and its successful nationwide adoption, expanding treatment indications for high-risk elderly patients. The strong hospital volume–outcome association highlights the need for centralising complex aortic care into specialised centers to reduce preventable mortality. Marked health disparities persist: lower-income patients had reduced access to EVAR (OR 0.801–0.882), and medical aid beneficiaries experienced longer hospital stays, reflecting systemic inequities in care delivery. Mortality has steadily declined, likely due to growing expertise and improved perioperative management. However, outcomes in ruptured cases have plateaued, underscoring the need for a national AAA screening program for adults over 65. Integrating such preventive strategies with a centralised "Aortic Line" referral system could strengthen Korea's vascular care infrastructure in the super-aged era. Future research should address socioeconomic disparities, centralisation effects, and decision-making in conservative management.

Willingness to pay for HPV vaccination in Türkiye: evidence from a university-based contingent valuation study (ID 109)

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Background: Human papillomavirus (HPV) vaccination is a key component of cancer prevention programs, yet in Türkiye it is not included in the national immunisation schedule and access is largely based on out-of-pocket payment. This study aimed to estimate willingness to pay (WTP) for HPV vaccination and to identify its demographic, socioeconomic, and perceptual determinants.

Methods: A descriptive cross-sectional survey was conducted in 2025 among 206 adults (students, faculty, and administrative personnel aged ≥18 years) from a single university. The contingent valuation method was applied using single-bounded and double-bounded dichotomous choice formats. Initial bids were 1,000, 3,000, or 4,000 Turkish Lira, followed by a second bid adjusted by ±50% according to the first response. Analyses were performed in R (DCchoice). Mean and median WTP were estimated with Krinsky–Robb and bootstrap 95% confidence intervals. Covariates included demographic, socioeconomic, and perception-related factors.

Results: The sample was 79.6% female and 92.2% had higher education. In the double-bounded model, mean WTP was 115.8 USD (95% CI: 98.9–135.5) and median WTP was 101.8 USD (84.0–120.1). Single-bounded estimates were similar in level but less precise. Bid price coefficients were negative and significant in both models. Most demographic groups did not differ significantly in their acceptance of the first bid; however, having health insurance was associated with higher acceptance (odds ratio=3.46; p=0.046). Perceptual factors were significant: the statement "I would vaccinate if income were higher" showed the strongest association (odds ratio=6.78; p<0.001), while awareness of HPV and HPV vaccination (odds ratio=4.90; p<0.001), price awareness (odds ratio=2.16; p=0.011), and belief that vaccines prevent some cancers (odds ratio=4.35; p=0.001) also increased acceptance.

Conclusions: Average willingness to pay in this university population was close to current private market prices but was substantially lower among uninsured and financially constrained groups. Policy implications include the need for national program inclusion, income-based subsidies, and gender-inclusive, trust-building communication strategies. The double-bounded format provided narrower confidence intervals than the single-bounded format, yielding more precise estimates.

Trial registration: Not applicable. This was an observational cross-sectional study.

Everyone a leader: diffused leadership for resilient health systems governance (ID 110)

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Health systems resilience has emerged as a central concern for policy-makers and scholars, particularly in the aftermath of the COVID-19 pandemic. While much attention has been devoted to emergency responses and structural reforms, less emphasis has been placed on the role of leadership models in sustaining long-term adaptability, learning, and social responsibility. This paper argues that resilient and sustainable health systems require a shift from hierarchical and centralised leadership toward forms of diffused leadership embedded within governance arrangements.

Building on the conceptual and empirical work of Lega and Castellini, the paper adopts the CICLAD framework (Communication, Intelligence, Capacity and capability, Legal support, Accountability and good governance, Diffused leadership) to interpret governance as a dynamic, multi-level, and distributed process. Within this perspective, leadership is understood not as an individual or positional attribute, but as a collective and relational capacity activated across organisational and institutional levels. Such an approach is consistent with theories of complex adaptive systems, which emphasise the importance of interaction, coordination, and learning among diverse actors in conditions of uncertainty.

The paper examines how diffused leadership contributes to resilient health systems by enabling sensemaking, coordination, and problem solving close to operational contexts, where information is generated and rapid decisions are required. Particular attention is given to collective learning and adaptability, which represent core dimensions of both the CICLAD framework and resilient governance. Diffused leadership supports horizontal collaboration, integration of managerial and clinical knowledge, and cross-boundary coordination, all of which are critical for maintaining continuity of care while responding to shocks.

Empirically, the paper discusses a set of policy and organisational initiatives developed within the Italian National Health Service since the pandemic. These include the design of a national competency framework for healthcare professionals, aimed at strengthening transversal skills, professional integration, and interprofessional mobility, as well as reforms in managerial training programs to better align leadership development with system-level needs. Together, these initiatives illustrate how leadership can be intentionally supported through education, career pathways, and governance mechanisms, rather than emerging only informally or during crises.

At the same time, the analysis highlights persistent challenges in embedding diffused leadership as a stable feature of health systems governance. Cultural resistance, rigid professional boundaries, fragmented training systems, and uneven institutionalisation across regions continue to limit the sustainability of shared leadership practices. From a learning system perspective, these gaps are interpreted not as failures, but as signals of an ongoing process of adaptation and institutional learning.

The paper concludes that strengthening diffused leadership is a key lever for building sustainable and resilient health systems. By integrating governance, leadership development, and social responsibility, health systems can move beyond emergency-driven innovation and consolidate collective capacities that support long-term resilience, equity, and performance.

Leadership and standardised processes in primary care: advancing diagnostic safety through organisational integration (ID 111)

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Context: Diagnostic errors represent one of the most frequent and unacceptable causes of preventable patient harm, particularly in primary care settings. Prior research has consistently demonstrated high rates of diagnostic errors in primary care and emphasised the importance of leadership support for patient safety as well as standardised organisational processes. However, integrated and theory-driven models explaining diagnostic safety in primary care remain scarce. In particular, little is known about how leadership support and process standardisation interact to influence diagnostic safety. Addressing this gap, the present study develops and empirically tests a theory-based model of diagnostic safety in primary care.

Methods: This cross-sectional study is based on survey data from 1,154 healthcare professionals working in 14 primary care organisations, with an average response rate of 44%. Data were collected using the Medical Office Survey on Patient Safety Culture, supplemented with the Diagnostic Safety Supplemental Items focusing on testing and referral processes. Structural equation modelling (SEM) was applied to examine the relationships between leadership support for patient safety, office processes and standardisation, and diagnostic safety. The model integrates theoretical perspectives from the Donabedian framework, Reason's Swiss Cheese Theory, High Reliability Organisation (HRO) theory, and Sociotechnical Systems (STS) theory. Model estimation and evaluation followed established SEM best-practice guidelines.

Results: The structural equation model demonstrated very good fit to the data (CFI = 0.96, RMSEA = 0.04, SRMR = 0.03). Leadership support for patient safety showed a strong and statistically significant positive association with diagnostic safety ($\beta = .41$, $p < .001$). Office processes and standardisation were also significantly and positively related to diagnostic safety ($\beta = .34$, $p < .001$). Importantly, the interaction between leadership support and process standardisation was significant ($\beta = .09$, $p < .01$), indicating a moderating effect. This finding suggests that the positive impact of leadership support on diagnostic safety is strengthened in organisational contexts characterised by higher levels of standardised and well-designed processes.

Discussion: The findings demonstrate that both leadership support for patient safety and high-quality, standardised processes independently contribute to diagnostic safety in primary care. Beyond their individual effects, the significant interaction indicates that the association between leadership support and diagnostic safety is stronger in organisational contexts characterised by higher levels of process standardisation. This pattern is consistent with sociotechnical systems theory, highlighting the interdependence of social and technical system components. Leadership support provides orientation and prioritisation of patient safety, while standardised processes enable consistent diagnostic practices related to testing and referrals. Importantly, organisational processes do not substitute leadership effects but appear to reinforce them. These findings underscore the importance of integrated strategies that align leadership engagement with process design to strengthen diagnostic safety in primary care.

Emotional burnout among doctors of the National Hospital of the Kazakhstan (ID 112)

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Context: Burnout syndrome is prevalent globally and has been extensively studied, garnering significant attention within the scientific community, particularly in the realm of human resources. This study aimed to examine burnout syndrome among physicians, by utilising a questionnaire for those who consented to participate. In addition to the questions from the short version of the Maslach Burnout Inventory (MBI) (14 questions).

Methods: A cross-sectional study was conducted at the National Hospital (Almaty) from July 1–5, 2025. The hospital provides comprehensive outpatient and inpatient care across all specialties and is accredited by JCI (since 2015; fourth re-accreditation in 2024) and at the highest national level. Burnout among physicians was assessed using a questionnaire including the short Maslach Burnout Inventory (14 items) and sociodemographic, professional, and sleep-related variables. Data were analysed using descriptive statistics, Pearson's chi-square test, and Cramer's V, with $p<0.05$ considered significant (n=159).

Results: Our research involved 159 participants, comprising 19% (n=31) males and 81% (n=128) females. The age distribution was categorised into five groups: under 30 years (8.3%), 31-40 years (33.1%), 41-50 years (22.3%), 51-60 years (30.6%), and above 60 years (5.7%). The current job experience distribution is as follows: under 5 years (12.1%), 5-10 years (15.9%), 11-20 years (27.4%), 21-30 years (24.2%), 31-40 years (15.9%), and over 40 years (4.5%). The questionnaire inquiry gathered data on marital status, revealing that 58.6% of respondents were married, 17.2% divorced, 21.7% single, and 2.5% widowed.

The Maslach Burnout Inventory – Human Services Survey (MBI-HSS) is widely used to assess burnout among professionals. While the original instrument contains 22 items, in this study a shortened 14-item version was applied, comprising 5 questions for Emotional Exhaustion (EE), 4 for Depersonalisation (DP), and 5 for Personal Accomplishment (PA). Cutoff points were proportionally adapted to reflect the reduced maximum scores.

The respondent's scores were EE – 12.96 (moderate), DP – 5.14 (low), and PA – 20.28 (moderate). Women were more likely than men to report feeling "squeezed out" at the end of the workday, with a statistically significant gender association ($\chi^2=12.72$; df=6; $p=0.048$; Cramer's $V=0.285$). Age was significantly associated with a stronger sense of positive professional impact ($\chi^2=39.94$; df=24; $p=0.022$; $V=0.252$) and higher self-rated success in solving patients' problems ($\chi^2=37.14$; df=24; $p=0.042$; $V=0.243$), both increasing with age. A marginal relationship suggested growing fatigue with longer service ($\chi^2=43.50$; df=30; $p=0.053$; $V=0.235$). Sleep duration and quality showed consistent negative associations with burnout and emotional exhaustion, including burnout ($\chi^2=37.16$; df=12; $p<0.001$; $V=0.344$), emotional tiredness ($\chi^2=36.34$; df=12; $p<0.001$; $V=0.340$), stress, callousness, reduced sensitivity, and lower perceived energy.

Discussion: The sample under study showed, on average, moderate rates of emotional exhaustion, low/borderline levels of depersonalisation, and average levels of personal achievements, indicating the presence of early or moderate signs of burnout in some respondents without a pronounced critical level on all three scales simultaneously. At the same time, the identified relationships between age and the feeling of a positive impact of professional activity are consistent with the cultural characteristics of Kazakhstan, characterised according to Hofstede's model by a more pronounced collectivist orientation and a desire for the social significance of work. In addition, the established associations between sleep quality and signs of emotional distress reflect a global trend, where sleep disorders are a universal risk factor for professional burnout.

Governance challenges in the use of high-impact drugs in patients with moderate-severe psoriasis: real-world evidence from a regional public health system (ID 113)

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Context: Biologic and targeted synthetic medicines (TSM) have substantially transformed the management of moderate-to-severe psoriasis. Within public health systems, clinical guidelines and pharmaceutical policies generally promote a stepwise approach, including adequate exposure to synthetic systemic therapies before initiating biologics, and preferential use of established biosimilar agents to support sustainability. However, population-level evidence on how these recommendations are implemented in routine practice remains limited. This study analyses real-world treatment patterns to identify governance challenges associated with the use of high-impact TSM and biologic therapies.

Methods: A retrospective observational study was conducted using administrative healthcare databases from a regional public health system covering approximately 8 million inhabitants. Patients receiving at least one TSM or biologic therapy for psoriasis between 2019 and 2024 were included. Data sources included electronic prescription records and registries of hospital-dispensed outpatient medicines. Key variables analysed included time on synthetic systemic therapy prior to initiation of the first TSM or biologic treatment, persistence on the first biologic drug, use of more recently commercialised drugs at treatment initiation, and switching patterns between them. Descriptive analyses were performed at the population level and by hospital, enabling benchmarking across 50 centers.

Results: A total of 7.948 patients received TSM or biologic therapy during the study period. Prior to first TSM or biologic therapy initiation, 11% of patients had no recorded exposure to synthetic systemic therapy, and 17% received it for less than six months. Despite recommendations favoring anti-TNF biosimilars as first-line biologics, 41% of patients initiated treatment with more recently authorised agents. Overall, 36% of patients switched to a second drug, with 41% of these switches occurring within the first six months of treatment. Benchmarking across 50 hospitals revealed substantial inter-center variability in prior exposure to synthetic systemic therapies, choice of first biologic therapy, and timing of switching; providing actionable insights for governance and system-level management.

Discussion: This population-based analysis reveals a clear gap between pharmaceutical policy recommendations and real-world prescribing patterns for psoriasis TSM and biologic therapies within a public health system. Early initiation of TSM or biologics, preferential use of newer agents, frequent early switching, and marked inter-center variability raise important governance and sustainability concerns. The findings demonstrate the value of benchmarking as a governance tool to identify unwarranted variation, inform targeted management actions, and promote more consistent and sustainable use of high-impact medicines. Systematic use of real-world data at the regional level can strengthen alignment between policy objectives and clinical practice, contributing to more resilient, sustainable and equitable healthcare systems.

Empowering nursing practice through the TEAL self-management model: a strategy for distributed leadership and clinical excellence (ID 114)

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Context: Participatory nursing leadership is consistently associated with superior outcomes regarding the quality of care, patient safety, and professional satisfaction. In the current healthcare climate, characterised by a global shortage of nursing staff and the retirement of highly experienced practitioners, there is a critical need to develop robust organisational structures. These structures must ensure the continuity of clinical knowledge and reinforce a culture of co-responsibility within nursing practice.

The TEAL organisational paradigm, conceptualised through the pillars of self-management, wholeness, and evolutionary purpose, offers a transformative framework for promoting distributed leadership and shared decision-making. Within this context, the establishment of 'Nurse Reference Groups', led by bedside clinicians rather than traditional top-down management, represents an innovative strategy to strengthen evidence-based practice and facilitate the continuous improvement of patient care.

The primary objective of this project was to implement the TEAL self-management model within the nursing teams of a specialist tertiary hospital in Spain. Specifically, the initiative sought to:

- Strengthen professional autonomy and co-responsibility.
- Foster decentralised clinical decision-making.
- Ensure the systematic update and transfer of clinical knowledge.
- Enhance the quality of care through the unification of clinical criteria.
- Develop evaluation indicators aligned with TEAL principles.

Methods: This was a descriptive study focused on the implementation phase of the TEAL organisational model. The intervention involved the creation of Nurse Reference Groups across several strategic clinical areas, including vascular access, infection control, complex wound care, and health education.

Participant selection was based on clinical expertise, personal motivation, and the requirement for representation across all three hospital shifts. Each group was granted the autonomy to define its own objectives, internal dynamics, and working methodologies. A descriptive analysis of the initial results was conducted using organisational indicators, professional perception surveys, and clinical impact metrics.

Results: The initial phase demonstrated a significant increase in nurse engagement regarding clinical decision-making and a marked improvement in the perception of professional autonomy. Specifically, the Vascular Access Reference Group achieved a measurable clinical impact, evidenced by the standardisation of insertion and maintenance criteria and a reduction in catheter-related infection rates. Similarly, the Infection Control Group reported enhanced adherence to clinical guidelines and improved prevention protocols. Overall, the shift toward a flatter hierarchy encouraged a more proactive approach to problem-solving at the point of care.

Discussion: The implementation of Nurse Reference Groups under the TEAL model promotes a culture of co-responsibility and distributed leadership. Preliminary data suggest that moving away from traditional bureaucratic hierarchies towards self-managed teams enhances both clinical quality and patient safety. This model provides a sustainable pathway for retaining clinical expertise and ensuring that nursing practice remains evidence-based and patient-centred.

Are National Hospital Organisation hospitals in Japan efficient? A nationwide data envelopment analysis (ID 116)

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Context: National Hospital Organisation (NHO) hospitals play a crucial role in Japan's healthcare system by providing policy-driven and regionally essential services, including disaster medicine and care for patients with complex needs. Despite their public mission, many NHO hospitals have reported persistent financial deficits since the discontinuation of government management subsidies. Whether these deficits reflect operational inefficiency or structural policy burdens remains unclear. This study aimed to compare the operational efficiency of NHO and non-NHO hospitals across different care settings using nationwide administrative data.

Methods: We conducted a cross-sectional study using the FY2023 Bed and Outpatient Function Reports, covering 5,507 hospitals across Japan. Hospitals were classified as NHO or non-NHO and stratified into advanced acute/acute and recovery/chronic categories based on bed composition. Operational efficiency was measured using input-oriented Banker–Charnes–Cooper data envelopment analysis, with beds, physicians, nurses, and other staff as inputs and inpatient bed-days and outpatient visits as outputs. To examine the association between NHO status and efficiency, we performed univariate and multivariate regression analyses with stepwise selection, forcing NHO status into the model. Propensity score matching (1:5, caliper 0.2) was additionally applied to adjust for baseline hospital characteristics.

Results: Among 2,990 advanced acute/acute hospitals (49 NHO and 2,941 non-NHO), median efficiency scores were comparable between NHO and non-NHO hospitals (0.81 vs. 0.80). Multivariate regression analysis showed no significant association between NHO status and efficiency, and propensity score–matched analyses yielded consistent findings.

Among 2,517 recovery/chronic hospitals (51 NHO and 2,466 non-NHO), NHO hospitals demonstrated higher unadjusted efficiency scores than non-NHO hospitals (0.79 vs. 0.63). Regression analysis indicated a positive association between NHO status and efficiency; however, this association was attenuated and became non-significant after propensity score matching.

Discussion: These findings suggest that NHO hospitals are at least as operationally efficient as non-NHO hospitals across different care settings in Japan. The attenuation of differences after adjustment indicates that observed efficiency gaps may be driven by institutional roles, service mandates, and regional contexts rather than inefficiency itself. In recovery and chronic care settings, centralised management structures and standardised workflows in NHO hospitals may contribute to relatively higher unadjusted efficiency. From a policy perspective, the persistent financial deficits observed in NHO hospitals are unlikely to be explained solely by inefficient resource use, but rather by policy-related obligations and structural constraints. Aligning management strategies with appropriate financial and policy support may be essential to sustain public hospitals while ensuring efficient healthcare delivery.

Association between operational efficiency and financial performance in National Hospital Organisation hospitals in Japan (ID 117)

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Context: National Hospital Organisation (NHO) hospitals in Japan are required to deliver policy-driven and regionally essential services while maintaining financial sustainability under increasing fiscal pressure. Persistent financial challenges have raised concerns about the long-term viability of public hospital systems. The relationship between operational efficiency and financial performance within public hospital systems has not been fully examined. This study aimed to examine the association between operational efficiency and financial performance among NHO hospitals using nationwide administrative data and NHO-provided institutional data.

Methods: We conducted a cross-sectional study of National Hospital Organisation (NHO) hospitals using data from fiscal year 2024. Operational efficiency was estimated using data envelopment analysis, with numbers of beds, physicians, nurses, and other staff as inputs, and inpatient bed-days and outpatient visits as outputs. To account for differences in case mix, inpatient bed-days were weighted using relative weights derived from reimbursement points calculated by ICD-10–based diagnostic categories.

Financial performance was assessed using the operating profit margin and the ordinary profit margin. Multivariate linear regression analyses were performed to examine the association between efficiency scores and financial performance, adjusting for hospital-level characteristics, including the education and research revenue ratio, hospital functions, regional characteristics, and healthcare resource availability.

Results: Among the 140 National Hospital Organisation (NHO) hospitals included in the analysis, higher operational efficiency was positively associated with financial performance. In multivariate linear regression analyses, efficiency scores were significantly associated with the operating profit margin (B = 0.122, 95%CI: 0.004–0.241, p = 0.044) and the ordinary profit margin (B = 0.137, 95%CI: 0.029–0.243, p = 0.013). No other covariates showed consistent statistically significant associations with financial performance.

Discussion: This study demonstrated that higher operational efficiency was positively associated with better financial performance among NHO hospitals. The findings indicate that more efficient use of limited human and physical resources may be linked to improved operating and ordinary profit margins, even within public hospital systems facing substantial policy-driven and institutional constraints.

These results should be interpreted cautiously. Given the cross-sectional design, causal relationships cannot be established, and unmeasured organisational or managerial factors may have influenced both efficiency scores and financial outcomes.

Nevertheless, the observed associations highlight operational efficiency as a potentially meaningful management indicator for NHO hospitals. From a policy and management perspective, initiatives to enhance efficiency, together with appropriate institutional and financial support, may contribute to strengthening the financial sustainability of public hospital systems while preserving their essential public service roles.

Digital interventions to promote children's participation in paediatric care: a systematic review (ID 119)

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Context: children's participation in paediatric care is a fundamental component of a child-centred care approach. However, children continue to experience minimal involvement, despite their desire to be active participants in their care. To accommodate this issue, digital interventions offer a promising solution. Previous research has demonstrated positive effects of such interventions, yet it remains unclear which functions and features contribute to their success. This is essential for creating and optimising interventions that improve the involvement of children. Therefore, the aim of this systematic review is to synthesise the effective functions and features of digital interventions for children's participation in paediatric care.

Methods: this systematic review was conducted in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA). We performed a comprehensive search in four databases: MEDLINE, Embase, Web of Science Core Collection, and CINAHL Plus. Articles were included if they described functions, features, and effects of digital interventions that aim to promote the participation of children (aged 3 to 18 years old) in paediatric care. Both qualitative, quantitative, and mixed methods studies published in English were selected. Excluded were study protocols, reviews, and editorial, opinion, and discussion articles. The included studies were assessed on their methodological quality by the Mixed Methods Appraisal Tool (MMAT). A thematic analysis was conducted to synthesise the effective functions and features of interventions.

Results: a total of 21 studies were included. These were all published between 2013 and 2024 and performed in European and North American countries. The studies described 14 different interventions, all delivered in the form of applications. The majority of interventions focused on hospital care, whereas their target population was more diverse. Across the interventions, six functions – and their features – were identified: (1) preparation, (2) self-assessment, (3) personal expression, (4) decision support, (5) information and education, and (6) social networking. The results demonstrate prevailing positive effects of these functions in two respects. On the one hand, by impacting children directly, for instance regarding their behaviour, cognition, and emotions. On the other hand, by redefining how healthcare is delivered to them, such as by shaping the topic, structure, and communication during medical appointments.

Discussion: this review shows that digital interventions are a valuable means to promote the participation of children in healthcare. The results particularly highlight the importance of integrating functions related to information provision to children, activation of children, and healthcare decision making with children. These insights may support designers and researchers in healthcare to develop interventions that drive the necessary improvement of children's participation. Interestingly, the included studies used different measures, both qualitative and quantitative, to assess the effectiveness of interventions. Therefore, further work is recommended to develop standardised measures that enable better comparison between interventions and their effectiveness.

Climate emergency management in a regional hospital: lessons for resilience and health system value (ID 123)

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Context: Extreme climate events increasingly threaten population health and healthcare system sustainability, affecting both people and critical infrastructure. On 12 July 2025, torrential rains from a DANA phenomenon flooded the technical areas of Alt Penedès Regional Hospital, causing total supply failure and forcing the difficult decision to close the hospital within 24 hours. This event offers a unique opportunity to examine organisational response to a climate crisis, assess its clinical and economic impact, and extract lessons to enhance hospital resilience and the value delivered by the health system.

Methods: An emergency governance model was activated, emphasising shared leadership, multilevel coordination, and agile decision-making. Crisis management structures were established at territorial and organisational levels, involving health authorities, suppliers, and clinical teams. Protocols included safe patient evacuation, staff redistribution, and territorial reorganisation of urgent care to maintain essential services. Temporary technical solutions, emergency hiring, and targeted communication with patients, staff, and institutions were implemented. Response evaluation relied on hospital records, continuity-of-care data, and economic impact estimates. Key metrics included evacuation safety, recovery of scheduled services, and efficiency of resource allocation during hospital closure. The approach prioritised rapid adaptation, protection of patients, and continuity of critical care services under extreme infrastructure stress.

Results: Within 24 hours, 66 inpatients were safely evacuated without incident. During the three-week closure, 90% of outpatient consultations, 65% of diagnostic tests, and 60% of scheduled surgeries were recovered by redistributing activity to another hospital in the consortium, optimising available resources. This approach ensured continuity of dialysis, outpatient pharmacy, rehabilitation, and day hospital services, safeguarding patient safety and minimising clinical disruption. The final economic impact was €1.2 million, lower than projected, demonstrating the efficiency of coordinated planning and proactive response. The hospital's ability to maintain essential care despite total infrastructure failure highlights the value of flexible organisational structures, rapid decision-making, and inter-facility collaboration in mitigating operational, clinical, and financial risks during extreme climate events.

Discussion: This case underscores that hospital resilience and patient-centred value rely on protecting people, securing infrastructure, and sustaining operations. Integrating climate risk into facility planning, design, and emergency protocols is essential for continuity of care and efficient resource use. Adaptive leadership, interorganisational collaboration, and team flexibility are critical to minimising risks and impacts. Proactive, coordinated strategies can reduce both clinical disruption and economic loss during extreme weather events. Lessons learned are transferable to other healthcare settings and can guide anticipatory procedures to adapt health systems to growing climate threats. Embedding these practices in organisational culture enhances resilience, safeguards patient outcomes, and strengthens long-term healthcare value. This experience provides actionable insights for preparing hospitals for the increasing frequency and severity of climate-related emergencies.

How can potentially avoidable hospitalisations be reduced? Areas for improvement detected (ID 124)

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Objective: Determine who the areas of health are in order to reduce the number of potentially avoidable hospitalisations.

Potentially avoidable hospitalisations are health problems in which adequate outpatient care could prevent the need for hospital admission, avoid complications or control the severity of the illness. Avoidable hospitalisations are classified exclusively from the diagnostic codes registered at hospital discharge, which are reported to the CMBD AH, so the diagnostic coding has a critical impact on the allocation of potentially avoidable hospitalisations (HPE). The selection of the main diagnosis and the coding of comorbidities exhaustively means that a hospitalisation is classify in one way or another. The pathologies considered as preventable hospitalisations are: Asthma, COPD, Decompensated Diabetes, HBP, Heart Failure, Angor, Urinary Infections, Dehydration, Acute gastroenteritis.

Materials and Methods: A descriptive, retrospective study was conducted on discharges from the Hospital of Figueres for the period January-October 2025. Hospitalisations considered potentially avoidable were selected through the BS3.0 program. The comparison was made with level B hospitals. The following variables were collected: age, sex, type of discharge, Charlson index, average length of stay, number of diagnostic and procedural records per discharge, DRG weight, mortality, readmissions, admitting service, average length of stay, average DRG weight, most frequent admission diagnoses and discharge destination, number of recorded diagnoses and procedures.

Results: In the January-October period, a total of 934 discharges considered HPE have been detected, 6% more than expected. Of these, 27% of patients are over 65 years old and 34.5% are over 85 years old. Our patients are 10% older than expected. There are 8% more women than expected and 5% more men. 99.5% of admissions come from the Emergency Department, which is 6% more than expected.

The majority are medical discharges, 10% more than expected. Internal medicine, representing 54% of the total, which is 3% more than expected. The average length of stay is 6.6 days, while the expected was 6.4 days. All patients have been discharged home, 6% more than expected. The number of coded diagnoses is 6.32, 4% less than expected, while procedures are double what was expected and the average weight is 1% less than expected, 0.8523.

The most frequent pathology is respiratory (Asthma and COPD) and kidney and urinary tract infections, 8% more than expected, and cardiovascular system pathology is 2% more.

Endocrine pathology has the highest HPE, especially diabetes, 23% more than expected with an average stay of 5.8 days compared to the expected 4.2 days.

Discussion:

- One of the most important areas for improvement is the correct coding of diagnoses and procedures, as the lack of completeness in the coding of comorbidities can determine whether the discharge is classified as HPE or not. The information collected in the discharge report or the patient's medical history has a lot to do with this.
- Clear and strict admission criteria are also a key factor since in some cases they are not followed and cause HPE to increase
- The availability of admission beds, and the population's access to primary care is also one of the points for improvement since we have observed in our centre that all HPE have an origin in the Emergency Department.
- The services with the most HPE are medical and asthma and decompensated COPD are the most frequent diagnoses. Uncomplicated urinary tract infections also have a high percentage.

Future-proofing health systems: real-world evidence on the economic impact of addressing health behaviours (ID 125)

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Context: Non-communicable diseases, accounting for 90% of deaths in Europe, represent the continent's most critical health and economic burden. Their progression is largely preventable through sustained changes in health behaviours. Digital health applications offer promising approaches but often fail to deliver durable benefits, as only 10% of users maintain effects beyond six months. Health behaviour interventions (DHBCIs) demonstrate broader and more persistent outcomes; however, research in this field requires long-term follow-up and large-scale datasets. In addition, no standardised framework currently exists to assess real-world interventions using real-world evidence (RWE). We report the medico-economic outcomes of a five-year DHBCI evaluated with RWE.

Methods: Our objective was to design an evaluation framework in France that is clinically, technologically, and economically validated for DHBCIs. To achieve this, we developed a protocol combining digital support, structured behavioural change approaches, and continuous follow-up by healthcare professionals. The intervention is tailored to individuals' habits, environments, and psychological profiles, with no time limitation in order to ensure sustained impact. A pilot study conducted between 2015 and 2017 involving 15,000 participants produced peer-reviewed findings. Following national deployment in 2018, more than 50,000 individuals were included, and access expanded to 6 million people. The evaluation framework, developed with a scientific committee, includes the following dimensions:

- Clinical outcomes and quality of life (disease prevention, recurrence, progression)
- Persistence of behavioural change at 12 months
- Medico-economic efficiency (healthcare expenditure, sick leave, provident insurance), based on anonymised data from insurers, an actuarial firm, and Health Insurance

All analyses rely on anonymised usage data.

Results: In real-world conditions, the DHBCI produced the following outcomes.

Key results:

- Sustained behavioural change: 72% of participants maintained health improvements at 12 months.
- Clinical outcomes: prevention of 331 severe health events over two years.
- Economic impact: savings of €13.6M for Social Security, €4M for private insurers, and €2.1M for employers for 15,000 participants.
- A five-year analysis covering three pathologies, with an average usage rate of 5%, identified the following annual savings in two cases:
- 150,000 individuals: €1.1 million in healthcare and €418,000 in provident insurance.
- 13,000 individuals: €98,498 in healthcare and €41,885 in provident insurance.

Using this methodology, we developed an on-demand tool capable of estimating the economic impact of interventions involving more than 10,000 participants, with outcomes measured at 12 months.

These findings indicate that DHBCIs can generate a strong return on investment and support healthcare systems.

Discussion: This work presents one of the first clinically, technologically, and economically validated evaluation frameworks for DHBCIs in France. Preventing NCDs requires recognising health behaviours as essential medical actions and has demonstrated clear economic potential for Europe. Future research should prioritise scaling such interventions and harmonising evaluation standards to assess impact.

Exploration and evaluation of the feasibility of using Generative AI to collect qualitative data from publicly available, healthcare reports (ID 126)

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Context: Considers the use of Generative Artificial Intelligence (GenAI) to collect qualitative data from text that is available within the public domain. This approach to data collection should support more effective interrogation of lengthy reports, which are typically made available as published output in the UK from public reviews.

The presentation will provide an overview of progress so far, including an outline of the proposed methods for developing this use of GenAI, as well as exploring potential benefits of the work. The conclusion will propose outcomes of this work, including its use in research and teaching, within the healthcare management field.

Methods: The presentation will outline the objectives of this work, which are:

i. Explore and evaluate the use of GenAI (specifically MS Co-Pilot) as a tool for extracting qualitative data from lengthy (and often dense) public reviews on healthcare failings in the NHS (in England)
ii. Evaluate the data collected using this method and its suitability for analysis and development of research findings and outputs
iii. Understand how MS Co-Pilot can be developed into a routine method for qualitative data collection within the research process

The work is currently addressing objective i) and includes furthering understanding of the technical mechanisms underpinning GenAI and also how GenAI (in the form of MS Co-Pilot) performs – in terms of collecting qualitative data – compared with a manual process (i.e. human researcher).

Results: The raw data needed for this work will be reviews that are publicly available and in the form of lengthy reports about investigations into care failings, specifically, some NHS healthcare organisations that provide maternity services.

The results and associated benefits of this work form part of the evaluation and it is anticipated that they will include:

i. Improved understanding of how the use of MS Co-Pilot can be developed as a routine method for qualitative data collection in research involving large amounts of textual, secondary data
ii. Development of a speedier method for selecting and extracting qualitative data (for research purposes) from reports of this type
iii. Future development of a standard tool (using MS Co-Pilot) to support the interrogation of lengthy, textual reports (a feature of public reviews into failings in healthcare, in the UK) to support research and teaching activities

Discussion: Argue that this "proof of concept" work can be used to create standard processes supported by an appropriate GenAI standard tool (see Results section), for the effective, reliable and semi-automated extraction of qualitative data. This will be accomplished through increased knowledge and understanding of the use of GenAI prompts and agents, which results in the appropriate selection and extraction of qualitative data. This should contribute to improved, effectiveness of AI prompt and AI agent design in the future. Furthermore, the extraction of data collected in this way, will produce reliable findings, which can be subsequently analysed and used to better understand failings in care within (but crucially) across multiple NHS organisations.

Care pathways after chronic disease registration of patients with lower limb peripheral artery disease in France: a retrospective cohort study (ID 130)

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Context: Lower limb peripheral artery disease (PAD) is a chronic circulatory disorder of the arteries that supply the lower extremities. The global number of people living with PAD has risen in recent years, partly due to population aging and increasing prevalence of diabetes. PAD reduces quality of life and may lead to disability, including limb amputation. Effective risk factor management and, when appropriate, revascularisation are critical to improve patient outcomes. However, patients often follow different care pathways which may lead to various outcomes. Our study aimed to describe and compare PAD care pathways after chronic disease registration in France.

Methods: We conducted a retrospective cohort study using data from the French National Health Data System (SNDS). We included patients aged ≥18 years with a newly registered chronic disease status for PAD (ALD-3) between 1 January and 31 December 2021. Patients with ambiguous identifications or a history of revascularisation or major amputation within two years preceding the index date were excluded. Follow-up ended at the earliest occurrence of revascularisation, major limb amputation, death, or end of 3-year follow-up. Data collection included baseline characteristics, healthcare utilisation, and vascular events. Cluster analysis was performed based on doctor visits after ALD-3 registration. Patterns of doctor visits and drug consumption within each cluster were identified, hence defining distinct care pathways. We used 2024 ESC Guidelines as a reference for first-line medications. Cox proportional hazards model was applied to compare the risks of revascularisation and death across clusters.

Results: The study included 49,779 participants: Cluster 1 (n = 19,393), Cluster 2 (n = 9,587), Cluster 3 (n = 18,873), and non-clustered participants due to no doctor visits (n = 1,926). The median follow-up was 3 years across all clusters. The mean ages in Cluster 1, 2, and 3 were 68.4, 66.9, and 68.3 years, with men representing 55%, 68.2%, and 62.7% of each cluster, respectively. Cluster 3 had the highest proportions of participants receiving most of first-line medications. Following ALD 3 registration, Cluster 1 had the highest numbers of doctor visits and medications, while Cluster 2 had the lowest ones. Incidences of revascularisation and death were the lowest in Cluster 3 (11.3% and 5.9%) compared with Cluster 1 (20.8% and 8.8%), and Cluster 2 (20.3% and 8.1%). Adjusted hazards ratios for revascularisation and death were: 0.69 and 0.81 respectively comparing Cluster 3 to Cluster 1, and 0.49 and 0.77 comparing Cluster 3 to Cluster 2.

Discussion: Our study revealed a U-shaped pattern where moderate levels of care consumption were related to the lowest incidences of revascularisation and death. Effective risk modification and timely treatment optimisation – often achieved through regular medical follow up – may explain why increased care consumption is linked to better outcomes in some patients. However, in advanced disease, high care consumption likely reflects underlying severity rather than proactive management. At baseline, Cluster 1 received first-line medications slightly lower than Cluster 3 but exceeded them after ALD-3 registration. The late optimal treatments may result in complex clinical pictures and could explain the association between high care consumption and poor outcomes observed in our study. These findings highlight the need for early detection and intervention to prevent disease progression. Further research should integrate more granular clinical data, including disease severity and laboratory measures, and qualitative studies may help clarify how patients navigate PAD care pathways.

Healthcare workforce in an ageing Europe: How many physicians and nurses will we need? (ID 131)

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Context: In most countries, there is a good understanding of the health system challenges related to aging, but it is less clear to what extent this affects the working-age and health workforce population. This study therefore aims to answer the following research question: What proportion of the working population in European countries will need to be employed as a physician or nurse in 25 years' time in order to maintain current healthcare densities, and what are there differences between countries in these projections?

Methods: Eurostat data was used to first determine the proportion of the working population that was employed as physician or nurse in the 27 EU countries and Norway in 2023. Population projections were then used to determine what proportion needs to be employed as physician or nurse in 2030, 2040, and 2050 given two conditions. First, given the goal that the number of physician and nurses per 100,000 inhabitants (i.e. density) remains the same in 2030, 2040 and 2050. And secondly, given the physician/nurse density remains the same weighted by the age structure of the population as an indicator for the expected increase in demand for care.

Results: At the EU level, 2.4% of the working population was employed as a physician or nurse in 2023. By 2050, this needs to increase to 2.9% to maintain the physician/nurse density and, when weighted by the age structure of the population, to 3.9%. Interestingly, there are large differences between countries in these projections. Belgium and Romania are the countries with respectively highest (4.4% to 5.7%) and lowest (0.9% to 1.2%) percentage of physicians and nurses employed in 2023 and required in 2050. There are also clear differences between countries in the ratio between physicians and nurses. The required increase in the number of health care workers appears to be not only dependent on the ageing of the population, but also on the ratio between nurses and physicians. Countries with more nurses per physician will require higher staffing percentages in the projected futures.

Discussion: The results show large differences in the proportion of the working population that needs to be employed as a physician or nurse between 2023 and 2050 in Europe and between countries. Part of the differences can be explained by the way the healthcare system is organised in a country, with more or less emphasis on support from nurses and specialisation of nurses. A larger focus on nurses results in a higher part of the working population working in health care. These results do not take into account current oversupply or shortages of nurses or physicians in the different countries. Most countries are already experiencing shortages. Changes to the healthcare system are needed to compensate for the increasing demand for healthcare professionals.

Performance indicators in breast cancer multidisciplinary team meetings in Austria: a comparative study of a university and a maximum care hospital (ID 132)

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Context: Multidisciplinary team meetings (MDTs, tumor boards) are recognised internationally as the gold standard for guideline-based, patient-centered breast cancer care. MDTs facilitate structured, multidisciplinary decision-making amid increasingly complex diagnostic and therapeutic options under constrained resources. Breast cancer is the most common cancer among women in Austria, accounting for approximately one third of all newly diagnosed cancers in women. With rising incidence rates, systematic evaluation of MDT performance using standardised self-assessment tools is increasingly important. This study analyses performance indicators related to structures, processes, and perceived effectiveness of breast MDTs in a university and a maximum care hospital aiming to identify differences and areas for improvement in multidisciplinary oncological care.

Methods: A mixed-methods design was employed using the Austrian Tumor Board Survey (ATS) and semi-structured interviews to assess structures, processes, and perceived effectiveness of breast MDTs. The present analysis represents a sub-study of a larger national evaluation, which included 18 MDTs and 72 semi-structured interviews across multiple oncological indications. For this focused comparison, quantitative survey data were collected online from three breast MDTs in two Austrian hospitals: a university hospital (n = 14; January–August 2023) and a maximum care hospital (n = 7; December 2024–March 2025). Differences were assessed using Mann–Whitney U tests; missing values were reconstructed via expectation–maximisation. Statistical analyses were performed using SPSS 29. In parallel, 15 semi-structured interviews with MDT members (leadership, oncology, radiotherapy, radiology, pathology) explored case registration, decision-making processes, attendance, documentation, and resource availability. Qualitative data were analysed thematically to identify convergent and divergent patterns between hospital settings.

Results: Mann–Whitney U tests revealed significant differences between hospitals regarding structures and guideline adherence ($z = -2.23$, $p = .03$, r = .49), organisation ($z = -2.61$, $p < .01$, $r = .57$), decision-making processes ($z = -2.32$, $p = .02$, $r = .51$), and documentation ($z = -2.32$, $p = .02$, $r = .51$), with the university hospital scoring lower across all domains. Interview data confirm these findings, highlighting differences in case registration, preparation time, decision-making practices, resource availability, attendance, and documentation.

Discussion: This study demonstrates differences in MDT performance between a university and a maximum care hospital, indicating that the institutional context influences MDT effectiveness. In university hospitals, higher patient volumes, case complexity, and the integration of clinical trial screening and inclusion decisions increase preparation demands and meeting duration, placing additional strain on MDT workflows and documentation. These factors may partly explain the lower performance scores observed in this setting. The findings highlight the potential of fast-track or stratified MDT models to improve efficiency and sustainability. Reserving full MDT discussions for complex cases, deviations from guidelines, or clinical trial candidates, while managing standard cases through predefined protocols, may shorten meetings without compromising care quality. Structured case triage, clearer pre-meeting preparation, and standardised documentation could further support such approaches. Despite limitations regarding the temporal gap between data collections, the results point to actionable organisational strategies to optimise MDT performance in different hospital settings.

The role of governance and national policies in supporting sustainable leadership practices: a 24-country exploratory study (ID 133)

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Context: The World Health Organisation has identified excessive greenhouse gas emissions as the single largest preventable threat to future human health. Health system leaders worldwide are being urged to address this threat by reducing emissions and strengthening community resilience. Emerging research suggests that sustainable practices can also create cost savings, enhanced employee engagement, and improved community health. In this study, we explore emerging practices in health systems from 24 countries, examining the potential influence of organisational governance as well as national economics and policy frameworks on early success.

Methods: We analysed de-identified data from the International Hospital Federation - Geneva Sustainability Centre's Sustainability Accelerator Tool (SAT), an evidence-based benchmarking platform healthcare leaders can use to compare environmental, equity, and governance practices from across the world. Governance effects were assessed via Leadership & Governance (LG) maturity scores, which were correlated to maturity scores for Environmental Impact (EI) and Health, Equity and Well-being (HE). Associations with economic status national policies were evaluated using country-level findings from Hough and Tanugi-Carresse (2024) regarding economic status, national decarbonisation plans, and healthcare-specific national plans. Supplementary economic classifications were drawn from the World Bank's online database.

Results: SAT data were drawn from a total of 75 hospitals across 24 countries. For leadership and governance practices, results indicated moderate and statistically significant associations between LG and EI ($r(75) = 0.60$, $p < .001$, 95% *CI* [0.44, 0.73]) and LG and HE ($r(75) = 0.37$, $p < .01$, 95% *CI* [0.16, 0.55]). For economic status, no statistically significant associations were found in high vs. upper and lower middle-income countries and sustainability practices. For national-level policies, all analyses yielded trends in the expected directions, with two results reaching statistical significance: national decarbonisation practices to EI ($F(2,72) = 4.25$, $p = .02$), and adaptive resilience to EI ($F(2,72) = 3.13$, $p = 0.05$).

Discussion: Our results suggest that while national-level policies may play an important role for successful implementation of sustainability practices in health systems, organisational leadership and governance practices may play an even more substantial role. Preliminary data from organisations that have participated in multiple rounds of SAT benchmarking lend further credence to this conclusion.

Managerial Implications: Given their essential roles in this transition, healthcare leaders and trustees may benefit from continuing education on successful practices. Examples of healthcare leadership-by-example, drawn from both U.S. and internationally, further illustrate positive influences health systems are already having and their potential for future impact.

Pre-donation questionnaire: acceptability of its digitalisation among donors and healthcare professionals (ID 134)

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Context: Blood donation is an essential health behaviour contributing to save millions of lives. As blood collection agencies are facing new challenges to attract and retain donors, the digitalisation of their processes is one of the main transformations for these organisations in the years to come. These organisational changes are likely to generate resistance to change, among donors and mostly among staffs. The French Blood Establishment initiated a Digitalised Pre-Donation Questionnaire (DPDQ) in order to simplify donation processes and allow for better donor-centred practices. This study evaluates acceptability of this tool, to anticipate the main determinants influencing intention-to-use.

Methods: Drawing on the Unified Theory of Acceptation and Use of Technology (UTAUT2), and some tailored variables (perceived IT & transfusional risks, attitudes towards self-deferral, DPDQ related anxiety) we evaluated *a priori* acceptability of the DPDQ, using a mixed methodology. Fifty thousand donors were invited to participate to a survey, as well as 75 professionals trained in pre-donation interviewing. Interviews were conducted among staffs to account for the small size of the sample. Exploratory and confirmatory factorial analyses were performed to verify internal consistency of the dimensions of the model, and multiple hierarchical linear regressions were conducted to assess the predictive value of the different variables of the model towards intention-to-use the DPDQ. Verbatims extracted from the qualitative phase of the study were examined and used to highlights the major determinants of intention.

Results: 7 359 donors and 36 professionals participated in the study. The model showed good reliability ($\chi^2(688) = 19462$, $p < .001$; CFI = 0.90; SRMR = 0.07 and RMSEA = 0.06) and accounted for 73% of the variance of intention-to-use. The two samples showed contrasted perceptions regarding DPDQ. Donors perceived DPDQ as a performant, easy to use tool while staffs showed more ambivalent perceptions (M = 0.99 *vs.* -0.76). They also anticipated higher hedonic motivation than staff (M = 0.44 *vs.* -0.32), and lower transfusional risk (M = -0.79 *vs.* 0.61). Donors also showed more favourable attitudes than staffs regarding self-deferral (M = 0.59 *vs.* -0.33) and higher intention-to-use (M = 1.65 *vs.* 0). Controlling for age, gender, and donation experience, the final regression model explained 73% of intention-to-use variance, with performance expectancies being the higher predictive dimension $\beta = 0.35$, 95% I.C [0.33; 0.37], $p < .001$.

Discussion: This study highlights a discrepancy in the way a digitalised tool designed to collect health data is perceived by potential users (donors and health professionals). This observation is congruent with other studies that showed healthcare workers tend to be cautious regarding the implementation of new technologies, particularly when they perceive a potential impact on their professional practice and interactions with patients. The results suggest that the staffs in some way project some of their apprehensions onto donors, particularly regarding the potential side-effects of such a change. However, due to the limited accessible population, the staff sample is low and date should be consolidated on a national level. The authors argue that these barriers should be addressed at the very beginning of such digitalisation projects in healthcare environments. This would allow for tailored designs and training, better beta-testing, and ultimately easier acceptance of the organisational change.

Performance of multidisciplinary tumour boards in a university and a maximum care hospital in Austria: a comparative self-assessment study (ID 135)

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Context: Multidisciplinary team meetings (tumour boards or MDTs) are regarded as the gold standard for guideline-based, patient-centred cancer care. They enable structured multidisciplinary decision-making while diagnostic and therapeutic options become more complex, cancer incidence rises, and healthcare resources remain limited. Nevertheless, evidence for patient benefit remains controversial, and the systematic evaluation of MDT performance using self-assessment tools is gaining importance. This study analyses key MDT performance indicators such as team and discussion culture, quality of presented information, and decision-making process, as well as perceived MDT effectiveness in a university and a maximum care hospital to identify differences and areas for improvement.

Methods: The Austrian Tumour Board Survey (ATS), currently under development for validation, was used to assess MDT performance. Data was collected from 18 cancer MDTs covering different oncological entities across two hospitals. At the university hospital, online data collection was conducted between January and August 2023 (n = 81), and at the maximum care hospital between December 2024 and March 2025 (n = 96). Quantitative analyses focused on the dimensions team and discussion culture, quality of presented information, and decision-making process. Differences between hospitals were assessed using Mann-Whitney U tests. Missing values were reconstructed via expectation-maximisation to minimise bias. Analysis was performed using SPSS version 29.

Results: Mann-Whitney U tests revealed a statistically significant difference between the two hospitals for the decision-making process, with higher ratings reported in the maximum care hospital (z = 2.45, p = .01, r = .18). No significant differences were observed for team and discussion culture (z = 0.53, p = .59, r = .04) or quality of presented information (z = 0.21, p = .84, r = .02). Effect sizes for the non-significant results were minimal, indicating that participants' perceptions of MDT performance were largely comparable across hospital types in these domains. The small but significant effect in the decision-making process suggests a modest advantage in perceived efficiency or clarity within the maximum care hospital MDTs.

Discussion: Findings indicate that MDTs in both hospitals perform similarly regarding team interaction and the quality of presented information. The higher ratings for the decision-making process in the maximum care hospital may reflect organisational factors such as clearer roles, more streamlined workflows or lower case-complexity compared to the university hospital. Although the effect size is small, this difference highlights potential opportunities for improving decision-making efficiency in university hospital MDTs. The results also illustrate the value of the ATS as a self-assessment tool supporting its planned validation Regular, systematic evaluation of MDT performance can inform targeted managerial and organisational interventions and enhance the effectiveness of multidisciplinary oncological care across diverse hospital settings.

La Unió Benchmarking Club (ID 136)

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Context: In Catalonia, public healthcare services are delivered through a stable and diverse network of providers, in which public and private institutions, both for-profit and non-profit, coexist under public governance and a strong results-oriented culture. Thus, benchmarking tools become a key instrument for ensuring transparency, accountability, systematic comparison of outcomes, and, ultimately, a continuous cycle of quality improvement. La Unió's Benchmarking Club relies on the comparative analysis of healthcare outcome indicators; however, its scope extends beyond this function. Its primary purpose is to bring together different providers to foster collaboration and to share good practices that have led to superior outcomes.

Methods: La Unió's Benchmarking Club is structured around five working groups: hospitals, primary care, mental health, intermediate care, and nursing practice. Each group follows an eight-step approach:

- Identifying emerging trends, needs, and challenges of relevance to healthcare providers.
- Selecting a set of existing system-level indicators related to the chosen topic.
- Collecting and validating the data.
- Identifying good practices and leading organisations (front runners).
- Sharing good practices through a collaborative workshop.
- Preparing an individualised report for each participating entity, enabling organisations to assess their relative position in comparison with peers, and including both entity-specific recommendations and general recommendations for the health authority.
- Presenting the report and its conclusions to the health authority and subject-matter experts.
- Disseminating the results to non-participating entities and the general public, promoting the adoption of shared good practices across the system.

Results: The 2025 edition included 28 entities, representing 118 healthcare centres across the five working groups. Participants' satisfaction was assessed through a post-exercise survey, with all five groups receiving a score of over nine out of ten. The topics selected were of the utmost relevance. Specifically, hospital care providers addressed accessibility to outpatient services and surgical procedures; the primary care group focused on coordination with elderly care facilities; intermediate care centres analysed hospital-acquired infections; mental health institutions examined the use of mechanical restraints; and the nursing practice initiative focused on indicators for measuring patients' pain and discomfort. A representative of the health authority took part in all five workshops, during which a total of twelve good practices from different providers were presented. All participants received an individualised report, as well as access to an R-based platform that allows them to view and download graphs and tables displaying their comparative performance.

Discussion: The purpose of the Benchmarking Club extends beyond the comparative analysis of indicators. Its objective is to promote knowledge exchange and the sharing of good practices among participating entities, thereby improving overall system performance, reducing unwarranted variability, and supporting evidence-based decision-making processes. The 2025 edition represented a significant milestone, as it introduced several new elements. These included access to an in-house developed R-based platform, the implementation of a cross-cutting methodology across the five working groups to ensure methodological consistency and a high level of reliability in the conclusions, and the participation of the regional health authority in each workshop. The involvement of the health authority proved to be a key driver, as it reinforced and validated the conclusions while providing an opportunity to present existing policies and initiatives aimed at addressing the identified challenges. Looking ahead, the 2026 edition will focus on increasing the number of participating entities.

Bridging the gap: a mentorship model for nurse integration and talent retention in Salut Sant Joan Reus Baix Camp (ID 139)

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Context: Sant Joan Reus Baix Camp employs 2,300 professionals and manages a business volume exceeding €224 million. It operates across the Baix Camp region through a University Hospital in Reus and five Primary Care Centers. Within this framework, the Nursing Manager identified the need to support newly graduated nurses during their summer incorporation, a critical period for staffing coverage. Given the shortage of nursing professionals, the hospital values internal talent as a strategic pillar for development. To strengthen onboarding and retention, a mentorship project was designed to complement existing roles of trainers and tutors, providing holistic support for professional and personal adaptation.

Methods: The mentorship program was launched in summer 2025 for over 27 newly graduated nurses, primarily from the Universitat Rovira i Virgili. Twenty-seven experienced nurses were trained as mentors through a structured course focusing on communication skills, active listening, guidance, and project monitoring. The program was integrated into the hospital's onboarding process and supported by a Moodle platform. Mentor-mentee meetings occur every two months, or whenever they consider it necessary, with reflections recorded on Moodle to track progress with six key milestones were defined:

1. Getting to Know Each Other: The initial meeting where mentor and mentee establish a personal and professional connection, setting the foundation for trust and collaboration.
2. Service Initiation Training (FIS) – Tutor: The mentee completes the mandatory onboarding training with a designated tutor to acquire essential knowledge for their assigned unit.
3. Do You Need Help? A checkpoint to identify challenges or support needs.
4. Merit Evaluation: Review of the mentee's progress and achievements, assessing skills and integration within the team.
5. You Can Achieve Your Goals: A motivational stage focused on reinforcing confidence and commitment.
6. Final Conversation: A closing discussion to reflect on the mentoring journey, consolidate learnings, and plan future development.

Results: The program successfully engaged 27 mentors and over 27 mentees during its first implementation phase. Structured interactions and digital tracking ensured continuity and accountability. Mentors reported improved confidence in guiding new professionals, while mentees expressed greater clarity in navigating both technical and organisational aspects of their roles. The program facilitated smoother integration, reduced uncertainty, and strengthened professional relationships. Preliminary feedback suggests that mentorship complements traditional training by addressing personal and professional adaptation needs, contributing to talent retention and organisational stability. Full impact evaluation is scheduled for mid-2026.

Discussion: Mentorship proved to be a valuable addition to existing onboarding strategies, bridging gaps between technical training and real-world adaptation. By fostering trust and providing personalised support, the program enhances professional growth and retention in a context of nursing shortages. The structured approach, combined with digital tools, ensures scalability and monitoring. Challenges include maintaining mentor engagement and measuring long-term outcomes. Future steps involve analysing impact data, refining milestones, and exploring expansion to other professional groups. This initiative demonstrates that mentorship is not only a tool for skill development but also a strategic investment in organisational culture and workforce sustainability.

A retrospective evaluation of Türkiye's COVID-19 vaccination strategy within the context of the policy analysis triangle (ID 140)

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Context: The COVID-19 pandemic is a public health crisis that is testing healthcare systems and requiring urgent action in Türkiye, as it is worldwide. In the early stages of the pandemic, Türkiye prioritised mass vaccination strategies alongside diagnostic and treatment protocols. The first emergency use authorisation was given to CoronaVac vaccine, which began being administered to healthcare workers in January 2021. However, the rapid vaccination process and public concerns, including vaccine hesitancy, have posed significant challenges for decision-makers in this political process. In this context, this study aims to analyse Türkiye's COVID-19 vaccination policies implemented between 2020 and 2022.

Methods: This study is designed as retrospective and qualitative. Official sources such as policy documents, legislation, and press releases published by the MoH and the MIA of Türkiye were examined. In addition, open-access data from the Our World in Data platform was used to provide quantitative support regarding the vaccination process in Türkiye. The data were analysed using thematic content analysis, in accordance with Walt and Gilson's policy analysis triangle model, examining the dimensions of context, content, process, and actors.

Result: Context: situational factors, like society's familiarity with crises, structural factors like habit of centralised government, and cultural factors like high childhood vaccination-rates are determining. Trust in state authority is crucial for the acceptance of top-down strategies. Content: CoronaVac, Comirnaty, and TURKOVAC vaccines were used. Türkiye prioritised healthcare workers and at-risk groups, daily capacity of 1.5 million doses, becoming the fastest vaccinating country in Europe and among the top 10 worldwide. Process: decisions were made centrally, starting with the formation of the Scientific-Board before pandemic declaration. Vaccination employed digital appointment systems allowing individuals to choose their vaccines. Access was enhanced via mobile teams and rural applications. To increase public trust, Minister of Health received the vaccine's first dose on live TV. Actors: MoH assumed a central role and determined strategic decisions and affiliated organisations; TITCK executed the vaccine approval, Scientific-Board assessed global decisions local impacts, TURKOVAC was developed with TÜSEB's support.

Discussion: This study shows that a technically robust vaccination policy can be sufficient provided it is supported by socially consistent governance. Türkiye's strategy is strong in terms of implementation capacity, thanks to existing monitoring systems and centralised leadership. Misinformation influenced societal structures, psychological uncertainty, and selective distrust present significant challenges for policy implementation. Digital tools have shifted citizen roles from passive recipients to active stakeholders, enhancing both monitoring and participation. Investing in health literacy, creating targeted communication strategies for at-risk groups, and implementing effective risk management and scenario analyses based on past experiences to guide policy implementation during crises are crucial for enhancing societal resilience.

Maturity model of healthcare innovation units (ID 141)

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Context: The adoption of innovation in healthcare delivery processes has become a priority on healthcare managers' agendas. Provider organisations have established dedicated innovation units and are seeking support in defining internal procedures, tools, and methodologies. La Unió has developed the *Maturity Model of Healthcare Innovation Units*, a tool designed to assist organisations in assessing the maturity of their innovation units and in identifying a path for future development. The model comprises five levels, further subdivided into ten degrees, supported by a set of indicators that define the criteria required to progress from one level to the next.

Methods: The design of the maturity model followed a structured, five-step process:

- A literature review was conducted to identify a set of criteria defining how innovation units can most effectively foster the adoption of innovation into healthcare delivery processes. This review resulted in a four-dimension model encompassing structure, procedures, culture, and external relationships.
- A two-round Delphi exercise was carried out with a selected group of experts. Participants were asked to review the proposed criteria and assign a maturity level to each, thereby guiding the development of the model across the four dimensions.
- A questionnaire was designed and distributed to innovation leads across the 115 associated entities to La Unió. All criteria were translated into questions with binary (Yes/No) response options.
- Data submitted by each organisation was cleaned and refined to ensure consistency and reliability.
- A results report was prepared to summarise the findings and key insights.

Results:

30 organisations responded to the questionnaire.

- Structure: The average maturity level is 4.63 (out of ten). Approximately half of the entities have an innovation unit staffed with up to two full-time equivalents (FTEs), and one third of clinical departments have a designated innovation lead.
- Procedures: The average maturity level is 4.47. While most entities have procedures to identify needs and to evaluate completed projects, evaluation findings are not systematically incorporated into the design of new initiatives, nor are standardised methodologies consistently applied.
- Culture: The average maturity level is 5.57. Organisations recognise the importance of innovation units, and most employ specialised profiles in this area. However, clinical staff are not yet partially relieved of clinical duties to allocate dedicated time to innovation-related activities.
- External relationships: The average maturity level is 5.63. Key actors within the Catalan healthcare innovation ecosystem are known; however, formal collaboration mechanisms have not yet been established.

Discussion: The Model is a structured framework for healthcare providers to address the challenges associated with adopting innovation into their clinical processes. Its primary objectives are to promote organisational self-assessment and internal accountability, to empower entities, and to provide guidance to management layers throughout the process. These objectives have been successfully achieved. The model enables managers to gain a clear understanding of the goals to be attained and presents results in a manner that allows organisations to identify their precise maturity level, as well as their relative position compared with peers. During the results presentation session, a leading organisation shared insights into the functioning of its innovation unit, exemplifying the ultimate aim of the exercise: fostering mutual collaboration and reinforcing best practices. For 2026, priorities include preparing individualised reports for each entity and transforming the questionnaire into an online, publicly accessible tool that organisations can use to monitor their progress independently.

The use of health data in the age of AI and digital technology (ID 142)

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Context: The rapid rise of artificial intelligence and digital technologies is profoundly transforming the use of health data within European healthcare systems. This dynamic is taking place within a highly regulated context, marked in particular by the GDPR and ongoing work on the European Health Data Space, which aims to reconcile innovation, the protection of patient rights, and the performance of healthcare systems. However, a persistent gap remains between formal legal and organisational frameworks and the actual practices of those working in the field. This research examines how regulators perceive, interpret, and negotiate the use of health data in the age of AI.

Methods: This research is based on a qualitative methodology founded on a series of in-depth interviews conducted with institutional actors and regulators involved in health data governance. The interviews used semi-structured formats aimed at documenting the trade-offs, constraints, and decision-making processes specific to these actors. The analysis is based on a now stabilised corpus, processed using a rigorous qualitative approach, enabling the identification of discursive regularities, recurring points of tension, and discrepancies between normative principles and operational conditions. The actors interviewed at the heart of the data system provided insight into dimensions that are rarely accessible in survey mechanisms.

Results: Analysis of the interviews highlights a series of structural tensions in health data governance in the age of artificial intelligence. Regulators describe a persistent gap between legal frameworks based on general principles of data protection and security, and the operational requirements imposed by rapidly evolving technological environments. The results show that regulation relies heavily on pragmatic trade-offs, often developed on a case-by-case basis, in the absence of mechanisms fully adapted to the actual uses of AI in healthcare. Institutional actors also highlight difficulties in coordination between the national and European levels, as well as a fragmentation of responsibilities between authorities, technical platforms, and digital solution providers. These factors reveal a largely reactive form of governance, marked by constant tension between legal certainty, technological innovation, and organisational feasibility.

Discussion: These results highlight the limitations of an approach to health data governance that focuses primarily on abstract regulatory frameworks, without sufficient consideration of the organisational conditions for implementation. For public decision-makers and health system managers, they underscore the need for more integrated governance mechanisms capable of articulating legal requirements, institutional capacities, and actual technological uses. The study shows that digital transformation in healthcare relies less on the adoption of new standards than on the ability of organisations to manage uncertainty, ensure inter-institutional coordination, and distribute responsibilities. In this sense, this contribution provides empirical insights that can be directly used to rethink health data governance strategies in a context of increased AI deployment.

Person-centred cancer care: a policy imperative for effective and efficient health systems (ID 143)

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Context: Person-centred cancer care (PCCC) improves outcomes and cuts costs, but implementation is inconsistent. Raising awareness among policymakers is essential; PCCC maximises resources, boosts efficiency, and reduces the financial burden on people living with cancer, families and health systems. This research has informed an upcoming report by All.Can, which highlights the potential of PCCC to make cancer care more sustainable and responsive by optimising resource use and patient outcomes.

Methods: Using PubMed and Google search engines, a narrative, structured global review of peer-reviewed and grey literature from 2018 to 2025 was conducted. Twenty semi-structured interviews with cancer clinicians, patients and patient advocates were conducted, and members of the All.Can Person-centred Cancer Care Taskforce were consulted. The research assessed the implementation of seven elements of PCCC along the care pathway: (1) enabling a swift and effective diagnosis; (2) providing coordinated and multidisciplinary care; (3) using remote care and telemedicine; (4) facilitating effective communication and shared decision-making; (5) managing cancer's financial impact; (6) using artificial intelligence and data to streamline and optimise care; and (7) providing supportive care. The research also provided examples of where these elements have been implemented successfully.

Results: This research identified important gaps in the global implementation of PCCC. The experts consulted agreed that policy- and decision-makers must act to implement the core principles of person-centred care, ensuring it is tailored to the individual and coordinated to facilitate clear communication between clinicians and patients. Specific recommendations for each of the seven elements of person-centred care were given, providing a checklist for policy- and decision-maker action. Examples of best-practice initiatives from around the world were also presented to support recommendations and inspire adaption and implementation in other locations.

Discussion: This research demonstrates to policymakers the importance of PCCC, and how it can improve outcomes and efficiency of healthcare delivery. By doing more with existing resources, PCCC approaches respect people's care preferences and help meet the increasing demands on health systems. To our knowledge, this is one of the first global-level studies to investigate these seven elements of PCCC in relation to efficient cancer care and provide clear policy actions to implement PCCC in practice.

All.Can International is a not-for-profit organisation (ASBL) registered in Belgium. The person-centred cancer care pathway project is made possible with financial support from Bristol Myers Squibb, Roche, MSD, Johnson & Johnson, Pfizer, Illumina, Daiichi Sankyo and Astellas. The Health Policy Partnership (HPP) provided policy research for the project, as described in this abstract. Laura Habashi, Associate Director (HPP), has not received direct consultancy fees for any of this work.

The outpatient clinic of the future: lessons from practice in the Netherlands (ID 144)

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In the Netherlands, hospitals are responding to workforce shortages, rising patient numbers and growing costs by redesigning outpatient care through initiatives referred to as the "Outpatient Clinic of the Future." Rather than optimising care for individual patient groups, these initiatives aim to transform the outpatient clinic as an integrated whole. This paper presents findings from a multi-hospital study combining qualitative interviews, cross-topic analysis, a national survey, and a nationwide online meeting to validate the outcomes.

Across interviews and survey findings, ten elements were identified, with differences in perceived importance. Interviewees consistently emphasised that outpatient transformation requires a system-wide approach. The digital patient journey was perceived as the most critical element. This includes sufficient use of a hospital-wide app that gives patients control over appointment scheduling, visits, and communication. Closely related are flexible space and layout, including shared outpatient rooms, outpatient operating rooms, and clustered or eliminated front offices, which helps in the operational adaptability. For example, patients are responsible for the digital check-in process, there is real-time insight into room capacity, and doctors no longer have fixed rooms.

Personnel development emerged as a central driver, particularly through task differentiation. Interviewees frequently reported inefficiencies, such as nurses spending substantial time on appointment scheduling instead of applying their expertise to patient guidance. This finding was closely linked to the importance of uniform care processes, which were described as an essential enabler for all other changes. Governance was also strongly emphasised, with making sure the outpatient clinic of the future is embedded in the strategy of the hospital. Although integrated capacity management was rated as highly important in the survey, interviews indicated that it is not yet structurally embedded in daily practice. Other elements, such as artificial intelligence, flows, logistics, patient experience, culture and change readiness were primarily described as enabling or underlying conditions that reinforce the core components.

As department head, I worked together with team leaders of five outpatient clinics to transform our clinic into one of the nine Outpatient Clinics of the Future. After 1.5 years of live operation, we now experience the positive outcomes and the limitations of this transformation in daily practice. A key component was that team leaders were responsible for subprojects within the change process. Instead of being led by external project leaders, they led the change themselves, which created a strong sense of ownership and change readiness among teams and doctors. After a thorough evaluation with all team members during live sessions, the overall outcome is positive, although they miss their former small team structures.

Transforming the outpatient clinic is a complex organisational change. The Outpatient Clinic of the Future is not a distant vision; it ensures that the outpatient clinic is ready for tomorrow.

Redesigning acute coronary syndrome follow-up through a people-centred integrated care pathway at Hospital de la Santa Creu i Sant Pau (ID 145)

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Acute Coronary Syndrome (ACS) remains a major driver of mortality, morbidity and healthcare costs across Europe. While outcomes during the acute hospital phase have improved, care beyond the acute episode often remains fragmented. Up to 20% of patients experience recurrent cardiovascular events within five years, leading to frequent readmissions and reduced quality of life. Poor coordination between hospital and primary care contributes to this burden. At Hospital Sant Pau, this translated into 753 ACS admissions and a 7.2% 30-day readmission rate in 2021. The objective was to redesign ACS follow-up as a patient-centred, integrated care pathway to improve outcomes and patient experience.

The programme was developed using an iterative LEAN-based approach focused on care pathway redesign and continuous improvement. Gender perspective and patient co-creation sessions were incorporated from the outset to personalise care pathways and co-design Patient-Reported Experience Measures (PREMs). A dedicated governance model was established, including a clinical coordinator and a case manager nurse, to support accountability, coordination and decision-making after hospital discharge. Hospital–primary care integration was strengthened through shared workflows and regular multidisciplinary coordination to improve patient flow and optimise resource use. Patients' electronic health records (EHRs) served as the core backbone, acting as the single source of information, care plans, follow-up activities and measures of outcomes across care settings. An interactive clinical dashboard, fed by EHR data, supports real-time monitoring of key performance indicators. The intervention includes a standardised discharge process and structured nurse-led follow-up post-discharge to prioritise high-risk patients and improve continuity.

From 2021 to 2025, the programme delivered measurable improvements in clinical outcomes and operational performance. Waiting times for first nursing follow-up were reduced from 47 to 10 days, while cardiology waiting times decreased from 97 to 39 days, improving access and patient flow. Pharmacological adherence increased from 33% to 89%, and achievement of LDL-C targets (<55 mg/dl) rose from 7% to 51%, clearly exceeding the 12% benchmark. One-year mortality was reduced from 5.3% to 2.3%, and 30-day hospital readmissions decreased from 7.2% to 4.7%, indicating improved continuity of care and secondary prevention. From a patient-centred perspective, patient satisfaction reached a Net Promoter Score of 69.2%, above the sector average of 55%. More than 90% of patients reported receiving coordinated care and clear information. These results highlight the operational value of integrated governance, risk-based follow-up and data-enabled management.

This experience shows that managing ACS as a people-centred care pathway, rather than as an isolated acute episode, can generate clinical, operational and experiential value. From a management perspective, the results underline the importance of redesigning care processes, clarifying roles and responsibilities, and embedding coordination mechanisms across levels of care. The case manager nurse role and real-time performance monitoring proved critical to ensuring continuity, accountability and proactive follow-up. Operationally, the LEAN-based approach enabled more efficient resource use while improving access and reducing avoidable readmissions. Integrating patient co-creation and a gender perspective strengthened engagement and alignment with patient needs. The model has demonstrated scalability and is currently being extended to four affiliated hospitals within the regional healthcare network, offering strong transferability to other health systems. Planned developments, including AI-based risk stratification and the "Autocora" self-care platform, aim to further support personalised care, informed decision-making and long-term health system sustainability.

Innovative procurement to implement value-based pathways for heart valve diseases through networked care (ID 146)

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The prevalence of heart valve diseases is increasing across Europe, affecting up to one in eight people over the age of 75. Despite this growing burden, care delivery remains fragmented across levels and territories, leading to inequities in access, long waiting times—up to 329 days in remote areas—and variability in outcomes. At the same time, fee-for-service models struggle to sustain the rising demand for complex interventions such as Transcatheter Aortic Valve Implantation (TAVI). These challenges call for organisational models. In this context, the Sant Pau Functional Unit for Heart Valve Diseases is implementing a value-based public procurement approach to enable a collaborative provider–purchaser model.

This Scientific Dialogue builds on the experience of the Sant Pau Functional Unit for heart valve diseases, a regional care network integrating a tertiary referral hospital, implanting centres and local hospitals across the reference area. An integrated care model was defined for the full spectrum of heart valve diseases, while an innovative value-based public procurement approach is initially applied to TAVI, given its high prevalence, complexity and impact on access and system sustainability. In this model, the TAVI implanting centres of the Functional Unit act jointly as public purchasers, using procurement as a lever to enable the territorial implementation of value-based care. Financing shifts from activity- and device-based purchasing to a population-based model, with a fixed annual tariff per reference population and a risk-sharing component linked to predefined quality objectives. Governance is ensured through a unified territorial Heart Team coordinating diagnostics, clinical decision-making and patient flow across care levels. Digital tools support remote monitoring and virtual follow-up, ensuring continuity of care across the network.

Following three months of implementation, early results from the TAVIS programme relate primarily to system readiness and initial operational change rather than final clinical outcomes. A five-year value-based procurement contract focused on TAVI has been activated, shifting purchasing from devices and activity to population-based patient outcomes, with incentives aligned across providers and industry partners. Network governance structures, including a unified territorial Heart Team, are operational, enabling coordinated decision-making and patient flow across implanting hospitals and local centres. The initial deployment of digital tools has supported pathway standardisation and reductions in unnecessary face-to-face visits. Baseline indicators for access, care delivery, quality and patient experience have been defined, enabling systematic monitoring throughout the contract period. While measurable improvements in clinical outcomes are expected over the next two to three years, this early phase demonstrates the feasibility of implementing value-based procurement at scale to enable territorial integrated care.

This experience illustrates how integrating clinical governance with value-based procurement can support health systems in responding to the growing burden of heart valve diseases. By aligning incentives across industry, management and clinical teams, the model helps address territorial inequities while strengthening long-term financial sustainability. The shift from device-centric, activity-based purchasing to patient-outcome-oriented payment demonstrates how procurement can act as a lever to enable networked care models for high-complexity interventions such as TAVI. Coordinated governance structures support better demand management, predictable resource use and collaboration across hospitals. Although initially applied to TAVI, the model is transferable to other heart valve diseases and to clinical areas requiring inter-hospital coordination and shared accountability. This Scientific Dialogue explores the organisational, financial and governance conditions needed to adapt, scale and sustain value-based, networked care models across regions.

Proximity healthcare in Denmark: an empirically grounded typology and its implications for governing decentralised health systems (ID 148)

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Context: Across Europe, health systems increasingly pursue proximity healthcare to deliver care closer to patients' homes in response to demographic change, workforce shortages, and pressure on hospital capacity. Despite its prominence in policy discourse, proximity healthcare remains ambiguously defined and unevenly operationalised, particularly in decentralised systems where responsibilities are distributed across sectors and governance levels. This lack of conceptual and organisational clarity challenges strategic oversight, coordination, and long-term sustainability. Denmark represents an illustrative case of a high-performing, tax-funded, decentralised health system currently undergoing reform to strengthen proximity healthcare and cross-sectoral collaboration. This study aims to develop a system-level typology of proximity healthcare interventions and examine its implications for governance in decentralised health systems.

Methods: We conducted an exploratory qualitative study based on 20 semi-structured interviews with 28 key informants responsible for cross-sectoral healthcare planning and implementation across all five Danish regions. Informants included regional administrators, health cluster coordinators, and municipal representatives. Data were analysed using reflexive thematic analysis. An empirically grounded typology of proximity healthcare interventions was developed inductively and iteratively refined through collaborative coding and analytical discussions, focusing on organisational forms, division of responsibilities, and patterns of coordination across sectors.

Results: The study presents final results from a completed national qualitative analysis. The analysis identifies a complex ecosystem of proximity healthcare interventions structured across two interdependent domains: healthcare delivery functions and supporting governance functions. Delivery functions range from hospital-led outreach and delegated home-based treatment to shared care models and self-administered healthcare supported by professionals. Supporting functions include coordination roles, advisory partnerships, training and capacity-building initiatives, and patient and family education. Across intervention types, three system-level tendencies were identified: extensive functional and organisational variation, widespread reliance on temporary project-based initiatives rather than stable system-level mandates, and increasing involvement of patients and relatives, often enabled by digital technologies.

Discussion: By integrating delivery and supporting functions, the typology provides a system-level governance perspective on proximity healthcare that extends beyond individual care models. The findings highlight a central governance tension in decentralised health systems: locally driven, project-based experimentation enables responsiveness and adaptation, yet risks fragmentation and limited scalability. For health system leaders and policymakers, the typology offers a practical framework to support strategic oversight, identify gaps and overlaps, and align local innovation with longer-term governance arrangements. The study advances international debates on governing decentralised health systems by illustrating how proximity healthcare emerges through adaptive but weakly institutionalised governance structures.

DIGISANET: a national community of practice to support digitalisation and automation of the hospital medication pathway in Italy (ID 149)

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Context: The digitalisation and automation of medication management processes are increasingly recognised as strategic levers to improve patient safety, operational efficiency, and sustainability of health systems. In Italy, despite multiple local and regional initiatives, the adoption of automated drug dispensing systems, robotic pharmacies, and integrated traceability solutions remains uneven and fragmented. This heterogeneity limits system-wide learning, scalability, and governance. Within the broader European policy framework, marked by initiatives and actions to strengthen supply chain resilience, there is a growing need for platforms that enable knowledge sharing, organisational learning, and evidence-informed policymaking. DIGISANET was established to address this gap.

Methods: DIGISANET was developed as a multidisciplinary national Community of Practice (CoP) combining evidence review and action-research. The initiative involved hospital pharmacists, healthcare managers, clinicians, digital health experts, engineers, risk managers, and policymakers. Activities included facilitated peer discussions, analysis of real-world implementation experiences, and collective reflection on organisational models, governance arrangements, and enabling conditions for automation. A targeted review of international evidence on automated drug dispensing systems and robotic pharmacy solutions informed the discussions, while the CoP served as a space for shared interpretation, identification of barriers and facilitators, and co-production of operational and policy-oriented insights.

Results: The CoP generated a shared understanding of automation as a system-wide organisational transformation by enabling systematic comparison of real-world implementations of digitalised and automated medication pathways across hospital settings. Case discussions showed that end-to-end digitalisation, integrating prescription, procurement, logistics, preparation, dispensing, and administration, can improve safety, efficiency, and governance. Implementations presented within the CoP reported reductions in medication errors, urgent supply requests, expired products, and overall stock levels, together with improved traceability. Automation of central pharmacies, decentralised automated cabinets in wards and operating theatres were associated with reduced manual workload and reallocation of pharmacists' and nurses' time towards clinical activities. Participants also reported improvements in inventory accuracy, transparency of controlled drugs management, and availability of real-time data to support management. Across cases, interoperability between clinical and logistical systems, strong clinical–managerial leadership, and structured change management emerged as key success factors, while infrastructural constraints and workforce readiness remained challenges.

Discussion: Findings from DIGISANET suggest that CoP can play a pivotal role in governing digital transformation in healthcare by bridging evidence, practice, and policy. Automation of the medication pathway emerges not merely as a technological upgrade, but as a human-centred organisational change that reshapes workflows, professional roles, and institutional cultures. The DIGISANET experience highlights how peer-based learning and structured dialogue can reduce fragmentation, align local implementations with strategic objectives, and support more consistent decision-making across organisations. By enabling shared interpretation of evidence and real-world experiences, the CoP model facilitates the translation of local innovations into common frameworks, operational standards, and policy-relevant recommendations. In this sense, Communities of Practice act as meso-level governance mechanisms, complementing top-down digital strategies and funding programmes. DIGISANET aligns with European priorities on digital health, workforce sustainability, and health system resilience, and offers a scalable and transferable governance approach to support complex digital transformations in hospital medication management.

Disclosure: This work was made possible thanks to the unconditional support of Becton Dickinson. Publication of the results was not conditioned by the sponsors' approval. Therefore, the results reported represent the authors' views and not necessarily those of the sponsors.

Ensuring access to improve quality: a multidisciplinary strategy in outpatient clinics (ID 151)

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Context: Accessibility to first outpatient visits is a key element to guarantee care quality, patient safety, and equity in access to the public healthcare system. Excessive waiting times can lead to clinical impact, dissatisfaction, and organisational inefficiencies. At Sant Joan University Hospital in Reus, an accessibility issue for first visits was identified, with a high percentage of patients exceeding the guaranteed times established by CatSalut, particularly in certain high-demand services with complex organisational structures. This situation prompted the design and implementation of a project aimed at analysing the structural causes of the problem and deploying improvement actions during the last quarter of 2025.

Methods: In October 2025, a multidisciplinary working group was formed, including the Head of Ophthalmology, the Outpatient Area Manager, and the Head of Patient Management, with regular meetings involving the Care Management, Technical Secretariat, and Information Systems departments. In parallel, individual meetings were held with services experiencing the longest delays to analyse data and agree on specific actions tailored to each specialty.

The improvement plan included:

- Correct classification of follow-up visits and internal referrals as successive visits.
- Review and restructuring of schedules adapted to demand.
- Creation of low-complexity clinics integrated with the "Quixot" screening platform.
- Incorporation of new professional profiles (e.g., audioprosthetist).
- Expansion of nursing staff competencies for diagnostic tests.
- Redistribution of physical spaces to optimise patient flow.
- Purging of waiting lists through telephone contact.
- Detection of duplicate records in CatSalut databases.

Results: Comparative analysis between October and December 2025 shows an overall improvement in accessibility to first outpatient visits. The percentage of patients exceeding guarantee times decreased from 56.97% to 47.10%, with a particularly significant reduction in cases exceeding 100% of the delay threshold, which represent approximately 29% of the total, indicating progressive improvement in the longest waits. Services where more specific actions were implemented show the most favourable evolution. The Ophthalmology Service stands out with a 34.63% reduction in patients exceeding guarantee times, followed by the Pain Clinic with a 20.19% decrease. ENT, Traumatology, Allergy, and Endocrinology also show reductions, albeit with lower percentages.

Discussion: This experience demonstrates that addressing accessibility issues requires a global and cross-cutting approach combined with interventions tailored to each service. Direct involvement of clinical professionals, active data management, and review of care pathways have been key to achieving measurable improvements in a short period. The most favourable results are associated with structural organisational changes, correct visit classification, and incorporation of new professional roles. Despite progress, differences persist among high-pressure services, highlighting the need to consolidate implemented measures, maintain continuous monitoring, and advance toward more efficient demand management models to ensure improvements in accessibility and care quality.

Strategy and leadership at Sant Joan Reus-Baix Camp: development and implementation of the strategic plan driven by a monitoring committee and linked to a leadership training pathway for managers (ID 155)

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Context: The Public Law Entity Salut Sant Joan Reus-Baix Camp (SSJRBC), aiming to align strategy, leadership, and management within an integrated and territorially diverse healthcare organisation, promoted the development and implementation of the 2023–2025 Strategic Plan. This Plan seeks to consolidate an excellent service portfolio, improve integration across care levels, and strengthen public trust. The project was conceived as a participatory and cross-cutting process focused on care quality, continuous improvement, and leadership development for managerial roles.

Methods: The Strategic Plan was developed using the Balanced Scorecard methodology, adapted to the healthcare sector's context and complexity, integrating perspectives on learning, internal processes, citizen engagement, and sustainability. The initial phase involved 109 professionals from different organisational areas, over 80 interviews with patients and families, and the creation of 7 working groups with territorial stakeholders. To ensure implementation and monitoring, the Strategic Planning Monitoring Committee (CSPE) was established, comprising representatives from all key areas and care levels, holding monthly meetings supported by a digital monitoring tool (Minerva Analysis). In parallel, the Plan was linked to a Postgraduate Program in Leadership, Management Skills, and Executive Development for managers, structured into five modules focused on practical application, clinical management, process improvement, and team development.

Results: The 2023–2025 Strategic Plan was structured into 4 strategic lines, 17 objectives, and a significant volume of annual projects. The 2023 Annual Operational Plan (AOP) included 144 projects, achieving an overall progress of 74% and 54% completion. The 2024 AOP showed positive evolution, with 82% progress and 59% completion. The 2025 AOP, still ongoing, shows 54% progress mid-year. Notably, 62% of projects were developed within the Postgraduate Program framework, with 87% continuity among initial participants. Satisfaction surveys report a very high overall rating for the training program (9.8/10) and a perceived positive impact on leadership and management competencies.

Discussion: The results demonstrate that combining a structured Strategic Plan, an active monitoring committee, and a specific leadership training pathway facilitates translating strategy into tangible and measurable outcomes. The CSPE has played a key role as a coordinating body, ensuring alignment between management, care teams, and project leaders, as well as transparency and continuous monitoring of actions. Linking training and management has fostered more participatory, relational leadership focused on continuous improvement, with direct impact on care and organisational processes. This model strengthens change sustainability and establishes a solid foundation for deploying the 2026–2030 Strategic Plan, consolidating integrated, innovative, and people-centered healthcare management.

Cost per live birth in medically assisted reproduction: evidence from the last 10 years in Portugal (ID 156)

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Context: Infertility represents a major public health challenge, with increasing relevance in countries experiencing delayed parenthood. In Portugal, the National Health Service provides public coverage for Assisted Reproductive Technology (ART), requiring substantial financial investment. Assessing the economic efficiency of these programs is essential to ensure long-term sustainability while preserving equitable access. Live birth is the primary clinical outcome of ART treatments; therefore, analysing the relationship between public expenditure and live births achieved is critical to inform evidence-based health policy and resource allocation decisions.

Methods: A retrospective economic evaluation was conducted from the perspective of the Portuguese National Health Service (NHS). National ART activity data reported by public hospitals to the Central Administration of the Health System and the National Council for Medically Assisted Procreation were analysed for the period 2014–2024. Direct costs related to consultations, ovulation induction cycles, intrauterine insemination, in vitro fertilization, intracytoplasmic sperm injection, additional laboratory techniques, and reimbursed medication were included. Resource use was valued using NHS hospital prices obtained from officially published sources and updated to 2023 euros values. The primary outcome was the annual average cost per live birth achieved through ART.

Results: The annual number of live births resulting from ART increased from 901 to 1,079 over the study period (+19.8%). Concurrently, total public expenditure on ART showed a consistent upward trend, particularly during the last three years. The cost per live birth ranged between €12,959 (in 2019) and €17,384 (in 2015), with an average of approximately €14,700, demonstrating notable year-to-year variability. From 2022 onward, a structural increase in costs was observed, largely driven by consultation re-pricing and a substantial rise in high-complexity procedures, particularly ICSI and ICSI with preimplantation genetic testing. These advanced techniques became the dominant contributors to overall ART expenditure.

Discussion: The findings indicate a sustained increase in public investment in ART, accompanied by a more moderate growth in live births, resulting in a rising cost per live birth. This trend likely reflects demographic changes, notably increased maternal age, as well as the growing use of advanced and resource-intensive laboratory technologies. While such innovations may improve outcomes in selected populations, they pose important challenges regarding economic efficiency. These results underscore the need for strategic planning and continuous monitoring of ART programs to balance technological advancement, equitable access, and financial sustainability within publicly funded healthcare systems.

Continuity of care in Finnish primary healthcare: current status, future prospects, and systemic challenges (ID 157)

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Background: Across Europe, the future of primary healthcare and general practice is under scrutiny due to physician shortages in "medical deserts"—traditionally rural but increasingly urban underserved areas. Finland presents an even more complex landscape, with parallel systems of public primary care, occupational health, and reimbursed private services. This fragmentation often results in care delivered by rotating professionals, undermining continuity. Given compelling evidence of continuity's benefits in general practice, national attention has focused on whether the newly established wellbeing services counties, responsible for organising health and social care, can advance continuity at scale. Under the Finnish Recovery and Resilience Programme, continuity initiatives were funded in seven counties, building on a prior ministry-commissioned inquiry. The Finnish Institute for Health and Welfare (THL) monitored progress during 2025. Parliament has since approved additional funding for 2026–2027 to extend and upscale these efforts.

Status at the beginning of 2025: Continuity models range from multidisciplinary team-based approaches to physician–nurse pair structures. Most regions prioritise named physicians for high-need populations; some have extended this to all residents. Team models remain integral for flexibility, substitution, and multidisciplinary collaboration. Digital solutions and service navigation systems are increasingly integrated, though centralised contact models often limit personalised interaction. National monitoring relies on the Continuity of Care- index, with emerging metrics (Saint Lenards' Index of Continuity of Care, Own Patient Ratio) enabling finer assessment where responsibility assignments exist.

Opportunities and Challenges: Progress is supported by strong societal and policy commitment, positive early outcomes, and leadership engagement. Success factors include incremental implementation, regional flexibility, and new tools for population management and data-driven decision-making. However, systemic constraints persist: incomplete information systems, fiscal pressures, and workforce shortages threaten sustainability. Professional autonomy, adequate resourcing, and harmonisation of nurse roles are pivotal for future development. Risks include fragmentation of digital infrastructure, uneven regional progress, and erosion of continuity under financial austerity. Conversely, continuity models may enhance primary care's attractiveness if supported by training, supervision, and robust onboarding protocols.

Conclusions: Continuity of care in Finland is advancing through adaptive strategies that balance structural reform, digital integration, and workforce realities. While progress reflects an evolutionary shift toward personalised care, sustainability hinges on addressing systemic vulnerabilities and ensuring equitable development across regions. Future research should evaluate impacts on patient outcomes, workforce retention, and health system resilience within a mixed-provision context.

A model of interhospital cooperation based on professional availability, risk proportionality, and institutional trust in contexts of structural healthcare workforce shortages (ID 158)

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Context: Public hospitals operating at different levels of care face increasing clinical complexity, persistent structural shortages of healthcare professionals, and significant territorial heterogeneity. Basic district hospitals are particularly vulnerable to non-replaceable staff absenteeism, which often leads to service reductions, while referral hospitals frequently assume support roles within organisational and governance frameworks not specifically designed for asymmetric cooperation. Interhospital service agreements and professional mobility have therefore become essential mechanisms to ensure continuity of care and territorial equity. However, conventional activity-based contracting models struggle to manage non-replaceable absenteeism, creating organisational, economic, and governance tensions that threaten the sustainability of collaborative arrangements.

Methods: This study draws on a qualitative review of European healthcare cooperation models, including managed clinical networks, hub-and-spoke systems, and mutual aid agreements between hospitals. These frameworks were analysed to identify governance principles, risk-sharing mechanisms, and cost-allocation approaches relevant to contexts of professional scarcity. Building on this review, the paper examines the practical experience of an interhospital alliance between referral hospitals and basic district hospitals. The proposed model replaces traditional activity-based billing tied to professional presence with a shared planning framework based on projected care needs, agreed quantitative and qualitative objectives, and economic valuation grounded in real costs. Particular attention is paid to challenges arising from differences in care levels, substitution capacity, labour regimes, legal frameworks, and governance dependencies. The model explicitly addresses the operational difficulty of accurately measuring professional presence and the financial risk assumed by provider institutions when hiring additional staff under conditions of uncertain activity and unavoidable absenteeism.

Results: The proposed cooperation model differentiates between two complementary financial components: a variable component linked to care activity effectively delivered, and a fixed component linked to the functional availability of professional resources. The fixed component reflects the real cost of maintaining professional availability required to deliver the agreed service portfolio, while the variable component adjusts remuneration according to achieved activity levels and quality indicators. The model introduces regularisation mechanisms to account for deviations from planned activity, including those caused by absenteeism across the service team. In cases of non-replaceable absenteeism, where professionals assigned to new interhospital activities must be redeployed to ensure internal continuity of care, the model formally recognises the existence of a real opportunity cost. Objective criteria are established to enable partial compensation, thereby distributing risk more equitably between participating institutions and reducing disincentives for provider hospitals to engage in cooperative arrangements.

Discussion: Interhospital cooperation in contexts of structural workforce scarcity requires contractual and governance models that move beyond a purely market-based logic. Explicit recognition of asymmetries between hospitals—particularly in size, care complexity, substitution capacity, and governance structures—is essential for designing sustainable agreements. By combining real-cost valuation, shared objectives, and proportional risk allocation, the proposed model supports long-term strategic alliances grounded in institutional trust rather than transactional exchange. Such alliances enhance territorial equity and system resilience while acknowledging the unavoidable constraints imposed by professional shortages. Over time, these cooperative frameworks may also enable adaptive reconfiguration of service portfolios to better align with population needs. However, their success depends on active engagement and support from healthcare funders, who play a critical role in legitimising shared-risk models and ensuring financial stability across participating institutions.

Reduction of territorial disparities in breast cancer mortality in France: a five-decade analysis (ID 160)

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Context: Territorial health disparities persist in most countries, including those with universal health coverage. In France, the tasks of planning and organising prevention and health care are devolved to Regional Health Agencies which report to the Ministry of Health. Given a context of increasing concern on health inequalities, our hypothesis for this study was that both intra-regional and inter-regional disparities have decreased over time. We focussed on mortality from breast cancer (BC) since significant innovative preventive (e.g. screening) and treatment interventions have occurred in the last decades.

Methods: We described mortality trends using the standardised mortality ratios (SMR) of 95 departments, grouped in 22 regions, from 1968 to 2017. The evolution of relative inequalities over time was analysed using standard errors of age-adjusted rates. We used multilevel Poisson regression modelling to analyse the change of the intra-regional and inter-regional variance components over time.

Results: Overall, the risk of mortality from BC cancer increased from 1968 to 1997, then declined steadily, resulting in a 14% reduction in the age-adjusted risk at the end of the study period compared with the beginning. Disparities between the 95 departments also decreased, as evidenced by a 40% reduction in the interquartile range of the SMR. This trend of decreasing disparities applied to most regions (18/22). The results of the multilevel analysis suggest that between 1968 and 1997, the reduction in disparities was mainly attributable to the reduction in differences between departments within the same region (i.e. a decrease in intra-regional variation). Thereafter, intra-regional variations remained low, while inter-regional variations increased to return to their initial level. While intra-regional and inter-regional variations contributed equally to overall disparities at the beginning, inter-regional variations accounted for 80% of disparities at the end of the study period.

Discussion: Our results show an encouraging downward trend in both the level of risk and the level of territorial disparities in breast cancer mortality in France over a 50-year period. They also show that most of the remaining disparities are attributable to persistent differences between regions. This raises questions about the equity of access to innovative breast cancer treatments that have been developed over the last two to three decades. Access to specialised cancer treatment centres and hospitals offering the full range of cancer therapies is far from universal and is unevenly distributed across France. In a recent study, better access to primary care was associated with improved breast cancer survival. Efforts to improve access to coordinated, up-to-date and timely primary and specialist care are an avenue to explore in order to further reduce regional disparities and prevent many breast cancer deaths.

Technostress and digitalisation in general practice: a qualitative multi-regional study in Italy (ID 161)

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Context: The digitalisation of healthcare systems has reshaped General Practitioners' (GPs) work, enhancing access to information and process efficiency while generating new forms of stress linked to intensive technology use. In Italy, these dynamics develop within regional contexts marked by heterogeneous levels of digital maturity and diverse configurations of healthcare information systems. This study explores technostress among GPs through a comparative qualitative multiple-case study in Italy, examining how organisational differences influence affective responses to technology and perceptions of professional performance, and highlighting implications for the effective management of digital transformation in primary care settings from a health management and workforce perspective.

Methods: The study adopts an exploratory comparative qualitative multiple-case study design based on semi-structured interviews with GPs practicing in different regional healthcare systems in Italy. The sample includes thirteen GPs selected through the snowball technique to ensure variability in institutional contexts, regional digitalisation levels and experience with healthcare technologies. Interviews, lasting 45-75 minutes, investigated everyday experiences with: clinical and administrative technologies; perceptions of digital overload and complexity; associated affective responses; perceived impacts on prescribing and documentation performance. Transcripts were analysed through thematic coding supported by NVivo, following a comparative logic between cases and regional contexts and using the Affective Response Model as the main interpretive framework for understanding technostress (Agogo & Hess, 2018).

Results: Findings show that technostress among GPs is a multidimensional phenomenon shaped by the interaction between technological characteristics, organisational arrangements and individual factors. Differences emerge in how professionals perceive and manage digital workload across regional contexts, without supporting uniform or geographically deterministic patterns. Overall, clinical technologies tend to be perceived as more aligned with professional roles, whereas administrative technologies are more frequently associated with experiences of overload and frustration. Individual digital competencies and coping strategies appear to play a relevant role in moderating affective responses to technology and perceptions of operational effectiveness, regardless of the specific territorial context.

Discussion: The results are consistent with the Affective Response Model, showing how technological stressors can trigger negative affective responses that influence GPs' perceptions of performance. This work highlights the importance of considering institutional and organisational contexts as the settings in which technostress emerges, avoiding deterministic interpretations based solely on geographical differences. By conceptualising technostress as a situated phenomenon emerging from the interaction between technology, organisation, and professional identity, this study contributes to advancing understanding of the human dimensions of digital transformation in primary care. The findings suggest that it is not only the level of digitalisation *per se* that shapes practitioners' experiences, but also the way technologies are integrated into work processes and aligned with clinical identity. From this perspective, technostress appears as a situated phenomenon, calling for context-sensitive managerial interventions that address local organisational conditions, support professional digital competencies, and better align technologies with clinical work practices.

Leveraging Theory of Change and reflexive monitoring to navigate digital transformation in integrated care (ID 162)

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Context: Digital transformation in healthcare is not only a technological shift but a complex change process involving multiple actors, assumptions, and uncertainties. Traditional KPI-driven monitoring often oversimplifies this complexity, limiting opportunities for reflection and adaptation. To support meaningful learning and collaboration, we applied a Theory of Change (ToC) approach to the development of a Digital Regional Health Center (DRHC) in the Netherlands. The DRHC aims to deliver integrated, person-centred care for people with chronic conditions through digital solutions. By embedding reflexive monitoring principles, the approach enables stakeholders to question assumptions, adapt strategies, and co-create pathways for sustainable digital transformation.

Methods: The DRHC's ToC was developed through an iterative, participatory process involving seven partner organisations across hospital, primary, rehabilitation, elderly, and social care. Program documentation informed an initial ToC, which was refined in workshops and validated by the DRHC steering group. Based on this ToC, we designed a monitoring and evaluation (M&E) strategy to address three purposes: (1) monitor progress, (2) support learning, and (3) demonstrate outcomes. The strategy integrates funder-required KPIs with complementary qualitative and adaptive methods, mapping uncertainties and learning questions onto the ToC. An M&E matrix specifies indicators, data sources, timing, and responsibilities, ensuring alignment with transformation goals and stakeholder needs. This approach operationalises reflexive monitoring by embedding feedback loops and participatory sense-making into the evaluation process.

Results & Discussion: The ToC approach provided a shared framework for understanding digital transformation and its intended impact. Beyond clarifying outcomes, it created space for reflexive monitoring, enabling stakeholders to continuously question assumptions, adapt strategies, and learn from emerging insights. This iterative process helped organisations navigate uncertainty and fostered a culture of collective sense-making—critical for complex digital transitions. By integrating diverse data sources and learning questions into the M&E strategy, we moved beyond static reporting toward dynamic feedback loops that informed decision-making in real time. This contrasts with KPI-only monitoring, which often limits reflection and adaptation. Grounding M&E in realist principles and reflexive practices supports causal inference and organisational learning, helping people thrive during digital transformation by making change processes transparent, participatory, and responsive.

Unlocking data potential: practical development of the data maturity scan for health and care organisations (ID 164)

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Context: Healthcare organisations are under increasing pressure to work smarter and use resources more efficiently. While technological advancements have made more data available, many organisations struggle to leverage this data for learning, improvement, and decision-making — such as identifying fall risks, monitoring quality indicators like pain, optimising staff planning. Various instruments — such as digital maturity assessments, innovation readiness scans, and commercial data maturity frameworks — support digital transformation. However, these instruments focus broadly on technology or innovation and do not specifically address the practical use of data within healthcare organisations. Organisation's ability to use data effectively — called data maturity — remains under-recognised in healthcare.

Methods: To address this gap and help organisations improve their data maturity and data use, the Data Maturity Scan (DMS) was developed. Its definition and content was shaped in several steps:

- An earlier version of DMS was used by 146 healthcare organisations. Data were analysed. This version was also reviewed by healthcare professionals in focus groups and the transcripts were analysed.
- The research team defined a data maturity definition and the DMS was revised based on relevant data maturity literature and their experiences with using data for learning, improvement and decision-making in health care organisations.
- Focus groups were held with two healthcare organisations to assess face validity on relevance of the DMS.
- An independent expert group reviewed the tool on its content validity.
- Cognitive interviews were held with professionals from long-term healthcare organisations, ensuring clarity and comprehensibility of the questions and domains.

Results: Results showed that the earlier DMS is comprehensive and relevant but also highlighted areas for improvement—such as ambiguous wording, the need for clearer definitions, and improving the suitability for healthcare organisations since this version was originally designed for municipalities. The revised DMS consists of 52 items divided over five domains build on the domains found in factor analysis of the previous version: Vision and strategy to work with data; Data governance; Technology behind data storage, exchange, processing, and analysis; Tasks and skills for working with data; Using data to learn, improve and make decisions in daily practice. Together, these domains capture key themes such as leadership, strategy, data quality, infrastructure, skills, and collaboration that are essential for effective data use in healthcare organisations. Feedback from experts and professionals from long-term healthcare organisations led to a more comprehensible and user-friendly version.

Discussion: Data-driven working requires a systems-thinking approach, as multiple aspects need to be addressed simultaneously. Approaching data-driven working through the concept of data maturity ensures that technology, people, and processes evolve together rather than alone. The DMS provides insight into the key elements that are essential for successfully learning, improving, and making data-informed decisions. Teams can use the DMS to reflect on strengths and areas for improvement, start conversations about data-driven working, set shared priorities, and identify concrete actions tailored to their context. Its accessible design and emphasis on organisational learning help embed data-driven thinking into culture and routines, ensuring that effective data use is a central focus in adopting new technologies. Ultimately, the DMS helps ensure that digital transformation leads to sustainable improvements in quality, efficiency, and patient outcomes. This approach supports the EHMA conference track "Health technology and digital transformation" and the topic "Sustainable and resilient health systems."

From design to impact: results and lessons from a multi-country digital upskilling programme for the health workforce (ID 165)

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Digital transformation in healthcare depends not only on technology, but on the ability of health professionals to adopt new tools, collaborate effectively, and lead change. Building on the design and piloting phase previously presented to the EHMA community, this paper reports the implementation results and learning outcomes of the H-PASS project, funded under the EU4Health programme, a competence-based digital upskilling initiative delivered across six European countries.

H-PASS is a 40-hour blended training programme targeting digital and transversal competences in (1) adaptation to digital transformation, (2) communication, teams, and culture in digital times, (3) improving processes in the healthcare system, and (4) data in healthcare. The programme combines modular learning with synchronous and asynchronous activities and experiential methods, including virtual reality. The training was implemented in Cyprus, Greece, Hungary, Italy, Lithuania, and Romania, reaching nurses, doctors, pharmacists, and allied health professionals. Evaluation followed a structured framework aligned with Kirkpatrick Levels 1–3, using pre- and post-training surveys mapped to defined learning outcomes (knowledge, skills, and attitudes), course-, module-, and exercise-level evaluations, as well as measures of perceived behavioural change.

Across countries and professional groups, participants demonstrated a clear increase in self-assessed competences. The strongest reported gains and satisfaction ratings were observed in communication and teamwork skills, health data understanding, and cybersecurity. Importantly, positive impact was reflected not only in quantitative data but also in written and oral feedback from participants. Engagement and completion rates were higher in onsite synchronous formats compared to fully online delivery. Accreditation and continuing professional education credits emerged as key motivators for participation, particularly among nurses and allied health professionals, while engagement among doctors remained more variable. Local adaptation of content to professional roles and national contexts significantly enhanced relevance and, consequently, engagement.

The H-PASS programme also included a Digital Change Agent training component, aimed at encouraging highly engaged participants to actively initiate change within their own work and professional environments. Evaluation data indicate that participants felt competent in leading change and familiar with tools and methods for engaging colleagues in these processes.

As implementation of the jointly developed training programme required strong coordination, the training plan and guidance on delivery and assessment are well documented within the project. This supports uptake by other countries and institutions, contributing to the sustainability of the training structure and design.

The H-PASS experience demonstrates how digital health strategies can be translated into measurable workforce development outcomes, offering practical lessons for training design and a ready-for-implementation training package.

Enhancing the digital capacities of cancer centres through European-level collaboration: the case of the Joint Action eCAN Plus (ID 166)

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Context: Digitalising health services has the potential to make healthcare systems more efficient, effective and accessible. Nevertheless, there are marked differences within and between European countries in terms of the digitalisation of hospital workflows. The Joint Action (JA) eCAN Plus was launched in May 2025 to strengthen the digital capabilities of cancer centres in Europe. This large and ambitious four-year project, involving 81 entities from 20 Member States of the European Union as well as from Montenegro, Moldova and Ukraine, is part of Europe's Beating Cancer Plan and the successor to JA eCAN, which ended in 2024.

Methods: Across the nine work packages of the JA, different methods are being used. At its core are three telemedicine pilots and two use cases on health data exchanges. The former are clinical trials testing whether the eCAN mobile application can be employed effectively for supporting teleconsultations and telemonitoring of patient-reported outcomes in active treatment, survivorship and palliative care settings. The latter aim to investigate how healthcare professionals can safely share and discuss information from medical records with their colleagues from other institutions in the context of virtual molecular tumour boards and discharge planning. Aside from undertaking these activities, the JA eCAN Plus consortium is also co-developing training programmes with stakeholders, exploring how social media and the eCAN app can be leveraged to boost cancer prevention, mapping national eHealth policies, formulating future-oriented policy recommendations based on a foresight exercise, and preparing a comprehensive reimbursement guide for oncology digital health tools.

Results: In its first year of operation, JA eCAN Plus has already reached a major milestone by finalising the scientific protocols for its telemedicine pilots, enabling their review by the ethics committees of the sites involved. Additionally, an analysis of the existing infrastructure for digital collaborations across the participating hospitals has been completed, revealing opportunities and gaps for achieving interoperability between a variety of platforms and systems. Moreover, stakeholder needs for eHealth skills building have been identified, allowing for the design of personalised curricula. A taxonomy of available digital health technologies that can assist with the diagnosis, treatment and follow-up of cancers has been created as well, and the eCAN dashboard of country-level policy indicators has been updated. Furthermore, to validate the relevance of future deliverables and capitalise on synergies, a Governmental Board and a Synergy Board, composed of policymakers and representatives of related European projects respectively, have been set up.

Discussion: JA eCAN Plus is one of the biggest and most ambitious initiatives ever funded by the European Commission in the field of digital oncology. It brings together a dedicated group of international partners who are united in their goal to enhance cancer control through digitalisation. Together, they are laying the groundwork for a transition towards a future in which the use of digitally-enabled instruments is embedded into routine cancer care, to the benefit of patients, their doctors, and the healthcare system as a whole. Over the next three years, work will continue on the implementation of the JA and on the development of its outputs, which will mainly take the form of guidelines, best practices, strategy plans, and educational materials, fostering digital capacity building efforts in Europe and beyond.

Structural equation modelling of healthcare workers' COVID-19 preventive behaviours: extending Protection Motivation Theory with burnout and perceived social support (ID 167)

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Context: The COVID-19 pandemic has imposed sustained physical and psychological burdens on healthcare workers (HCWs) in Türkiye and worldwide, increasing burnout and reducing perceived social support. These pressures may undermine coping and self-protection, weakening adherence to preventive behaviours essential for infection prevention during prolonged emergencies. As HCWs underpin health-system resilience, clarifying determinants of preventive behaviour is vital for the future healthcare workforce sustainability, wellbeing, and preparedness. Following Rogers' Protection Motivation Theory (PMT; 1975), this study examines an extended research model incorporating burnout and perceived social support as observed variables and assesses whether model estimates differ across HCWs' characteristics.

Methods: The study population comprised approximately 7,000 HCWs employed at a Turkish training and research hospital that served as a pandemic hospital. Between May and August 2021, a self-administered paper questionnaire was distributed in person to a sample of 360 HCWs. Data were collected using a structured questionnaire, the Maslach Burnout Inventory, the Multidimensional Scale of Perceived Social Support, and the PMT-based Affecting Factors on Preventive Behaviours of COVID-19 scale. Descriptive statistics for HCWs were first computed. The extended research model integrating burnout and perceived social support into the PMT framework was then estimated using Structural Equation Modelling (SEM) path analysis. After the extended model demonstrated an acceptable fit, the model was estimated across HCWs' characteristics captured in the structured questionnaire. Model fit was assessed using SB-χ^2/df, CFI, GFI, RMSEA, and SRMR; analyses were conducted in SPSS 28.0 and JASP 0.17.1.0.

Results: The extended research model, after refinements and excluding the non-significant response cost, demonstrated excellent fit (RMSEA=0.05; CFI=0.98; GFI=0.97; SRMR=0.05). The model's relative chi-square also indicated good fit (SB-χ^2/df=2.44). Estimating the model across HCWs' sex, age, occupation, and COVID-19 ward status revealed notable findings. Among women, burnout and social support affected self-efficacy (β=−0.24, $p<0.001$; β=0.14, $p<0.05$), whereas among men, perceived threat more strongly affected response efficacy than in women (β=0.40 vs 0.20; $p<0.001$). Perceived threat increased protection motivation through coping appraisal in HCWs <40 years, but through fear in those ≥40 years. By occupation, perceived threat most strongly increased response efficacy among other HCWs (β=0.60, $p<0.001$), whereas nurses relied mainly on coping appraisal. Among HCWs working in COVID-19 wards, total perceived threat effects were higher; maladaptive rewards did not affect protection motivation (β=−0.12, $p>0.05$), whereas burnout and social support affected (β=−0.25, $p<0.001$; β=0.15, $p<0.05$).

Discussion: HCWs' protection motivation for COVID-19 was primarily affected by threat appraisal through coping appraisal; burnout and social support also affected self-efficacy. Multi-group SEM analyses revealed subgroup differences. Women and nurses demonstrated a stronger pathway from perceived threat to protection motivation through self-efficacy, and maladaptive rewards reduced protection motivation in these groups; however, protection motivation more strongly affected preventive behaviour. Burnout emerged as a key risk factor—especially for women, HCWs <40 years, nurses, and HCWs working in COVID-19 wards—whereas social support strengthened protection motivation in several subgroups. These findings extend PMT by demonstrating subgroup-specific mechanisms and underscore that sustaining the future healthcare workforce requires targeted interventions. Policymakers and health managers should prioritise high-burden groups by combining tailored risk–benefit communication and training with burnout mitigation and accessible psychosocial and peer-support programs to strengthen preparedness for future public health emergencies.

Patient safety culture in Greece (ID 169)

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Context: The study emphasises that patient safety culture is a critical component of care quality and the prevention of adverse events in public hospitals. The need to investigate the current situation is particularly important, as it allows for the identification of strengths and weaknesses that influence the daily delivery of healthcare services. The aim of this research was to evaluate the safety culture in public hospitals, with the objective of capturing the level of maturity across different dimensions that shape patient safety, such as teamwork, communication, event reporting, and managerial support, while also proposing directions for improvement.

Methods: The method applied was based on the administration of the Hospital Survey on Patient Safety Culture (HSOPSC) questionnaire to a sample of employees from public hospitals in Greece. The present study included 150 employees drawn from various professional groups and hospital departments with the participation of nurses and physicians. The data collected were statistically analysed in order to capture the attitudes and perceptions of staff regarding patient safety and to identify the critical dimensions that require strengthening.

Results: The conclusions of the study indicate that patient safety culture in public hospitals is characterised by mixed performance, with certain positive features but also important shortcomings that require immediate attention. Teamwork and feedback constitute essential foundations for improvement, yet staff shortages, low levels of event reporting, and limited managerial support emerge as critical issues. Therefore, a strategic reinforcement of safety culture is required through institutional measures, staff training, and active leadership involvement to ensure the provision of high-quality and safe care for all patients.

Discussion: The results showed that, although positive aspects such as teamwork and willingness to provide feedback were evident, significant weaknesses persist, mainly concerning staffing, systematic event reporting, and managerial support. The diversity of the workforce in terms of gender, age, education, and professional roles offers valuable insights into how safety is perceived across organisational levels. These findings highlight the need for targeted interventions that will strengthen the safety culture and enhance the overall quality of healthcare services.

Integrating beyond hierarchy: managerial practices of health and social district directors in Italy through a Mintzbergian lens (ID 170)

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Context: In Italy, the health and social district (Distretto Socio-Sanitario – DSS) has become a central managerial arena following Ministerial Decree 77/2022 and Mission 6 of the National Recovery and Resilience Plan (PNRR). The reform strengthens territorial care and service integration, while simultaneously redefining accountability structures within Local Health Authorities (LHAs). District directors operate at the intersection of multiple organisational units, professional groups, and institutional actors, often without direct hierarchical control over resources. This configuration raises two key managerial questions: to whom are district directors accountable, and what managerial role do they effectively perform within a governance model based on coordination rather than command.

Methods: The study investigates how district directors enact their managerial role under conditions of limited formal authority. Building on Mintzberg's framework of managerial work, we analysed the weekly agendas of 16 district directors from 9 Italian regions. The research specifically addressed how health and social district directors operationalise their managerial role in daily practice. Agenda items were classified into interpersonal, informational, and decisional roles and coded independently by three researchers to ensure analytical robustness. Time allocation and interaction patterns were quantitatively analysed and qualitatively interpreted. A validation workshop with participating directors supported sense-making and enhanced managerial relevance. The research design was explicitly participatory: directors contributed to refining data-collection tools, validating findings, and jointly reflecting on implications for district governance and management practice.

Results: District directors work an average of 44 hours per week, within highly fragmented and interaction-intensive agendas. Informational roles account for 38% of working time, decisional roles for 36%, and interpersonal roles for 23%. While districts rarely control dedicated financial or human resources, directors are deeply involved in allocating, coordinating, and negotiating resources formally assigned to other organisational units. Resource-related decisions—particularly concerning personnel deployment and budget coordination (34%)—emerge as a core managerial function, even in the absence of direct authority. Directors act as organisational brokers: 46% of interactions involve internal LHA actors, 26% external stakeholders (municipalities, third-sector organisations), and 28% mixed settings. This positioning confirms the DSS as a coordination hub rather than an autonomous operational unit. Significant variability across agendas reflects heterogeneous interpretations of the district's managerial mandate.

Discussion: The study clarifies what district management concretely means in the reformed Italian healthcare system. District directors perform a distinctive managerial role centred on integration, negotiation, and alignment rather than operational control. Leadership is enacted outside the formal hierarchy: directors function as negotiators and integrators who must continuously build connections with other LHA departments and external institutions. The absence of direct resource ownership makes relational and managerial capabilities critical levers of effectiveness. At the same time, the high variability of agendas and the lack of stable priorities reveal a role that remains overly operational and reactive. This calls for a strategic redefinition of the district director's function, shifting from day-to-day problem solving toward a clearer managerial mandate focused on coordination, planning, and governance. Strengthening organisational recognition and redefining expectations are essential to enable district directors to fully support integrated territorial care.

Value and burden of infections and antimicrobial resistance associated with critical care (ID 171)

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Context: Health care-associated infections (HAIs) pose a significant threat to population health across the globe. How is value delivery in critical care threatened by HAIs and Anti-Microbial Resistant (AMR) agents?

Determining real evidence of HAIs and AMR burden on ICU inpatient outcomes and hospital costs will answer and reinforce efforts to implement innovative strategies and leverage value for ICU inpatients. That is the aim of this study,

Methods: Collected data on HAIs and AMR occurrence, SAPS II score, type and days of catheter and ventilation from HELICS (infection surveillance) database. Demographic, length of stay, comorbidities, complexity and case severity index, from DRG-APR (SIMH database) and from electronic records of ICU inpatients, in 2023 and 2024. 802 inpatient episodes were classified as having one or more HAI, and AMR agent or not. For cost estimation for each inpatient, data collected on prescribed medicines and devices, valuated at average price cost. Indirect and human resources costs allocated based on accounting system, and number of days of hospitalisation. Data from IAMETRICs collected to determine Risk Adjusted Complication Index (RACI) and Risk Adjusted Mortality Index (RAMI).

Results: At ULSSA, in 2023-2024, 16, 9% of ICU inpatients > 48h, had one or more HAI. Of those, 22, 9% had AMR agent. Graph 1 illustrates how HAIs increase risk of complications (RACI) and risk of mortality (RAMI) especially when AMR agent involved, with higher mortality observed. Ventilation days, catheter days and mechanical ventilation days strongly related to HAIs occurrence. Average length of stay (graph 3) and total cost (graph 4) double when HAI occurs and triplicate when AMR agent is involved, as for total medicines cost and antimicrobial cost. All ICU patient outcomes and cost related performance worsens when HAIs and AMRs occur.

Discussion: Hospital costs increase significantly with the presence of HAIs, even more so when an AMR agent is involved. Hospitalisation costs for patients with HAIs rise by two times, with greater increase in cases of AMR.

HAIs, particularly those involving AMR agents, are significant adverse events that negatively affect patient outcomes, increasing observed mortality and risk of additional complications. Their occurrence is strongly associated with prolonged hospital stays and substantially higher healthcare costs. Strengthening prevention and control strategies—through innovative approaches such as Lean Healthcare methodologies and Quality Improvement techniques—can play a crucial role in minimising these risks. Additionally, incorporating the perspectives of surviving patients and their families into future program designs, as demonstrated in WHO initiatives, is essential to ensuring more effective and patient-centred interventions.

AMR currently, is a major public-health threat. *Value-based Strategies for Encouraging New Development of Antimicrobial Drugs* or other technologies on AMR issue, with new value-based payment system may be a solution. It is certainly a good challenge for everyone working on the VBHC field. In addition, VBHC can help enhance anti-microbial stewardship initiatives. VBHC may help to establish standards and increase perceived value on anti-microbial accurate use by patients

Accelerating care for immunocompromised patients: a service design approach to infectious disease risk (ID 173)

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Context: Immunomodulatory therapies have improved survival and quality of life of patients, including patients with Multiple Sclerosis (MS). However, these therapies are associated with higher susceptibility to infectious diseases, with immunocompromised patients having increased morbidity and mortality. As a standard of care, patients are often referred to an Infectious Disease (ID) risk-assessment consultation prior to immunomodulation start. However, the growing demand for these consultations sometimes results in delays in initiation of therapies or treatment initiation without a prior comprehensive infectious risk-assessment. An intervention based on service design was implemented to optimise the infectious disease risk-assessment and vaccination of patients with MS.

Methods: Service design methodologies based on design thinking were applied to systematically map the patient journey, identify care gaps, and co-design integrated solutions, informed by the Relationship-Centred Care (RCC) model. The MS patient unit was selected for the intervention due to high case volume (~1,800/year) and strong collaboration between this unit and the Infectious Diseases department. A three-phase approach was used. The first phase focused on problem framing, engaging the clinical team to define intervention objectives and identify relevant stakeholders. The second phase emphasised research and empathy, using immersive qualitative methods, including semi-structured interviews and field observations, to examine the real-world patient journey and identify barriers with active input from patients and healthcare professionals. The third phase involved participatory co-creation and co-design activities, to collaboratively develop solutions with key stakeholders within the RCC model, including patients, physicians and nurses.

Results: Research involved 22 stakeholders, including patients, neurologists and ID specialists, nurses, pharmacists and primary care physicians, complemented by four field observations across six clinical consultations. Journey mapping identified 23 critical unmet needs, particularly the absence of structured referral criteria for ID risk-assessment consultation, leading to excessive referrals, prolonged waiting times sometimes longer than five months and treatment delays of up to seven months. Through participatory co-design, 11 initiatives were developed, including the implementation of periodic multidisciplinary case discussion meetings; the introduction of a structured ID risk-assessment questionnaire applied immediately after the MS diagnosis, providing a global infection risk-stratification score; risk-based referral criteria; and early vaccination review and update. Preliminary results show that following 2 months of implementation, 83% (33/40) of MS patients had ID management optimised and integrated into their journey, with multidisciplinary discussions often replacing ID consultations, shortening treatment initiation by nearly 5 months and improving vaccination status.

Discussion: This intervention demonstrates that service design, integrated with the RCC model, can effectively address fragmentation in the care of immunocompromised patients. The improvement in the multidisciplinary work relation between ID and MS departments allowed for reduction in unnecessary infectious disease referrals, reflecting a shift from reactive, specialty-driven care towards an integrated, anticipatory model. This enables earlier decision-making and timely therapy initiation, ultimately preventing MS progression. Embedding structured risk-management within the MS Department workflows and supporting multidisciplinary collaboration redistributed clinical responsibilities, keeping the patient at the centre of care. Beyond operational improvements, findings show that involving the care team in research and solution development increases stakeholder engagement, ownership, and implementation likelihood. A thorough study is underway to assess reduced treatment delays and their impact on disease progression. While limited to one condition and institution, the approach provides a transferable framework for improving care quality and patient experience in other immunocompromised populations.

By your side, caring for you: towards zero-restraint healthcare (ID 175)

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Context: Physical restraints, defined as measures that restrict a patient's mobility or autonomy, are commonly used in hospital settings, particularly among frail patients, to prevent falls and related injuries. However, evidence supporting their effectiveness is limited, while adverse effects such as pressure ulcers, nerve compression, contractures, and even strangulation are well documented. A paradigm shift toward patient dignity and person-centred care is emerging. Our project, "Near to You to Care for You," aimed to eliminate physical restraints in a hospitalisation unit, promoting patients' well-being without increasing fall risk.

Methods: We implemented an organisational intervention evaluated through an observational, retrospective, and descriptive study involving professionals and patients. The study was conducted in an intermediate hospitalisation unit of a general hospital from 2020 to the present. Participants included hospitalised patients (≈1,133, aged 75 ± 5 years) and healthcare professionals (≈460 direct-care staff). The intervention comprised three phases: (1) review of restraint protocols; (2) focus groups to identify barriers; and (3) an educational program on person-centred care and alternatives to restraint.

Primary outcome: proportion of patients physically restrained before and after the intervention.

Secondary outcomes: percentage of trained professionals, use of alternative measures, number of falls, and risk of fall-related injuries (moderate/high).

Data were collected retrospectively from hospital records and analysed using descriptive statistics to compare pre- and post-intervention results.

Results: A total of 402 professionals completed the training, representing 87.4% of direct-care staff. At baseline -June 2019-, physical restraint use was approximately 39%. Following the intervention, restraint use progressively declined during 2021, and since February 2022, no restraints have been applied, achieving a zero-restraint trend.

Regarding patient safety, falls decreased by 19.14% compared to baseline under usual care. Additionally, the risk of moderate and high fall-related injuries was reduced by approximately 3% compared to June 2019. These findings confirm that eliminating restraints did not compromise patient safety and, in fact, contributed to improved or maintain outcomes.

Discussion: The use of physical restraints in general hospital settings is associated with significant risks and lacks clear evidence of beneficial effects, which has led to their widespread application. Our findings demonstrate that an organisational intervention—comprising a review of restraint protocols, identification of barriers, and an educational program promoting person-centred care—can effectively implement a zero-restraint policy. Importantly, patient safety was not compromised; on the contrary, the number of falls decreased, and the risk of moderate to severe fall-related injuries was slightly reduced.

This project also highlights the importance of leadership involvement, professional awareness, and organisational measures in driving a paradigm shift in healthcare practice. The model developed is replicable in other healthcare settings and does not require additional staff, making it a sustainable approach to improving care quality.

Telemonitoring and early prediction of complications in Automated Peritoneal Dialysis: a data-driven, nurse-led management model for system sustainability (ID 177)

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Context: Automated peritoneal dialysis (APD) is a cornerstone of sustainable healthcare models, but its success depends on safe and structured home monitoring. In 2020, our tertiary hospital implemented a telemonitoring system not only as a clinical innovation, but as a strategic organisational redesign, transforming a predominantly reactive model into a predictive, nurse-led approach. This change aims to ensure patient safety, technique survival, and organisational efficiency through the systematic analysis of home-treatment data, aligning with the European challenge of preparing health systems for the future.

Methods: An observational, prospective study was conducted including patients enrolled in an APD telemonitoring program between 2020 and 2025. Specialised dialysis nurses reviewed home treatments daily through a digital platform integrated into routine clinical workflows.

Key management-related variables were analysed: annual number of monitored patients, treatment parameters (drain times, volumes, alarms, and incomplete treatments), detected incidents, and type of intervention performed. The model focused on identifying abnormal patterns and activating early interventions to anticipate complications such as peritonitis, leaks, or catheter displacement, enabling efficient triage, prioritisation of nursing actions, and outpatient resolution whenever possible.

Results: Since the program was implemented in 2020, a progressive increase in enrolled patients was observed, from 5 in 2020 to 17 in 2025, consolidating telemonitoring as the standard follow-up model. Four early-stage peritonitis episodes were detected (2020: 2; 2021: 1; 2025: 1), all identified through telemonitoring, with no associated hospital admissions.

Drain failure alarms were the most frequent incident and prompted early nursing interventions that avoided unnecessary hospital visits in most cases (2020: 3; 2021: 2; 2022: 2; 2023: 3; 2024: 3). In 2025, among seven patients with alarms, only three required in-person assessment, confirming catheter displacement. Overall, the model was associated with reduced complication severity, increased outpatient resolutions, and preservation of dialysis technique.

Discussion: This experience shows that telemonitoring, when embedded as a clinical management tool and led by nursing professionals, enables a shift toward a data-driven predictive model. Continuous observation of home treatments supports early risk detection, prioritisation of interventions, and more efficient clinical and organisational decision-making.

From a health management perspective, fewer unplanned admissions and unnecessary visits translate into optimised resource use, directly contributing to system sustainability. Strengthening nurses' roles as key agents in care management reinforces person-centred models and enhances the resilience of home dialysis programs. This initiative illustrates how digital health can move from strategy to real-world management impact, offering a practical and scalable response to the European challenge of chronic care.

Use of synthetic control arms in clinical trials as a promising approach for generating evidence (ID 178)

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Context: Synthetic Control Arms (SCAs) represent an innovative approach for accelerating drug development, particularly for paediatric and rare diseases. By replacing traditional control groups with real-world or historical data, SCAs streamline trial logistics and address key ethical barriers reducing recruitment time, cost, and allowing patients quicker access to potentially life-saving treatments. Regulatory recognition of SCAs, began roughly 25 years ago but has accelerated significantly in 2020. The European Medicines Agency is actively working on a reflection paper for SCAs, with a draft planned in late 2026 (EMA/CHMP/225255/2025). The objective of this analysis was to quantify the use of SCAs in clinical trials and evaluate the methods used to create them.

Methods: We searched the EU Clinical Trials Register (EUDRACT) to identify single-arm trials referring to a synthetic control arm analysis. EUDRACT is the database for all interventional clinical trials on medicinal products conducted in the European Union between 1 May 2004 and 30 January 2025. The search strategy included standardised keywords: “single-arm” AND “completed” AND “trials with results”. Data on the study design, intervention, and number of patients included in the SCA were extracted from the published summary results. The source of real-world data, methodological aspects in the construction of the SCA, and clinical outcomes were analysed. The presence of sensitivity analyses was also evaluated. If an advanced statistical modelling was used to generate the SCA, the external data sources (historical or real-world data) was evaluated. The search was conducted on 31 December 2025.

Results: The EU Clinical Trials Register currently displays 44.366 clinical trials, of which 21.237 were completed and the trial results were available. Studies with a single-arm design are 654, of which 14 incorporate a SCA using real-world and/or historical data to create the virtual cohort. None recruited children. The most common method used in 11 studies to generate a SCA was the propensity score matching. These scores were generated using multivariable logistic models that took into account baseline patient demographic and clinical characteristics. After obtaining propensity scores, specific weighting methods were applied to create a virtual balanced dataset, effectively making the investigational arm and the SCA more comparable by adjusting for differences in patient characteristics (covariates) that influence treatment assignment, thus reducing bias in treatment effect estimation. The designs were supported by a rigorous methodology (such as target trial emulation, pre-specification, robust statistical methods) to manage bias and confounding factors, ensuring credible evidence.

Discussion: SCAs have been introduced as a pragmatic approach which can improve the interpretation of single-arm trial results and reduce the bias due to the lack of randomisation. A criticism of SCAs is called unknown confounding, this means some difference in baseline characteristics between the investigational arm and the SCA. To minimise this confounding, EMA emphasises a robust statistical matching approach. The external data must be of high quality, and the "synthetic" cohort of patients must be closely matched to the treatment group using advanced statistical methods like propensity score matching or Bayesian models. Our analysis shows that SCAs can offer a promising alternative in certain clinical trial scenarios, providing a balance between ethical considerations, efficiency, and scientific rigor. SCAs could allow reducing the number of children to enrol in clinical trials by replacing or supplementing traditional control groups with a virtual cohort of patients but currently this approach is underused.

Addressing occupational therapy workforce shortages in peripheral regions: insights from local stakeholders in Southern Israel (ID 179)

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Context: All residents In Israel are entitled to Occupational Therapy (OT) services through the national health services basket. However, a growing shortage of OT practitioners limits care access, particularly in the southern peripheral region, the largest and most socioeconomically disadvantaged area. This shortage, expected to worsen with population growth, leads to long waiting times and reduced service availability. However, little is known about OT stakeholders' experiences in this context. Thus, this study aimed to explore experiences of public-sector OT practitioners and managers and their insights into strategies to support workforce retention and expansion.

Methods: A qualitative phenomenological approach was used to explore the experiences and insights of eighteen OT practitioners and managers in Israel's southern periphery. Ethical approval was obtained from Ben-Gurion University of the Negev, and all participants provided written informed consent. Participants with at least five years of public-sector experience in the Southern district were recruited using convenience and snowball sampling. Data were collected through semi-structured interviews, which were audio-recorded, transcribed in Hebrew, and translated into English. The first author conducted repeated readings and line-by-line coding. An initial deductive codebook was developed, iteratively refined with inductive codes, and applied to the full dataset, facilitated with *Taguette* software. Codes were organised into categories and developed into themes, which were reviewed and refined by both authors to ensure analytic rigor and coherence.

Results: Eighteen participants with over five years of public-sector experience in southern Israel, working across diverse settings, including education, health funds, community mental health centres, and public hospitals participated. Most participants were female (83%); 61% were practitioners, 28% held dual practitioner-manager roles, and 11% were managers. Data analysis yielded three main themes: (1) A perceived acute workforce shortage leading to extremely long waiting times, heavy workloads, and compromised client outcomes; (2) Perceived multi-level barriers including practitioners' unmet personal needs, limited awareness of the population and other professionals in the region to OT services, decreased access to professional advice and courses, and reduced regional budgets; and (3) Perceived strategies to support workforce retention and expansion, including increased awareness of managers to practitioners' needs, flexible working conditions, promoting awareness to OT services, improving referral coordination between regional care centers, and policy-level changes as financial incentives for practitioners who remain in the region.

Discussion: The shortage of OT services in Israel's Southern district adversely affects both healthcare professionals and local socioeconomically disadvantaged populations. Exploring the experiences and insights of local stakeholders highlighted multi-level barriers, including practitioners' unmet personal and professional needs, limited awareness of the OT role, restricted access to supervision and professional development, and budgetary constraints. The study also identified strategies to support workforce retention and expansion, spanning individual, organisational, sectorial, and policy levels, such as flexible working conditions, raising awareness of OT services, improved referral coordination, and targeted financial incentives. Implementing these strategies could enhance both workforce sustainability and accessibility to OT services, ultimately improving health outcomes for local populations. These findings may be relevant not only to Israel's southern periphery but also inform approaches in other peripheral regions worldwide facing significant workforce shortages, demonstrating the broader applicability of context-sensitive, multi-level strategies to address future workforce needs and health service disparities.

Sleep quality and work-related impact among midlife women: entry points for workplace support (ID 180)

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Context: Menopausal symptoms represent a significant health issue among working women, affecting not only physical and psychological well-being but also daily functioning at work. Sleep disturbance is one of the most common complaints during midlife, often co-occurring with vasomotor and psychological symptoms. While sleep problems are known to influence daytime functioning and work-related activities, workplace health initiatives tend to prioritise quantitative indicators such as sleep duration. As a result, it remains unclear which sleep-related indicators are most useful as practical signals for identifying women with a greater symptom burden and initiating timely workplace support. From a health management perspective, it is essential to consider menopausal symptoms themselves as meaningful health outcomes and to clarify how sleep-related experiences and work-related adjustments are associated with symptom severity among midlife women.

Methods: This cross-sectional study analysed baseline data from a questionnaire-based survey conducted as part of a sleep monitoring project among midlife women in Japan, funded by the Japan Agency for Medical Research and Development (AMED). The study included 92 employed women. Menopausal symptoms were assessed using the Simplified Menopausal Index (SMI). To minimise potential item overlap, the total SMI score excluding sleep-related items was used as the dependent variable. Independent variables included subjective sleep quality, self-reported total sleep duration, age, and sleep-related daytime dysfunction, operationalised as the need to take frequent breaks while working. All variables were assessed using self-administered questionnaires. Multivariable regression analyses were performed to examine factors independently associated with menopausal symptom severity, adjusting for age and sleep duration.

Results: In multivariable regression analyses, greater menopausal symptom severity (SMI excluding sleep items) was independently associated with poorer subjective sleep quality ($p = 0.013$), a greater need to take frequent breaks while working ($p = 0.005$), and older age ($p = 0.042$). Among the sleep-related indicators examined, sleep-related daytime dysfunction showed the strongest association with menopausal symptom severity. In contrast, self-reported total sleep duration was not significantly associated with symptom severity after adjustment for other variables. These findings indicate that subjective experiences of sleep problems and their impact on daytime functioning are more closely related to menopausal symptom burden than perceived sleep duration alone.

Discussion: The present findings suggest that menopausal symptom severity among midlife women is more strongly associated with how sleep problems are experienced and manifested during the workday than with sleep duration itself. Subjective perceptions of poor sleep quality and observable self-regulatory behaviours at work, such as taking frequent breaks, may therefore serve as practical and easily recognisable entry points for workplace health support. Focusing solely on sleep duration may overlook women experiencing substantial symptom burden who nonetheless achieve sufficient sleep time. From a workplace health management perspective, recognising sleep-related daytime dysfunction as an early signal may facilitate timely, non-stigmatising support and accommodations. These results underscore the importance of workplace environments that acknowledge menopausal symptoms as legitimate health outcomes and support adaptive responses that enable women to sustain work participation during midlife.

Designing responsibility in postoperative telemonitoring: a scenario-based governance framework (ID 182)

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Remote patient monitoring (RPM) is often framed as a technological solution enabling early discharge and efficiency gains. This framing is incomplete. Telemonitoring is not merely a digital extension of clinical surveillance, but a structural reorganisation of where responsibility, authority and risk reside in postoperative care. When recovery shifts from hospital wards to patients' homes, clinical uncertainty does not disappear. It is redistributed across socio-technical networks involving platforms, care coordinators, primary care, patients and families.

The framework presented here is derived from a qualitative analysis of governance dilemmas observed during the large-scale implementation of postoperative telemonitoring across nine surgical pathways, TOTeM.

Despite the rapid diffusion of RPM, implementation strategies have insufficiently articulated how accountability should be redesigned. Consequently, many programmes succeed technically while generating organisational ambiguity and ethical tension. This short paper proposes a scenario-based governance framework that conceptualises telemonitoring as a responsibility design rather than a technology adoption.

The framework is constructed along two axes: clarity of responsibility (diffuse versus explicit) and visibility of clinical risk (technologically masked versus clinically transparent). Scenarios were inductively developed from recurring escalation failures, coordination breakdowns and accountability disputes identified during operational rollout. Rather than representing fixed organisational types, these scenarios describe failure trajectories that emerge when these two dimensions are insufficiently articulated during implementation.

When responsibility is presumed to be shared but not explicitly allocated, programmes drift towards delayed or fragmented decision-making despite actionable data. When clinical risk is made visible through dashboards while ownership remains diffuse, telemonitoring becomes a moral shield in which technology absorbs accountability. When neither responsibility nor risk is structurally designed, the burden of interpretation is transferred to patients and informal caregivers, normalising clinical uncertainty in the home. Finally, when efficiency imperatives dominate without parallel investment in risk visibility, algorithmic thresholds and workload constraints embed structural under-reaction into the care pathway.

The TOTeM methodology was developed to counter these trajectories through a standardised governance architecture. Responsibility and escalation authority are defined ex ante within each care pathway. Clinical risk is rendered transparent through clearly specified, clinically validated escalation thresholds and 24/7 escalation mandates. Telemonitoring is thus positioned as a deliberately designed redistribution of responsibility and risk and not as a technological add-on.

Telemonitoring does not reduce postoperative risk. It redistributes it. Without deliberate responsibility design, efficiency gains are purchased at the cost of moral clarity and system resilience. For policymakers, the funding and regulation of RPM should mandate formal escalation authority and responsibility mapping as core quality criteria. Although derived from a single context, this framework captures governance failure modes intrinsic to any health system relocating postoperative care to the home setting.

Clinical and non-clinical benefits of a bio-inductive collagen implant in rotator cuff tear management (ID 183)

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Context: Rotator cuff tears are among the most common orthopaedic conditions, affecting patients' quality of life and daily activities. In Italy, their relevance is reflected by an incidence of 62.1 surgeries per 100,000 inhabitants (over 25 years). Arthroscopic surgery represents the standard of care; however, failure rates remain high, with re-tears occurring in 20–75% cases, often leading to reoperations. Recently, a bio-inductive implant composed of highly purified type I collagen has been introduced to promote tendon regeneration, reduce re-tear rates, and improve functional recovery. This study aims to assess the implant's multidimensional value, including clinical, economic, organisational and social impacts.

Methods: A Health Technology Assessment was conducted to synthesise clinical, economic, organisational, and social evidence on the use of the bio-inductive implant versus standard arthroscopic surgery. First, a narrative literature review was performed to collect evidence on clinical outcomes, adverse events, and functional recovery metrics. Secondly, the patient care pathway was mapped and economically valorised using Activity-Based Costing and assuming the hospital perspective. All relevant direct costs were included: devices, consumables, personnel, hospital resources, and follow-up care. Organisational aspects were assessed by quantifying operating room time and hospital stay, while the social impact was quantified in terms of patients' out-of-pocket expenditure and productivity loss. In conclusion, qualitative questionnaires were administered to a panel of healthcare professionals to capture perceptions, acceptability, and perceived value of the implant. This mixed-method approach allowed for a comprehensive evaluation of clinical and non-clinical dimensions, integrating quantitative and qualitative insights to support the hospital decision-making process.

Results: Literature reports a significant reduction in re-tear rates for patients treated with the bio-inductive implant compared to standard arthroscopic surgery (8.3% vs 25.8% at 12 months; 12.3% vs 35.1% at 24 months), with comparable functional outcomes and safety profile.

From a non-clinical perspective, the implant increases direct procedural costs (€6,559.19 versus €3,285.13), partially offset by reductions in reoperations, hospital visits, and rehabilitation sessions. Focusing on reoperations, an economic benefit of 59–65% emerged, depending on implant utilisation rate and centre expertise. Organisationally, its adoption is associated with reduced operating room time (13–64%) and shorter hospital stays (10–60%). Social benefits include improved quality of life, better health perception, and a 33% reduction in productivity loss (€675 per patient annually).

Healthcare professionals reported high acceptability due to the implant's ability to streamline post-operative care, reduce re-interventions, decrease physiotherapy needs, and simplify the overall management pathway for rotator cuff tear patients.

Discussion: Results demonstrate the implant's multidimensional advantages, combining improved clinical outcomes with economic, organisational, and societal benefits, supporting its potential value and sustainability in routine clinical practice. Beyond reducing re-tear rates and the associated care burden, the implant may generate relevant benefits for working-age populations, particularly in occupations characterised by high biomechanical load. According to Italian surveillance systems, rotator cuff syndrome represents one of the most frequently recognised work-related musculoskeletal disorders, accounting for 11.5% of occupational diseases. In this context, reducing re-interventions, rehabilitation needs, and recovery time may translate into faster return to work, lower productivity losses, and reduced social costs. Despite the initial investment and the need for specialised surgical training, the implant contributes to a more sustainable and efficient care pathway. Future prospective studies may further refine patient selection criteria and optimise the clinical, organisational, and economic benefits of this innovative technology.

PET-82Rb or SPECT for myocardial perfusion imaging? Economic, organisational and social answers to this question (ID 184)

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Context: Cardiac imaging is essential for diagnosing and managing coronary artery disease (CAD), with myocardial perfusion imaging (MPI) playing a key role. While SPECT with technetium-99m remains widely used due to availability and cost, PET imaging with rubidium-82 (PET-82Rb) offers higher sensitivity, specificity, and faster protocols, particularly benefiting populations such as the severely obese. Despite these advantages, PET-82Rb adoption in Europe—especially Italy—is limited by financial and logistical constraints. This study evaluates the economic, organisational, and social implications of implementing PET-82Rb at an Italian reference centre to support broader integration into routine clinical practice.

Methods: An impact assessment was conducted to evaluate PET-82Rb economic, organisational, social, and environmental sustainability on an annual basis, assuming the hospital perspective. A process mapping technique was implemented for PET-82Rb and SPECT procedures, from patients' admission to image reporting. A Time-Driven Activity-Based Costing approach estimated per-procedure costs and resource absorption, considering equipment, medical devices/consumables, radiopharmaceuticals, and human resources. A Budget Impact Analysis defined economic sustainability related to increased PET-82Rb adoption (from 17% to 43% usage rate annually, considering 8 generators' acquisition). Organisational impact was assessed by measuring procedural time, while social costs incorporated patients' productivity loss and transportation expenses. Environmental benefits were estimated from CO_2 reductions associated with hospital accesses. Sensitivity analyses evaluated the robustness of results, estimating the probability that PET-82Rb would offer lower costs and reduced time compared to SPECT. All data derived from real-world clinical practice at the University Hospital "Federico II" in Naples.

Results: PET-82Rb was associated with higher per-procedure costs (€836.18) than one-day SPECT (€446.10–€601.26), while yielding comparable or lower costs relative to two-day SPECT (€679.49–€943.37). Equipment accounted for 77% of PET-82Rb costs. SPECT costs were dominated by pharmacological expenses. Human resources use was nearly 50% lower for PET-82Rb due to shorter acquisition times. Budget Impact Analysis confirmed the short-term financial sustainability of increased PET-82Rb adoption, with break-even achieved at 350 procedures annually, and reimbursement tariffs yielding a positive margin (€703.67 per procedure). Organisationally, PET-82Rb reduced procedural time by 21–48%, saving 112–392 hours per year, enhancing hospital capacity. From a societal perspective, PET-82Rb reduced indirect costs (productivity loss and travel expenses), with a 20–47% decrease in social costs compared to SPECT, and a meaningful environmental benefit (-11.9 g CO emission reduction, per patient trip). Sensitivity analyses confirmed robustness of cost and time advantages over all SPECT configurations.

Discussion: PET-82Rb showed advantages over SPECT, including reduced staff burden, improved system capacity, and lower societal and environmental costs. Despite higher per-procedure costs, PET-82Rb shortens procedural time, reducing organisational effort and enabling more efficient resources allocation, increasing annual procedures volumes. From a societal perspective, patient time and travel costs decrease, while CO_2 emissions are reduced, supporting environmental sustainability. These findings highlight PET-82Rb as a viable, sustainable alternative to SPECT, offering healthcare providers, policymakers, and stakeholders, actionable evidence for integrating innovative nuclear medicine technologies into routine clinical practice, thus also paving the way for more efficient and cost-effective patient care.

Designing with, not for: co-creation as a foundation for cardiac rehabilitation pathway and study design (ID 185)

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Context: Cardiac rehabilitation pathways across Europe are characterised by variability in access, organisation and patient engagement, with significant gaps between evidence and real-world implementation. To address this complexity, a structured co-creation approach grounded in service design principles (Blomkvist et al., 2010) was adopted, following the Double Diamond logic (West et al., 2018), particularly focusing on the problem space exploration and definition. By integrating the perspectives of healthcare professionals, referral centres and patients, the approach aims not only to redesign care pathways, but also to inform the development of a shared, patient-centred protocol for a subsequent clinical feasibility study.

Methods: A mixed qualitative and semi-quantitative methodology was implemented to support the problem space exploration and definition. Structured questionnaires and semi-structured interviews were conducted adopting multiple perspectives (i.e. healthcare professionals, referral centres and patients) across four countries (Italy, Switzerland, Portugal and Belgium). Data collection focused on mapping current *as-is* cardiac rehabilitation pathways, patient stratification practices, organisational models, technologies, referral mechanisms and reimbursement frameworks. All data were systematically analysed across the three rehabilitation settings (inpatient, outpatient and tele-rehabilitation). Barriers, unmet needs and criticalities were analysed from clinical, organisational, technological and social perspectives. Patients' experiential knowledge was explored in relation to access, digital literacy, motivation, resistance to change and health literacy. Findings were thematically analysed and iteratively validated through focus group technique, enabling convergence on shared priorities and preparing the transition towards solution space exploration and the definition of to-be pathways.

Results: The co-creation process revealed substantial heterogeneity across countries and rehabilitation settings, alongside recurring systemic challenges. From the professionals' and referral centres' perspective, fragmented referral pathways, limited interoperability, workforce constraints and insufficient or inconsistent reimbursement frameworks emerged as major barriers, particularly affecting tele-rehabilitation and innovative care models. Variability in reimbursement tariffs, eligibility criteria and coverage across settings was identified as a key driver of unequal access, limited scalability and organisational resistance to change. From the patients' perspective, social and behavioural determinants of access and adherence—including logistical constraints, digital divide, low perceived need for rehabilitation and limited education at discharge—were critical barriers. Frail, older and socio-economically vulnerable patients were consistently recognised as being at higher risk of exclusion. Despite contextual differences, convergence emerged around shared design principles for future solutions, including integrated pathways, personalised rehabilitation models, enhanced patient education and engagement, supportive digital tools, and sustainable governance and reimbursement mechanisms.

Discussion: This work demonstrates how co-creation, informed by service design theory and operationalised through the Double Diamond framework, can function as a rigorous methodological foundation for clinical study design (Leask et al., 2019). By positioning patients, healthcare professionals and organisations as co-designers rather than end-users, the approach enables the translation of complex and multidimensional insights into actionable pathway concepts and study variables. The transition from problem space definition to solution space exploration highlights the role of co-creation not only in improving service relevance and acceptability, but also in embedding feasibility, equity and sustainability considerations—such as organisational constraints and reimbursement mechanisms—upstream in protocol development. This participatory methodology supports the identification of intervention components and implementation conditions, strengthening external validity and transferability. Overall, the approach contributes to the development of more equitable, sustainable and patient-centered cardiac rehabilitation models (Ogden et al., 2017), improving alignment between real-world needs and future clinical evaluation.

From design to discharge: a structured multi-hospital implementation of remote patient monitoring in post-surgical care pathways (ID 186)

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Context: Remote patient monitoring (RPM) has proven its value in populations with chronic conditions, but evidence on RPM-related quality improvement in post-surgical trajectories is still under construction. Domains of improvement often explored include patient safety (early and accurate detection of complications), efficiency (length of stay and readmissions), patient experience, empowerment and clinical outcomes. Other items receiving increasing attention are cost/benefit ratio and feasibility of use and implementation. This abstract presents preliminary results of a government-funded innovation project (TOTeM) on RPM for post-surgery patients, previously presented at the EHMA Congress 2025.

Methods: Between July 2024 and December 2025, six hospitals designed and implemented nine post-surgical care pathways supported by RPM in a standardised manner using the Telemonitoring Program Design Canvas. Selected patients were monitored post-discharge using an application and connected devices to collect and transmit vital signs. Additional information on clinical status was gathered through patient self-reporting questionnaires. Through EHR integration and predefined escalation protocols, the evolution of the clinical status was visualised for the care team. At the end of the monitoring period, patients completed questionnaires to collect PROMs (SF-36, EQ-5D) and PREMs, including satisfaction, feeling safe, sense of autonomy, ease of use and willingness to recommend. Additional patient data (length of stay, readmissions, postoperative complications and costs) were extracted from the hospital information system. Data were validated, aggregated and reported using Power BI and Excel, with triangulation performed by a second data manager.

Results: A total of 189 patients were included. A reduction in length of stay was observed across all pathology groups. Readmission rates increased slightly, which was considered normal because patients were discharged earlier. Postoperative complications were not more frequent than expected according to the literature. EQ-5D and SF-36 showed no unexpected results at first glance but require comparison with a control group for further interpretation. Patient-reported experience measures were highly positive: 94% of patients reported feeling safe at home, 88.3% indicated that telemonitoring increased their sense of autonomy, and 95% stated they would recommend the program to other patients. Satisfaction was highest for the service and follow-up of the care center, while lower scores were reported for the app and devices. Cost estimates, based on comparison between RPM-supported and standard pathways, suggested budget neutrality for hospitals, a small increase in costs for patients and a benefit for government budgets.

Discussion: Only a limited number of outcome variables were within the scope of this study. Long-term effects, such as recovery rate, were not measured due to time and data constraints, and the absence of a control group remains a major limitation. A full cost-utility analysis was not feasible because of restrictions related to secondary data use.

Nevertheless, the project resulted in a ready-to-use implementation model and a clear view of challenges in data collection. Despite these limitations, the findings indicate that structured post-surgical care pathways with RPM are not inferior in terms of safety and short-term outcomes and may improve patient experience while enabling earlier discharge and stable complication rates. These results support RPM-enabled post-surgery pathways as a feasible and promising model that provides a solid basis for more robust future evaluations.

Improving maternal care through communication: Insights on satisfaction and perceived safety (ID 187)

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Background: Effective communication is a central quality factor in maternal care, influencing patient safety, shared decision-making, and the overall childbirth experience. Communication plays a crucial role in ensuring that patients feel informed, involved, and supported throughout all phases of childbirth. Despite its recognised importance, recurring challenges have been reported in clinical practice, including unclear information in critical situations, limited partner involvement, and a lack of structured post-birth follow-up. This study analyses the impact of verbal and nonverbal communication across all birth phases, using scientific communication models to identify areas for improvement and enhance the quality of maternal care.

Methods: A cross-sectional survey was conducted using a theory- and guideline-based questionnaire comprising Likert-scale and open-ended items to assess communication before, during, and after childbirth, as well as overall perceptions. Postpartum women were recruited via freelance midwives; participation was anonymous and voluntary. Of 123 respondents, 93 complete datasets were analysed. Missing data were imputed via Expectation-Maximisation; cases with irreconcilable missing data were excluded. Open responses underwent qualitative content analysis following Mayring to identify prevalent themes. Quantitative associations between communication variables and positive birth experience were tested using one-sided Spearman correlations. The structured approach allowed integration of quantitative effect sizes and thematic qualitative insights.

Results: Significant positive correlations were found between comprehensibility of information during pregnancy and the perceived positive impact of communication on birth experience ($r_s = .26$, $p < .01$). A stronger positive association emerged between involvement in decision-making during pregnancy and the perceived beneficial influence of communication on birth experience ($r_s = .47$, $p < .001$). Overall communication prior to and during birth was predominantly rated positively, particularly regarding clarity of information and opportunities for participation. However, individual needs and active involvement were not consistently fulfilled. Qualitative analysis identified five central themes: information gaps in critical situations, empathetic communication and caregiver support, partner involvement, desire for structured post-birth debriefings, and critique of postnatal care practices. These themes highlight persistent communicative shortcomings despite general satisfaction ratings.

Conclusions: Findings underscore that communication is not ancillary but central to high-quality obstetric care. Feeling heard, understood, and respected contributes significantly to perceived safety and satisfaction. In contrast, insufficient information or a lack of empathetic engagement can rapidly generate uncertainty or distress. The frequent desire for structured post-birth debriefings points to the importance of transparency and emotional support that extend beyond delivery, with implications for maternal psychological processing and trust in care systems. While the study offers valuable insights, limitations include a small, self-selected sample, which may limit generalisability. Replication in larger and different hospital settings is recommended to validate the observed associations and refine communication strategies. Nevertheless, the results provide actionable guidance for strengthening patient-centred communication practices and inform quality improvement efforts in obstetric services. In addition, it allows the use of tools that improve communication in the hospital setting such as checklists, which also leads to improved teamwork.

Nursing leadership and organisational efficiency: a systematic review of economic impact and workforce sustainability (ID 189)

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Context: Healthcare organisations face mounting pressure to enhance efficiency while maintaining quality amid constrained budgets. Nurses constitute the largest healthcare workforce despite the persistent shortage over 4 million globally and occupy strategic positions across care delivery, yet comprehensive evidence on the economic impact of nursing leadership remains limited. This gap hinders evidence-based investment decisions in nursing leadership development, advanced nursing roles, and organisational structures that empower nursing authority. Understanding the cost-effectiveness and organisational efficiency impacts of nurse-led interventions is critical for healthcare managers navigating value-based care transitions, workforce planning challenges, and resource allocation decisions. This systematic review addresses this evidence gap by evaluating clinical effectiveness, cost-effectiveness, and organisational efficiency of nursing leadership interventions across diverse healthcare settings.

Methods: Systematic review following PRISMA 2020 guidelines (PROSPERO: CRD420251003780) searched nine international databases without date or language restrictions. Studies evaluating governmental, managerial, or clinical interventions designed or led by nurses across any healthcare setting were included. Two reviewers independently screened studies and extracted data on clinical outcomes, economic outcomes, workforce impacts, intervention characteristics, and nursing organisational authority. Quality assessment employed Joanna Briggs Institute tools (JBI) and the Quality of Health Economic Studies (QHES) instrument for economic evaluations. Critical analysis examined design-implementation gaps (who designs versus implements interventions), relationships between organisational authority and economic outcomes, time horizons and cost perspectives adopted. Given heterogeneity in interventions, settings, and outcomes, narrative synthesis was performed. Particular attention was paid to workforce sustainability outcomes given global nursing shortages and their organisational cost-effectiveness implications.

Results: Twenty-eight studies from nine countries (four of them European) were included, and ten conducted economic evaluations. Nurse-led interventions consistently improved clinical outcomes: reduced hospital readmissions, shorter length of stay, enhanced quality of life. Economic evaluations demonstrated favourable benefit-cost ratios (2.5-2.9:1) and substantial cost savings (up to $2 million annually). Management interventions achieved significant workforce benefits: succession planning reduced nurse manager turnover from 20% to 16% (benefit-cost ratio 2.5:1, annual savings $87,000); open-shift management decreased overall turnover by 30% while saving $2 million. Nurse executives with line authority over staffing achieved significantly lower costs per admission ($p=0.047$) compared to those without authority. However, 82% of studies employed evaluation horizons ≤12 months, and none comprehensively incorporated indirect costs, likely underestimating true organisational value.

Discussion: Findings demonstrate that nursing leadership interventions deliver measurable organisational benefits across clinical quality, workforce sustainability, and economic efficiency. For healthcare managers, evidence supports strategic investment in nursing leadership infrastructure: succession planning programs generate positive return on investment through reduced turnover costs during nursing shortages; innovative staffing models reduce expensive agency utilisation and improve retention; nurse executives with genuine budgetary authority achieve superior cost efficiency. However, methodological limitations—particularly short time horizons and narrow cost perspectives—suggest true organisational value is underestimated. Healthcare managers should recognise nursing leadership as an organisational efficiency lever, particularly valuable for: chronic disease management programs reducing costly hospitalisations; transitional care interventions preventing readmissions; workforce management innovations addressing retention challenges. Critical success factors include providing nurses with genuine organisational authority over staffing and resources, not merely leadership titles. Future organisational investments should prioritise comprehensive evaluation incorporating long-term workforce sustainability, indirect cost impacts, and relationships between governance structures and efficiency outcomes to optimise resource allocation and organisational design decisions.

Empowering regional health collaboration: a national project dashboard for insight, inspiration, and smarter monitoring (ID 190)

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Context: Regional health collaboration requires transparency and shared learning. Regional collaboration networks expressed a clear need for an accessible overview of innovation projects in the Netherlands to inspire new initiatives and align strategies for their own ideas. As part of a national programme supporting regional collaboration in long term care (RegioKracht), we developed a national dashboard aggregating key information on such projects, allowing filtering by themes and intervention types, to meet this need. We also aim to further facilitate users with the option to ask questions and generate tailored insights and interpretations of projects, used strategies, alignment with transition plans and project results. Therefore, we are currently exploring opportunities to integrate these project data into an interactive project information chatbot. This AI-based tooling supports both practical decision-making in regional networks on proven or promising projects in other regions, as well as systematic monitoring of the Regiokracht programme.

Methods: A dashboard was designed using a user-centred approach, informed by independent strategic advisers brokers supporting regional collaborations. These advisers gathered information needs from the members of the collaborations and collected project information from programme managers. Project information was collected from multiple data sources, including project plans and meeting reports, harmonised into a standardised taxonomy, and extracted for the dashboard. The dashboard provides visualisations and filtering options to identify trends and gaps.

Because of the need for more detailed information and interpretation of the projects through the dashboard in these documents, the next phase introduced an AI-supported Copilot Notebook as a interactive chatbot to embed the dataset in an interactive environment, allowing natural language queries and dynamic analytics. Development follows with iterative testing with the independent strategic advisers to ensure usability and relevance for practice.

Results: The dashboard offers a comprehensive overview of 750 projects in elderly care, revealing patterns in thematic focus and regional distribution. Regional collaborations can use these insights to benchmark their own initiatives, identify gaps, and share learnings from successful approaches in other regions. Early feedback shows its value for inspiration and strategic alignment. The interactive chatbot demonstrates promising functionality, enabling interactive queries and discussions about content and improving usability for searching through diverse documents. This transforms the dashboard from a static repository into a practical, interactive insight generating and decision-support tool for regional collaboration and monitoring objectives.

Discussion: This initiative is in a pilot phase, and the process has surfaced important requirements and challenges. Developing the dashboard and interactive chatbot highlighted the need for a common taxonomy and uniform reporting to enable meaningful comparisons across projects. Integrating AI tooling raised critical considerations around privacy and data security when handling person-related or sensitive information. We also encountered common risks of LLM-based AI tools, such as hallucinations and lack of transparency in how answers relate to source documents. Finally, we observed a tension between transparency—essential for verifying answers—and confidentiality when project plans contain sensitive data. These lessons are shaping the next steps and will be shared in detail during the presentation, offering practical takeaways for others exploring similar digital solutions for governance and integrated care. Future work will focus on expanding datasets, refining functionality, and evaluating how these tools can support decision-making and healthcare transitions.

Understanding quality of life through residents' eyes: satisfaction and relative importance in Flemish nursing homes (ID 191)

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Context: The rapidly ageing global population increases the demand for long-term care, with residents entering nursing homes (NHs) later in life and presenting greater dependency and multimorbidity. Simultaneously, expectations have increased and shifted toward person-centred, relationship-oriented care, emphasising autonomy and involvement in daily decisions. Traditional quality indicators often fail to reflect how residents themselves experience daily life. Consequently, there's a growing emphasis on resident-reported quality-of-life (QoL) measures offering a holistic evidence-based perspective on care quality. This study examines how Flemish (Belgium) NH residents rate and prioritise multiple QoL domains.

Methodology: This cross-sectional study, part of a larger project by the Flemish Institute for Quality of Care, collected data in 377 Flemish NH across two waves (Feb-Aug 2024; Dec 2024-Apr 2025). Six hundred trained, independent volunteers interviewed 8,100 residents using the validated InterRAI Self-Reported Quality of Life for Long-Term Care Facilities survey. The instrument includes 50 items across 10 QoL domains (Privacy, Meals, Safety, Comfort, Daily Decisions, Respect by Staff, Staff Responsiveness, Staff-Resident Bonding, Activities, Personal Relationships). Each item is scored on a 5-point Likert scale (from "never" to "always") and is supplemented with an importance rating ("not important" vs. "important").

Residents were eligible if they: (1) had resided in the NH for at least two months; (2) understood Dutch; (3) were cognitively able to reflect on the questions; and (4) could communicate responses verbally, non-verbally, or with assistive methods. We used descriptive statistics, Pearson correlations, and multiple linear regression analyses to examine QoL satisfaction, the relative importance, their association, and the influence of resident characteristics (age, gender, education, and length of stay).

Results: Residents were predominantly female (71%) and older than 85 years (66.2%). Most had elementary (43.6%) or middle-school education (39.4%) and had lived in the nursing home for over one year (71.7%). Residents reported high satisfaction with basic QoL domains: 'Privacy' (95.1% "Usually/Always"), 'Safety' (94.7%), and 'Comfort' (90.7%). Social domains scored lower: 'Staff-Resident Bonding' (26.5%), 'Activities' (33.3%), and 'Personal Relationships' (21.6%). Most domains (e.g. 'Privacy', 'Food and Meals', 'Safety', 'Comfort', 'Daily Decisions', 'Respect by Staff', 'Staff Responsiveness') were rated as important (>90%) while social domains were valued less important, with 'Personal Relationships' ranked lowest (49%). Correlations between satisfaction and importance were strongest for socially-oriented domains (e.g. 'Personal Relationships' $r = .615$) and weakest for basic care aspects (e.g., 'Safety' $r = .042$). Regression models indicated 'relative importance' as the most powerful predictor of all QoL domain ratings ($\beta = 0.28–1.74$).

Discussion: This study investigates how NH residents evaluate and prioritise different QoL domains within the constraints of institutional care. High satisfaction with 'Privacy', 'Safety', and 'Comfort' suggests that structural care aspects are largely aligned with residents' expectations, whereas persistent challenges in autonomy and interpersonal domains echo longstanding concerns about routine-driven environments and limited relational continuity. The strong and consistent influence of perceived importance across all domains underscores that residents' priorities fundamentally shape their QoL evaluations. The pronounced gaps between what residents value and what they experience, particularly in 'Staff-Resident Bonding', 'Activities', and 'Personal Relationships', point to areas where targeted improvements could meaningfully enhance daily life. Small but notable sociodemographic patterns reinforce the need for nuanced, individualised approaches rather than broad demographic assumptions. Overall, this study emphasises the complexity and context-dependence of QoL in long-term care.

Virtual mentorship for leadership development in rural family medicine: experience from Armenia (ID 192)

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Context: Family medicine doctors working in rural and remote communities in Armenia are increasingly expected to take on leadership roles in quality improvement, community health initiatives, and local system coordination. However, structured opportunities to develop non-clinical leadership skills are limited, particularly for practicing clinicians outside urban centres. Geographic isolation and limited access to professional development further constrain leadership growth. While virtual communication has become common in healthcare, it is rarely used deliberately to support ongoing, practice-embedded leadership development within primary care. As a result, many rural physicians remain underprepared for leadership responsibilities that extend beyond clinical care.

Methods: This initiative pilots a virtual, one-to-one mentorship model linking a capital-based mentor with family medicine doctors working in remote villages across Armenia. Mentorship sessions are conducted bi-weekly via videoconferencing and are intentionally focused on non-clinical leadership development rather than clinical supervision. Core areas include time and stress management, resilience, initiative-taking, quality improvement thinking, digital skills for everyday practice, and the design of small-scale community health or service improvement projects. The model connects central-level expertise with rural practitioners, addressing geographic disparities in access to leadership development. Mentorship sessions combine reflective discussion and action planning, supporting participants to translate leadership concepts into practical actions within their local context. The approach is designed to be practice-embedded, low-cost, and compatible with ongoing service delivery. A mixed-methods evaluation framework is being developed to capture engagement, self-reported leadership confidence, and emerging leadership activities over time.

Results: As the programme is in its early implementation phase, final outcome data are not yet available. Initial observations indicate strong engagement and high perceived relevance among participating physicians. Early discussions suggest that participants value the explicit focus on leadership identity, prioritisation, and initiative-taking, particularly in rural settings where formal leadership training opportunities have been limited. Participants report greater clarity in navigating professional challenges, increased confidence in initiating local improvements, and reduced feelings of professional isolation. Early mentorship sessions have also highlighted how non-clinical skills can be applied pragmatically to improve team functioning, service organisation, and community-oriented activities in resource-constrained rural contexts.

Discussion: This initiative illustrates how leadership development can be integrated into primary care workforce management through a structured, practice-based mentorship model. The novelty of the approach lies not in the use of digital tools, but in reframing leadership development as an ongoing function of routine primary care practice rather than a separate training activity. While implemented within the Armenian primary care context, the model addresses challenges common to many health systems, including rural isolation and limited access to leadership development. The approach may be relevant to health managers and policymakers seeking scalable ways to strengthen leadership capacity within the primary care workforce while maintaining continuity of care. Ongoing evaluation will further clarify its contribution to workforce development and service improvement.

Putting technology to work: strengthening healthcare management in delivering digital transformation (ID 195)

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Digitally enabled healthcare is a key priority for systems across Europe. The European Union sees eHealth as vital for improving healthcare efficiency, quality and access, while the United Kingdom's government sees the 'analogue to digital shift' as essential to the long-term sustainability of the NHS.

Despite this policy focus, adoption and spread of technology in healthcare is often variable, which might undermine the high-level goals. Given their position and role within healthcare organisations, managers should be well-placed to support adoption of digital technologies. There is, however, a significant knowledge gap in understanding how this happens in practice and how to strengthen management capacity in this area. The healthcare digital transformation research to date focuses on the predicted impact of big digital disruptors (such as Artificial Intelligence and Big Data) on frontline health services, while the digital leadership and management evidence base comprises high-level overviews of concepts, such as dynamic management capabilities (defined as a combination human, social and cognitive capital). As a result, we know very little about how the digital teams come together to manage transformation efforts, what works well and how to best support them.

Without a more thorough understanding of the role of management in healthcare digital transformation, it is difficult to know what action to take to support the adoption of digital healthcare. This research, conducted jointly by the Health Foundation and the University of York fills the gap by exploring the approaches to digital transformation among NHS providers in England. It aims to develop an understanding of how management affects the success of digital transformation projects and how to strengthen it.

This presentation will synthesise findings from over 20, in-depth interviews performed across three, acute, non-specialist hospital trusts in England between June 2025 and February 2026. The respondents include clinical and non-clinical managers ranging in seniority from mid- to executive level, all of whom hold a stake in the organisation's digital transformation efforts.

A preliminary review of our data reveals several key points:

- majority of digital transformation work is conceived from top-down priorities of the healthcare organisation
- hospitals tend to operate centralised digital services teams, whose managers review incoming projects and manage capacity, compatibility with existing infrastructure and access for technology vendors

Business skills and change management resources are crucial for successful project delivery and usually appreciated in high-performing organisations.

Digital transformation is facilitated by investment in staff training, engagement, development of core infrastructure, but also consistent strategic direction of the organisation and supportive central policy

In our presentation we will develop these observations further and use them to suggest policy actions to strengthen management in delivering digital transformation, which would be of interest to healthcare systems pursuing a digital-first future.

Same data, different futures? Evaluation of a serious policy game using expert focus groups in health workforce scenario planning (ID 196)

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Context: Shortages in health workforces (HWF) challenge healthcare systems across Europe, highlighting the need for effective workforce planning. Scenario generation is a key element of HWF planning but requires quantifying future developments and their impact on workforce supply and demand. Despite the frequent use of expert focus groups to develop scenarios, little is known about how sensitive these groups are to differences in trend identification and quantification. This study therefore investigates *how expert focus groups, in the context of a serious policy game, differ in identifying and quantifying trends for health workforce planning scenarios.*

Methods: This study describes and evaluates a serious policy game conducted during a joint meeting of the Joint Action HEROES consortium in 2025. The game involved 40 participants acting as stakeholders in a fictitious country, *'Heropia'.* Heropia's health workforce context was based on aggregated European data for both the population and workforce, assuming a hybrid healthcare system and addressing future challenges such as ageing, increasing workload, shortages, and financial pressures. Participants were assigned predefined stakeholder roles and first worked in stakeholder-homogeneous groups to identify relevant trends and develop a shared strategy. They were then reorganised into six-mixed expert focus groups with other stakeholders, where the trends were discussed and their impact on the required number of physicians in Heropia over ten years was assessed through structured discussions and collaborative decision-making. All focus groups were moderated by the designers of the policy game, who are task leaders within the HEROES Joint Action

Results: Given the same case study information and assignments provided, the six groups identified largely similar types of trends that are relevant to estimate the demand for physicians in Heropia. Most mentioned were changes in the work–life balance of new physician generations, the influence of technology, and the impact of task-shifting between physicians and physician assistants. For most of these trends, the different groups agreed that his will further increase the demand for physicians in Heropia. However, clear differences emerged in the estimated impact of these trends. For instance, a group estimated that technological developments would increase the demand for physicians by approximately 2%, whereas another expert group estimated an decrease of the required capacity of 10%. These variations resulted in divergent projections of the balance between demand and supply, ranging from an oversupply of 3% to a shortage of 125% of physicians in Heropia in the next ten years.

Discussion: This study demonstrates that expert focus groups, instructed and moderated in a similar serious policy game setting, tend to identify similar trends affecting the future demand for a health workforce in the same fictitious country. However, large differences arose in the estimated impact of these trends- for instance, the extent to which new technologies would increase or decrease physician demand. Such variations in impact estimations lead to substantial differences in projected workforce demand, highlighting the sensitivity of scenario-based HWF planning. A limitation of the serious policy game is that participants may not have enacted their stakeholder roles consistently, despite uniform instructions, as roles were allocated randomly. For example, policymakers were asked to represent physicians' perspectives, which may have introduced bias and reduced realism. Our findings emphasise the importance of structured preparation, transparent assumptions and the engagement of diverse stakeholders when using serious policy games for expert elicitation in HWF planning.

Which administrative mental health indicators are associated with psychological distress and quality of life of adults? Comparison of registry and survey data in Finland (ID 198)

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Context: Assessing people's subjective well-being is important for effective policymaking and for evaluating the effects of different policies. Administrative indicators give us indirect information about the well-being of people, whereas subjective measures are widely used to monitor population psychological distress and quality of life. We explored how registry-based service use and mental illness indicators correlate with psychological distress and quality of life measures based on population representative survey data of adults in a regional study setting.

Methods: We analysed data from eight cross-sectional health and well-being surveys (ATH and FinSote) conducted in Finland from 2012-2020. Participants' psychological distress and quality of life were assessed with The Mental Health Inventory -5 (MHI-5) and an 8-item version of the World Health Organisation Quality of Life scale (WHOQOL-8). Data on the administrative indicators of municipalities were derived from Finnish Sotkanet database (sotkanet.fi). Multilevel regression with post-stratification (MRP) was used to obtain estimates for psychological distress and quality of life for municipalities from the individual-level data. The statistical analyses were conducted at the level of municipalities. Spatial autoregressive error model was used to consider spatial autocorrelation across neighboring municipalities. All associations were first examined separately, adjusting for log-transformed population size and square root of population density of the municipality. Then we fitted regression models with backward elimination and the least absolute shrinkage and selection operator (LASSO) method.

Results: The results suggest that a higher rate of rehabilitative psychotherapy and lower rates of disability pensions due to mental health or behavioral disorders were most strongly associated with higher psychological distress at the population level. In addition, lower rates of disability pensions due to mental health or behavioral disorders, lower rates of antidepressant medication use, and lower rates of psychiatric inpatient care patients were most strongly associated with better quality of life at the population level.

Discussion: In this study some of the regional administrative indicators (e. g. rehabilitative psychotherapy and disability pensions) were more likely associated with subjective population-level psychological distress and quality of life. With some indicators there were no considerable correlations (e. g. sales of alcohol and drug crimes). Measuring regional mental health and well-being presents a challenge. For example, treatment indicators can indicate both underlying disease burden and good health care. More research is needed to find the best measures in evaluating the mental health and well-being across municipalities. This is relevant to inform policymaking about the need for services in different regions. Understanding how regional administrative indicators are associated with subjective mental health and quality of life is necessary for using these measures in policymaking. In the future research it would be important to examine more about the possible causality of the administrative and subjective indicators.

Governing trustworthy LLMs for cancer literacy in rural settings: the Lerești Living Lab as a community-based multi-project integration and citizen jury oversight model (ID 200)

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Context: Large language models (LLMs) are rapidly entering the digital health ecosystem, reshaping how citizens access, interpret and act upon cancer-related information. While LLMs offer the potential to improve cancer literacy through personalised, multilingual and accessible communication, their use raises governance challenges related to trust, accountability, and data protection, particularly in rural communities where health and digital inequalities are pronounced. Lerești Living Lab (LLL), Romania, is a rural, place-based innovation and implementation infrastructure established in September 2023 in a setting characterised by reduced access to healthcare services, limited specialist availability, and generally lower levels of health literacy and digital health literacy.

Governance approach and methods: Accredited by ENoLL in 2025, LLL functions as a long-term governance platform for prevention and literacy integrating multiple EU-funded initiatives (4P-CAN, CURTAIN, Careway, MAYA) around an existing local social fabric. Its core governance mechanism is an institutionalised Citizen Jury, consulted on a continuous basis which provides deliberative legitimacy, oversight and adaptive decision-making for prevention and digital innovation. Rather than a one-off co-creation event, a 2-hour offline, formal, deliberative meeting of the Citizen Jury, was organised to assess trust and governance requirements for the real-life use of AI-powered tools within cancer literacy and prevention. Nine jury members participated (55.6% women), aged 40-76 years, income levels 500-1800 EUR/month and diverse education backgrounds. The deliberation followed a structured governance lens across domains relevant to trustworthy LLM deployment: transparency, informed consent, reliability, fairness, explainability, trustworthiness, privacy & data protection, usability, robustness. Outputs were captured as governance signals and integrated into LLL's continuous consultation loop.

Results: Jury members were broadly aware of digital health solutions, but trust in AI/LLM-enabled tools was heterogeneous and governance-dependent. Importantly, concerns were not limited to technical accuracy but focused on institutional and regulatory safeguards. Participants expressed risks such as perceived bodily or psychosocial disruption ("internal energy"), fear of dehumanisation ("robotisation"), and, most prominently, the view that the main risk is insufficient regulation and weak oversight, rather than the technology itself. A strong governance message emerged around the role of healthcare professionals as accountability anchors: trust would increase if LLM-based recommendations were mediated by trained professionals with combined medical and digital competencies, and if tools were deployed within supervised pathways rather than as unsupported home-use devices. Notably, jury members did not perceive sharing personal information with an LLM as inherently high-risk but expressed concerns about digital monitoring and surveillance-like practices, reinforcing that trust is shaped by governance arrangements and privacy statements.

Discussion: This deliberative jury meeting illustrates how LLM governance for cancer literacy can be operationalised in a rural, low-access context through a living lab governance architecture. Lerești Living Lab demonstrates that trustworthiness is not produced solely by better model performance, but by community-legitimised decision-making, clearly defined responsible-use pathways, and continuous feedback loops anchored in local realities. By integrating multiple European projects within a single place-based governance infrastructure, LLL acts as an implementation integrator and provides a replicable model for aligning LLM-enabled cancer literacy with community trust, professional accountability and emerging regulatory expectations, transforming LLM adoption from a purely technological challenge into a governance and implementation challenge.

A scoping review on interventions to improve environmental sustainability of healthcare institutions and the use of environmental indicators to evaluate their effectiveness: the AmbiSaúde project (ID 201)

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Context: Climate change represents one of the most pressing global challenges of the 21st century. The healthcare sector contributes significantly to this issue, with 4.4-4.6% of global greenhouse gas emissions. Despite international, regional and national policy advances, there is a lack of consolidated evidence regarding the measures being taken, which indicators are used to assess them, and their overall effectiveness. This scoping review aimed at 1) describing implemented interventions for sustainable healthcare; 2) which environmental indicators have been used to track their effectiveness; and 3) explore the impact of those interventions.

Methods: PubMed, Scopus, and Web of Science were searched on July 9th, 2025, using the terms "health care system", "health system", "health care", "healthcare", "health sector", "environmental footprint", "environmental sustainability", "environmental impact", "climate change", "carbon footprint", "carbon emission", "greenhouse gas", and "energy use". Articles were limited to those published from January 2010 onwards, and with no language restrictions. We retrieved studies that 1) describe interventions implemented to improve environmental sustainability of healthcare institutions and 2) have used environmental performance indicators to assess their impact. We excluded conference abstracts, opinion papers, reviews, or qualitative studies. Screening was conducted independently by three reviewers using Covidence, while data was extracted using Microsoft Excel. Quality assessment was performed independently using the MMAT tool.

Results: From the 15,833 records retrieved, 8,659 were screened for title/abstract after removing duplicates. From these, 349 were eligible for full-text screening. We included 130 studies, mainly carried out in the United States (n=34, 26%), United Kingdom (n=19, 15%), and Canada (n=12, 9%). Initiatives were carried out hospital-wide (n=29, 22%) or department-level [mainly in surgery (n=21, 16%), urology and anaesthesia (each n=10, 8%)]. The main implemented interventions were telemedicine (n=39, 30%), improving waste management (n=19, 15%), and environmentally sustainable clinical practices (n=18, 14%). The main indicators used were CO2 or GHG emissions quantification (n=124, 95%), waste quantification (n=32, 25%) and cost assessment (n=46, 35%). The majority of studies (97%) reported reductions in emissions, consumption or costs, whereas a few reported no effect (n=1, behavioural intervention) or increase in costs (n=2, eco-certification).

Discussion: Most of the retrieved studies report on interventions implemented in high-income countries, and across a range of contexts, showing a decrease in environmental and economic impact of healthcare activities. International guidelines focus on providing evidence-based guidelines, however the (cost-)effectiveness of hospital-based interventions on sustainable healthcare is still under-researched and under-reported, especially in low-income settings. This review provides a comprehensive overview of the environmental performance indicators being used across healthcare institutions while highlighting the knowledge and implementation gaps, contributing with real-world insights to support evidence-based strategies aligned with national and international sustainability goals and frameworks. While these recommendations are important to guide hospital management, interventions must be tailored to local contexts and existing resources.

Beating cancer inequalities through literacy in Europe: the CURTAIN project (ID 202)

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Cancer is a major public health concern in Europe, with an estimated 2.78 million new cases in 2022 across the EU27 countries plus Iceland and Norway (EU+2), equivalent to about five new diagnoses every minute. Inequalities in cancer prevention, diagnosis, and treatment are significant and require targeted approaches within health initiatives. Socio-economic disparities, education level, and gender are just some of the factors that exacerbate cancer-related inequalities.

Traditionally, health literacy efforts have focused on individuals' ability to find, understand, and use health information for decision-making. However, it is increasingly recognised as an interaction between individuals and their environment and is context specific. To effectively improve health literacy, interventions must be multifaceted and tailored to the specific needs of the population.

CURTAIN (Beating Cancer ineqUalities thRough liTerAcy IN Europe) is a 3-year EU4Health funded project (2025-2028) that aims to improve cancer literacy as a key element in reducing cancer-related inequalities and enhancing access to quality cancer prevention and care. Recognising the disparities in access to cancer prevention, diagnosis, and care between different regions, particularly between Eastern and Southern/Western Europe, as well as urban and rural areas, CURTAIN aims to equip individuals and healthcare systems with the knowledge and tools needed to close these gaps. The project focuses on five pillars: cancer literacy among citizens, patients, healthcare professionals, organisational health literacy, and addressing knowledge gaps through digital tools.

The project is based on translational research and it follows a multi-stage model: identifying the state-of-the-art related to cancer literacy, stakeholder engagement for needs assessment and discussion of practical activities, testing the interventions in controlled settings, and ensuring the integration of successful interventions into society, including public health systems and clinical practice.

CURTAIN will develop the first cancer-specific literacy tool, the Cancer Literacy Score (CLS) to measure and improve cancer literacy levels and to guide literacy campaigns. It will also build the capacity of patients to navigate cancer care systems and technologies, focusing on vulnerable groups. It will develop training programs for healthcare professionals and will identify Cancer Literacy Ambassadors to enhance communication between providers and patients. Organisational cancer literacy will be promoted by mapping stakeholders, creating cancer-literate environments, and sharing best practices through a Virtual Cancer Literacy Library.

By harnessing the advantages of digital tools, such as large language models (LLMs), CURTAIN will develop guides and frameworks as well as host co-creation activities involving citizens and vulnerable groups to ensure a safe and effective use of technology. The project's holistic approach, combining personalised tools, stakeholder involvement, and cutting-edge technology, will ultimately drive better cancer control outcomes and promote equality in cancer care across Europe.

Building resilient health and social care systems: insights from a theory-informed multi-case study of floods in Italy (ID 203)

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Floods increasingly strain European health and social care systems, yet operational evidence on how these systems function under severe and recurrent disruption remains limited. This doctoral research synthesises findings from three qualitative studies–Romagna 2023 and 2024 (four floods in 18 months) and Cogne 2024–and a systematic scoping review on vulnerability and evacuation management. The first Romagna study revealed critical gaps in how vulnerability was defined and operationalised during response, prompting the review and subsequent empirical analyses. Collectively, this multi-event evidence base offers a theory-to-practice contribution, generating actionable lessons to strengthen disaster management and resilience in hazard-prone health systems. This research used a multi-method design combining a systematic scoping review with three qualitative case studies. The review (Web of Science, PubMed, Scopus; March 2025), conducted in accordance with PRISMA-ScR and JBI guidance, examined how vulnerability is defined and managed during flood evacuations in high-income countries. Eligible studies (2014–2025) were screened, charted deductively, and synthesised thematically, generating a framework for vulnerability-informed evacuation. Empirical data were collected through semi-structured interviews with responders across health services, social care, civil protection, municipal authorities, and the third sector. Interview guides were informed by established frameworks on health disaster management and After Action Reviews (Romagna 2023), by evidence on extreme-weather impacts on health systems and organisational-learning frameworks (Romagna 2024), and by the scoping review framework on vulnerability-informed evacuation (Cogne 2024). The Romagna 2024 study also incorporated document analysis. All studies received ethical approval and participant consent. Data were analysed through hybrid deductive–inductive thematic analysis. Across the four components of this research, convergent findings show how floods systematically disrupt health and social care systems. The Romagna 2023 study documented extensive impacts on infrastructure, human resources, logistics, and continuity of care, with evacuation and vulnerability management dependent on improvised, unstructured coordination–prompting the subsequent scoping review. The review (98 studies) identified inconsistent vulnerability definitions, fragmented evacuation practices, and scarce operational guidance and generated a new framework for vulnerability-informed evacuation. The Romagna 2024 study, after two additional floods, revealed that organisational learning remained largely experiential: improvements stemmed from familiarity and informal networks rather than institutionalised preparedness. Persistent gaps included the absence of interoperable vulnerability mapping, limited data sharing, and structural exposure of critical facilities. The Cogne 2024 case, involving nearly one month of isolation, demonstrated how logistical constraints rapidly produced new and intersecting vulnerabilities, requiring decentralised decision-making, hybrid logistics, and highly adaptive continuity-of-care models. Across five floods in two Italian regions, findings converge on three system-level insights. First, vulnerability is dynamic and operational, emerging from interacting clinical, social, infrastructural, and geographic factors. Across all cases, the absence of interoperable systems to identify at-risk individuals hindered anticipatory action and continuity of care. Second, repeated floods strengthened coordination through experiential learning, yet this remained informal, person-dependent, and insufficient to produce institutionalised preparedness. Persistent gaps–fragmented information systems, limited logistics and infrastructure redundancy, and uneven integration across health, social care, and civil protection–highlight the need for systematic disaster management and structured organisational learning rather than reliance on accumulated experience. Third, maintaining continuity of care under disruption required flexible, multi-level reconfiguration, including task-shifting, community-based mechanisms, and hybrid logistics, particularly under prolonged isolation. Collectively, findings show that future-proofing health systems requires shifting from reactive response to vulnerability-informed, cross-sector, anticipatory organisational learning, embedding disaster management in routine governance, planning, and operations.

From adoption to abandonment: de-implementing low-value digital health innovations (ID 204)

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Context: Low-value care (LVC), defined as interventions with limited patient benefit due to harms, costs, or available alternatives, remains a critical challenge in healthcare. LVC extends beyond unnecessary procedures to include digital health innovations, such as wearable devices, AI symptom checkers, and remote monitoring tools, which can strain healthcare systems through wasted resources, high costs, operational inefficiencies, and poor patient outcomes. Despite limited evidence of benefit, low-value digital health persists. This study explores de-implementation as a strategic approach for addressing low-value digital health. The main research question is: What are the antecedents, effective strategies, and implications for de-implementing low-value digital health to improve healthcare system sustainability?

Methods: This study employs a mixed-methods design. First, a scoping literature review, guided by the Arksey and O'Malley framework, synthesises existing evidence on de-implementation factors, strategies, and outcomes specific to low-value digital health. Systematic search is conducted in multiple literature databases for studies published on the relevant topic. Eligible articles are retrieved and analysed using thematic analysis. Second, a case study is conducted to investigate de-implementation efforts in healthcare organisations in Europe. Semi-structured interviews with stakeholders (e.g., clinicians, administrators, innovators, policymakers) and document analysis (e.g., policies, reports, guidelines) are used to explore contextual factors for successful de-implementation and lessons for discontinuing low value practices. Third, a questionnaire-based statistical analysis is employed to investigate the de-implementation process and implications inside European health-tech firms.

Results: Findings are expected to suggest that de-implementing low-value digital health is influenced by a dynamic interplay of context-specific barriers (e.g., fragmented governance, stakeholder misalignment, policy agendas, and resistance to change) and enablers (e.g., leadership commitment, aligned incentives, cost-value analysis, and resource reallocation). Effective de-implementation strategies are anticipated to include stakeholder engagement to align priorities and address concerns, transparent communication of evidence on value and cost-effectiveness, audit and feedback mechanisms to monitor usage and outcomes, education and training to build capacity for change, and regulatory mandates to phase out ineffective tools. This will provide practical recommendations for healthcare organisations, guiding efforts to enhance both a sustainable and value-based care delivery.

Discussion: This study bridges theory and practice, providing insights for healthcare managers and policymakers to optimise resource allocation and healthcare system sustainability. It contributes to the growing body of evidence on de-implementing low-value care, with a specific focus on digital health, an area often overlooked. By identifying context-specific factors and strategies, it aims to offer actionable ways to optimise resource allocation and management. Future research should explore the scalability of these strategies across different healthcare settings and assess their long-term impact on patient outcomes and healthcare system cost savings.

Managing the sustainability of innovative health workforce curricula: the TEAMCARE project experience (ID 205)

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Context: There is a new set of skills demanded by the move towards integrated and person-centred care in a number of European health care systems, which current professional education does not fully cover. The project TEAMCARE (www.projectteamcare.eu) fills this gap delivering a European curriculum for "Specialists in Community-Based Interprofessional Teams (CBIT) for person-centred care". This curriculum is inter-professional and modular, based on micro-credentials, and designed to be adaptable to the specific regulations of the different healthcare settings. Four pilot projects are being conducted in Ireland, Italy, Greece, and Poland to test the adaptability of the curriculum.

Methods: In TEAMCARE, a co-creative, multi-step approach was adopted to ensure the training was both relevant and scalable. This was followed by the design of an Integrated Framework of Competences, which formed the basis for designing the content and learning outcomes of the CBIT curriculum. The curriculum has been developed as a series of modules, each of which is linked to specific learning outcomes and certified by micro-credentials. Implementation advice is also provided to enable the curriculum to be easily adapted to the education infrastructure and healthcare sectors of different countries. Pilot courses have been delivered in the four partner countries to evaluate the flexibility of the developing curriculum. Crucially, the Sustainability and Exploitation Plan developed within the project was aligned with the Dynamic Sustainability Framework (DSF, Chambers et al., 2013), considering themes such as continuous learning, adaptability in multifaceted contexts, and sustained improvement.

Results: The four pilot implementations are demonstrating that the modular nature of the curriculum can be successfully adapted for different national contexts, confirming its flexibility in terms of both content and delivery mode. To drive broader adoption, key outputs include a suite of resources to support the EU CBIT curriculum uptake by Health Care Regulators, Professional Associations and VET providers across Europe. These resources comprise country-specific implementation guidelines, an open online platform with e-learning materials, and formal recommendations for integrating the curriculum into health and education systems.

Discussion: In view of this, a strong conceptual and strategic framework ensures that a new, innovative workforce development project like TEAMCARE is fully integrated into the existing system. The Dynamic Sustainability Framework ensures a constantly responsive curriculum through ongoing evaluation and improvements. Equally important are the managerial tools that help fully integrate the curriculum into the system. The use of formal Memoranda of Understanding ensures inter-organisational agreements for curriculum implementation and recognition, as well as a pro-active twinning program that helps connect pilot project organisations with other organisations for adoption away from the pilot project setting. Policy recommendations help decision-makers integrate the new CBIT specialisation into existing health system policies and strategies. A forward-looking roadmap ensures a structured approach for expanding the reach of the new curriculum to other professional groups and geographical locations for sustainability of the new initiative at a European level. The sustainability mechanisms used by TEAMCARE (Memoranda of Understanding, Twinning Partnerships, Policy Recommendations and the Roadmap for Extension) should therefore be interpreted as governance means rather than dissemination tools alone. Their effectiveness will depend on active engagement of stakeholders, political commitment and the ability to continuously renegotiate the curriculum's role within changing health system ecosystems, in line with the DSF's emphasis on sustainability as managed change rather than stability.

Prevention of falls in hospitalised patients through the integration of artificial intelligence systems (PrevFallAI): an implementation study (ID 206)

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Context: Falls are common among older adults and remain the most frequently reported adverse event in hospitals[1,2] despite recent reductions. In Switzerland, the in-hospital fall rate was 4.6% in 2022, rising to 8.2% among at-risk patients[3], with over one-third causing injuries. Falls lead to serious physical, psychological, and economic consequences[1,4–6]. Effective prevention requires individualised, multifactorial approaches[5], increasingly supported by technology[7,8]. However, most existing technologies focus on fall detection rather than prevention. This project evaluates the impact, feasibility, and economic sustainability of integrating an artificial intelligence system into hospital fall prevention protocols.

Methods: This pilot quality improvement study uses a convergent mixed-methods pre–post design[9] and is conducted between October 2025 and March 2026 in an internal medicine ward of a public hospital in Southern Switzerland. Hospitalised patients are not directly involved; routinely collected clinical, quality, and financial data are used. Participants are ward nursing staff. The multicomponent intervention includes installation of a privacy-preserving AI system with real-time alerts, integration into the hospital fall prevention protocol (PrevFallAI), and staff training. Fall rates will be compared before and after implementation, while cost-effectiveness and return on investment will be assessed using hospital databases. Feasibility will be evaluated at multiple time points up to six months using validated questionnaires (ORIC, NoMAD)[10,11], nurse focus groups, and organisational implementation outcomes. Quantitative data will be analysed descriptively, and qualitative data thematically, supporting interpretation of acceptability, usability, and sustainability of the intervention in routine clinical practice.

Results: Between October and November 2025, four falls occurred among 149 at-risk patients (2.0%), compared with nine falls among 177 at-risk patients (3.3%) during the same period in the previous year. Case analysis showed that not all falls were attributable to the system: one resulted from early technical issues, and two occurred in areas not covered by motion detectors. Overall, the findings indicate the intervention's preventive potential and suggest that, when combined with staff adherence to the protocol, the system may offer a highly specific approach with possible long-term fall reduction. Twenty nursing staff members participated in the study and provided qualitative feedback. They reported that the protocol enhances fall prevention by identifying patient movement before high-risk situations, especially during night shifts. The system has been integrated into routine care and is not perceived as an added workload, as its preventive value is clearly recognised by staff.

Discussion: As a pilot study with a limited number of cases, these findings cannot be generalised to the wider population and are applicable primarily to comparable hospital settings. Nevertheless, the study provides valuable and novel knowledge on the feasibility, acceptability, and integration of the PrevFallAI protocol into routine nursing practice. Preliminary results indicate that the AI-supported system has strong potential to detect early patient movements and to contribute to timely, targeted fall prevention interventions. Importantly, the intervention was well accepted by nursing staff and embedded into daily workflows without increasing perceived workload. These encouraging results support the relevance of technology-enabled, protocol-driven approaches to patient safety and suggest that a structured scale-up within the Department of Medicine, including additional internal medicine wards, is both realistic and warranted. Further evaluation on a larger scale could consolidate effectiveness, sustainability, economic impact, and inform broader implementation strategies.

Value co-creation through digital health services: perspectives from chronic patients (ID 207)

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Context: Digital health services (DHS) are creating new possibilities for value co-creation between patients and healthcare professionals (HCPs). Existing work on value-based healthcare (VBHC) has mainly focused on clinical, economic, or organisational outcomes, giving less attention to how patients themselves participate in creating value through their interactions with HCPs. Value co-creation (VCC) extends the logic of VBHC by emphasising how value is jointly created by patients and HCPs. This is particularly salient for chronic patients, who engage frequently with HCPs in interactions which are increasingly mediated by DHS. This study examines how such interactions can co-create – or potentially co-destruct – value.

Methods: Laddering interviews (N=21) were conducted with patients living with at least one chronic condition. To get a representative sample of the Finnish population multiple recruitment channels were used; a chronic patient association (n=7), a health centre (n=6), an elderly care association (n=5) and a convenience sample (n=3). Six initial stimuli were developed: (1) DHS enable continuity of care, (2) DHS provide access to support or solutions for health-related problems, (3) DHS make it easier to reach HCPs, (4) DHS facilitate self-management of health, (5) DHS enhance participation in decision-making concerning one's own care, and (6) an open topic where the interviewee could share any additional thoughts. Interviewees selected two stimuli, which were then explored. Notes from the interviews were transformed into Attribute–Consequence–Value (A–C–V) chains, coded, and subjected to qualitative content analysis to identify recurring attributes of digital care, their perceived consequences, and the underlying patient values.

Results: 382 unique A–C–V chains were generated, with an average of 18 ladders per interviewee. Patients generally perceived DHS as effortless, efficient, and timesaving for both themselves and providers, with prompt responses and asynchronous communication being highly valued and linked to perceived improvements in health. The interviewees also highlighted how DHS increase the patient's role, as patients become key actors in providing the information necessary for professional decision-making. Although DHS were largely viewed positively, it was emphasised that DHS should function as an option and supplement rather than a full substitute for traditional care. Examples of value co-destruction included difficulties in demonstrating pain or mobility limitations, challenges in detecting mental or memory problems, reduced sensory cues for diagnosis, the subjectivity of digital symptom reporting as individuals interpret and evaluate their conditions differently, lack of digital literacy, and unclear digital service pathways.

Discussion: Findings underscore the need to outline when DHS can safely and meaningfully replace in-person encounters and when physical contact remains indispensable. The results indicated that the interviewed patients perceived DHS as having strong potential for VCC, for example, by enabling faster access to care and allowing patients to share relevant information promptly. However, the findings also highlight a tension between experienced value and efficiency gains, as DHS can reallocate tasks and responsibilities to patients, for example when they are required to repeat the same symptoms first to a chatbot and then again to HCPs, rather than automating or eliminating such redundant steps. This underlines the importance of balancing the division of responsibilities between patients and HCPs in the design of DHS to enable VCC.

The role of digitalisation in the success of the Croatian National Lung Cancer Screening Programme (ID 208)

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Context: Lung cancer is the main cause of cancer mortality worldwide, largely because it is often diagnosed late. Low-dose CT (LDCT) lung cancer screening has shown clear benefits for early detection, but introducing such programmes at a national level is complex. Main difficulties include coordination between healthcare institutions, tracking patients, and limited insight into programme performance. In this context, digitalisation is not only a technical solution but also a way to organise and manage complex screening pathways. This abstract presents the Croatian National Lung Cancer Screening Programme (CNLCSP) and how digital infrastructure can facilitate coordination, patient tracking and programme oversight.

Methods: The Croatian National Lung Cancer Screening Programme was launched in October 2020, as the first nationwide lung cancer screening programme in the EU. It is fully integrated into the Croatian Healthcare System. General practitioners are the primary point of contact and manage participant enrolment through a digital platform specifically designed for the CNLCSP, targeting individuals aged 50-75 years with a ≥30 pack/years smoking history. All steps of the screening process are managed digitally, including eligibility assessment, scheduling of LDCT and pulmonology examinations, structured radiology and pulmonology reporting, AI-supported volumetric analysis of lung nodules, image transfer through the Croatian Telemedicine system, and referrals for further diagnostic procedures. A dedicated coordinator module is used to manage participating centres and to ensure that only certified professionals are involved. In addition, a central reporting system collects structured data from all programme stages and makes it available to national coordinators through interactive dashboards.

Results: As of December 2025, more than 54,000 people have been screened, with over 80,000 LDCT examinations performed. Malignant disease was confirmed in 2% of participants, with stage I cases detected 3 times more frequently than without screening. The digital platform enables continuous tracking of each participant from inclusion through follow-up screening, diagnostic workup, and final health outcomes across 2000 general practitioners, 27 radiology centres, and 6 pulmonology centres. Programme coordinators have instant access to both individualised and aggregated information, including cancer characteristics, radiation exposure, demographic data, nodule characteristics, and other relevant findings, such as coronary artery calcification and the presence of emphysema. More than 100 structured parameters are available for extraction, allowing quick answers to management and research questions. Access to all this data is permitted only through a Croatian official digital certificate, which guarantees high security, unique authentication, and the protection of sensitive data stored on the platform.

Discussion: This experience shows that digital integration can greatly improve the organisation and management of a national screening programme. The integrated reporting system enables fast and accurate analysis without manual data input, which further improves coordination, transparency, and programme adaptability. The ability to quickly explore large amounts of structured data supports better oversight, quality control, and allows immediate interventions when outliers are detected. At the same time, the digital structure creates favourable conditions for further research and future development of AI-based tools. Five years after its launch, with over 54,000 participants enrolled and evident stage shift in confirmed lung cancers, the Croatian model demonstrates proven success in digital screening implementation and offers a verified blueprint for countries seeking to initiate, expand or digitalise screening programmes on a national level.

From hospital-centric to home-first: a value-based implementation model for hybrid closed-loop systems in Type 1 Diabetes (ID 209)

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Context: Advanced hybrid closed-loop (HCL) systems improve glycaemic outcomes and quality of life, yet adoption is often constrained by resource-intensive, hospital-centric initiation pathways that are difficult to scale. Health systems require scalable implementation models that prioritise safety, standardise care, enhance patient experience, and optimise specialist capacity. In the Region of Murcia (Spain), we designed a home-first HCL initiation and follow-up pathway supported by structured telemonitoring. The model is embedded in a value-based healthcare (VBHC) evaluation framework integrating clinical outcomes with PROMs, PREMs and health-economic measures to inform sustainable, patient-centred deployment.

Methods: Prospective multicentre observational study across public hospitals within the Servicio Murciano de Salud, Region of Murcia (Spain). The pathway and evaluation framework are finalised; ethics approval is pending. Consecutive adults (≥18 years) with type 1 diabetes eligible for HCL therapy (Tandem Control-IQ) will undergo home-first initiation via remote technical training delivered by specialised nursing, while clinical responsibility remains within hospital endocrinology/diabetes-nursing teams. The pathway is standardised and includes biweekly telemonitoring with predefined CGM-based alert thresholds triggering protocolised interventions, escalation, or urgent assessment when required. Assessments at baseline and 1, 3, 6 and 12 months capture clinical outcomes, technology use, PROMs (ViDa1: T1D-specific QoL; PAID-20: diabetes distress; EQ-5D-5L: utilities/QALYs) and PREMs (howRwe: patient experience), plus healthcare resource use and direct costs. Cost-effectiveness/cost-utility analyses and a qualitative evaluation of professionals' workload and acceptance are integrated to estimate value. Target sample: n=80.

Results: As a work-in-progress Scientific Dialogue, results will be reported as they become available. The primary endpoint is safety (percentage of time <54 mg/dL). Secondary endpoints include time in range 70–180 mg/dL, time above range, mean glucose/GMI, glucose variability and HbA1c; acute events (severe hypoglycaemia, diabetic ketoacidosis and diabetes-related admissions); and technology use/persistence. Patient-centred outcomes include ViDa1, PAID-20, EQ-5D-5L utilities and derived QALYs, plus howRwe scores. Economic outputs will summarise resource utilisation, direct costs, cost per percentage-point time-in-range gained and cost per QALY at 12 months. Qualitative outputs will describe workload, acceptability and perceived capacity release. We aim to present baseline characteristics and implementation metrics (training completion, telemonitoring engagement, alert frequency and escalation actions), as well as earliest follow-up outcomes (1–3 months) for the initial cohort, subject to approvals and recruitment pace.

Discussion: This study addresses the implementation gap in translating HCL therapy into scalable, sustainable routine care. The study introduces a novel, region-wide, standardised home-first pathway that combines structured telemonitoring and predefined escalation rules with VBHC evaluation of clinical, experiential and economic outcomes. If feasible and safe, the model may reduce unwarranted variation, improve patient experience and support equitable access while releasing specialist capacity. The mixed-methods design will provide actionable evidence for managers and payers on operational impact and cost-utility. Limitations include the observational design, potential selection bias and regional context; subgroup and sensitivity analyses will explore heterogeneity and uncertainty. Findings will inform scale-up within the Servicio Murciano de Salud and may be transferable to other publicly funded systems deploying diabetes technologies.

Mapping health workforce planning capacity in Europe: results from the first regional survey of HRH units and planning systems (ID 210)

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Context: The WHO Health and Care Workforce Framework for Action emphasises the centrality of policy actions to ensure health worker availability, while also ensuring effective health workforce planning. Effective health workforce planning relies not only on data and analytical tools, but also on the institutional capacity of the systems that use them. Despite this, there is limited empirical evidence on how health workforce planning functions are organised, governed, and resourced across Europe. In response, the WHO Regional Office for Europe conducted a comprehensive regional survey of Human Resources for Health (HRH) units and planning systems.

Methods: The survey was developed to collect structured data on organisational location, functions, size, composition of HRH data collection, planning and workforce planning units (if these existed), and on the HRH planning governance characteristics, which are rarely captured. A six-section instrument comprising closed questions (yes/no, multiple choice, numerical) and open fields for explanation and elaboration was developed, with an instruction sheet to aid survey engagement. The survey was tested in late 2023 with an 18-country subset of the 53 possible respondents, with feedback resulting in minor presentation rather than data changes. The instrument was distributed to the remaining WHO region countries in June 2024, with six weeks for completion. Data analysis was conducted using Excel software, with the open-ended question data compiled into a separate narrative tab that summarised responses across eight categories, which were then given to respondents for validation.

Results: The survey had an 83% response rate. How workforce planning systems are designed and operated exhibits substantial heterogeneity, with 33 countries having a Ministry of Health-based unit, seven with units in different Ministries/departments overseeing HRH functions, and five with no unit at all. There is also considerable variation in HRH organisation: size, age, governance, and HRH unit functions. Only 16 countries have centralised governance and control. Countries vary widely in the scope of functions performed by their HRH units, ranging from narrow data stewardship roles to broader responsibilities spanning policy advice, forecasting, and coordination with education and labour market institutions. Unit size and skill mix also differ markedly, with some systems relying on small teams with limited analytical capacity, while others are supported by multidisciplinary units with embedded expertise. High levels of political oversight and frequent turnover of senior staff were identified in several contexts.

Discussion: This survey represents an important step towards advancing evidence-based policy capacity-building approaches. It demonstrates that health workforce planning capacity and structures cannot be assumed to be uniform across countries, and that "one-size-fits-all" solutions are unlikely to be effective. Understanding this institutional diversity is critical for designing realistic capacity-building approaches and for interpreting differences in workforce planning performance across settings. The survey's findings were foundational in shaping the Framework for Sustainable Health Workforce Intelligence Systems developed by the World Health Organisation, as part of their collaborating role within the HEROES Joint Action. Equally important is that, while the existence of HRH units is a positive step, the variation in how HRH is governed is considerable. This suggests that HRH governance is just as significant as high-quality data and technical tools to support a sustainable, long-term approach to health workforce planning.

Defining access conditions under the European Health Data Space regulation (ID 211)

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Introduction: Due to the introduction of the European Health Data Space (EHDS), every member state within the EU is now committed to give citizens access to, and control over, their health data while also enabling reuse of that data for research, innovation, policy-making, and regulatory activities. This has let to the adoption of many standards to be able to find and reuse health and make it interoperable with other types of data. In this paper, we adopt Open Digital Rights Language (ODRL) to standardise EHDS access policies, and define a process for creating these access policies.

Method: We used a PaLaDIn Project[1] use case enabling demographics studies over a patient-supplied health data registry[2] to develop both a process for creating access policies in ODRL and the underlying technical infrastructure to execute these policies. Executing this iterative methodology provided practical experience in allowing non-experts to express policies as ODRL in realistic policy scenarios such as secondary use of health data for research. The iterative nature of developing an ODRL policy allowed us to collect feedback and make iterative improvements to our methodology. The policy was implemented in a FAIR Data Point[3], which facilitates reusability of data according to the FAIR principles[4].

Results: Figure 1 lists the technical steps in a rough overview of the process.

In step 1 the use case description is used to define the various interactions that take place. In many scenarios, including this use-case, ethical approval is required which is a human interaction during the process.

In step 2 a graphical representation is made of the interactions, to facilitate feedback from different expertise; see the example in Figure 2.

Step 3 entails the collection of feedback from the different expertise that are needed to define the access policy.

In step 4, after feedback is collected and experts agree on final graphical representation, an ODRL file is made to translate it towards a machine-actionable statements.

In step 5 the technology that can check constraints in the ODRL file is implemented.

The final step, step 6, links the ODRL policy file towards the metadata description of a dataset.

Discussion: The work described shows how it is possible to implement machine-actionable data access policies for EHDS compliancy for a specific use-case. Using a graphic representation to gather feedback at an early stage was a novel concept and showed promise by being able to convey difficult concepts to stakeholders with no ODRL expertise. The ability to show what the outcome of consent means for each stakeholder can be valuable for the link between ethics and technology and, with this, strengthen the rights of the citizen. While the process defined works, it needs to be validated against multiple use-cases. The use-case that was chosen has a lower amount of constraints in its policy, which helped in the creation of a first version. Further validation of this methodology should model more complex use cases with larger numbers of constraints.

[1] https://www.project-paladin.eu/
[2] https://codeberg.org/4MedBox/ODRL_in_Practice/src/branch/main/Use_Case/Elena%20use%20case.pdf
[3] https://doi.org/10.1162/dint_a_00160
[4] https://doi.org/10.1038/sdata.2016.18 Attachments Download file

Towards achieving sustainable health workforce planning and policy: a framework for action planning (ID 212)

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The World Health Organisation (WHO) has declared "there can be no health without a workforce" [i]. Nevertheless, Covid-19 pandemic revealed that Europe faced persistent health workforce issues in terms health worker migration [ii], maldistributions of personnel and skills [iii], and increasing workforce stressors [iv], contributing to an intensifying health workforce crisis [v]. So, while health workforce planning sustainability is important, it has been found to be a difficult outcome to achieve [vi].

The requirements for health workforce planning and policy making are well known [vii] and a number of Health Workforce Planning and Forecasting (HWP&F) capacity building projects have been deployed by the European Commission in recent years to improve member country capacity [viii]. Despite these efforts, the sustainability of HWP&F appears to have stalled, indicating that there is more to a HW planning system's sustainability than simply improving its technical aspects [vi]. In response, authors [ix],[x],[xi] have begun commenting on how HWP&F's systemic complexity, wickedness and long-term nature that make it resistant to traditional planning and public policy solutions and actions.

We submit that to address HWP&F sustainability three actions need to occur. The first is defining the problem fittingly and begin to applying the "right" solution sets [xii]. This means moving away from the supply deficiency mindset and to reframe the problem more candidly to apply more appropriate planning techniques [ix].

Second, is to appreciate the socio technical [xiii] nature of HWP&F. Technical skills, tools and data are necessary inputs, but their development will only take HWP&F so far. To create a sustainable HWP&F system, attention to its social aspects such as governance, stakeholder relationships and institutionalising policies is also required [vi]. We action this socio-technical perspective in our sustainable HWP&F framework. This was developed from a thematic analysis of good practices for sustainable policy projects and HWP&F expert focus group responses to define sustainable HWP&F system factors. We then grouped these factors into 4 inter-connected domains using Potter and Brough's capacity development pyramid [xiv] and validated it using Multi Criteria Decision Analysis (MCDA) software [xv].

Lastly, is to understand how the framework's domains can be applied to develop more potentially sustainable HWP&F planning system. Through a prioritising exercise of the framework domain factors using the MCDA tool 1000Minds [xvi], the 3rd EU JA on HWP&F (HEROES) participating countries have developed their contextually appropriate HWP&F sustainability plans. Evidence of the efficacy of this approach to promote sustainability is evident in these action plans. These plans reveal the strengthening of technical domains, as well as increasing moves to address HW governance, its institutionalisation and strengthening of stakeholder engagement; factors that were not particularly common before in HW systems forward planning.

Psychometric evaluation of the Arabic version of the Swedish national diabetes registers instrument for patient-reported experience and outcome measures (ID 213)

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Background: Healthcare quality is increasingly dependent on the patients' perspective to ensure care aligns with patients' needs and experiences, especially for those living with chronic conditions such as diabetes. The Swedish National Diabetes Register instrument (NDR) combines patient-reported experiences and outcomes to evaluate patient-centred diabetes care, but it has not yet been accessible in Arabic. This study aimed to assess the validity and reliability of the Arabic version of the Swedish National Diabetes Register questionnaire among patients with diabetes.

Methods: A cross-sectional study was carried out from July to August 2023 at 47 primary healthcare centres in Saudi Arabia, involving 594 adult patients with diabetes. Reliability was measured with Cronbach's alpha and composite reliability. Construct validity was tested using confirmatory factor analysis, and discriminant validity was assessed through the Heterotrait–Monotrait Ratio. Data analysis was performed using SPSS (version 28) and the lavaan package in R (version 4.3.2).

Results: The Arabic version showed high internal consistency, with Cronbach's α ranging from 0.716 to 0.886 and CR between 0.663 and 0.855. It also exhibited good model fit indices, including $\chi 2/df$ of 2.72, RMSEA of 0.054, SRMR of 0.073, and a CFI above 0.90. All item loadings were statistically significant ($p < 0.01$). The HTMT values were below 0.85, confirming adequate discriminant validity.

Conclusions: The Arabic version of the NDR instrument is a valid and reliable tool for measuring patient-reported experiences and outcomes among Arabic-speaking patients with diabetes, which supports its application in diabetic care across the Arab region. Health policymakers in the region are recommended to incorporate this validated Arabic tool into their national diabetes initiatives.

Moving from theory to practice: applying the HEROES framework for sustainable workforce planning systems in national contexts (ID 214)

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Context: As part of the HEROES Joint Action, a four-domain Framework for Sustainable Workforce Intelligence Systems (FSWIS) was developed. This is the first specialised capacity-building framework explicitly designed for Health Workforce Planning Systems (HWPS) in Europe. It adopts a socio-technical systems and capacity-building perspective, explicitly addressing both the technical elements of workforce planning and the social aspects, such as the organisational environment and system factors. We demonstrate the practical impact of this novel Framework, applied in 18 European countries as part of the HEROES Joint Action, using Multi Criteria Decision Analysis (MCDA) to inform country-based HWPS sustainability and improvement plans in 2025.

Methods: Thematic analyses of HWPS literature and expert focus group responses identified 34 issues or good practices, which were refined to 15 representative factors across the domains of the FSWIS. Using MCDA, these 15 factors were validated using the MCDA Software platform 1000Minds and then used to develop a HWPS sustainability survey. The application of MCDA is a key methodological innovation here and is not commonly seen in HWPS development, even though it allows countries to make transparent trade-offs among competing priority 'factors' to build consensus-based priorities. Using discrete choice analysis on the 1000Minds platform, the countries completed HWPS sustainability surveys between mid-June and August, with 18 countries inviting a range of HWPS stakeholders. Survey result summaries and interpretations were provided to countries for feedback, which informed a ½-day workshop held in late October. Final sustainability action plans were delivered in late November.

Results: Analysis of the 1000Minds outputs and the resulting 18 sustainability plans reveals both heterogeneity and significant convergence. While national contexts and starting points varied substantially, common priority themes emerged, encompassing technical advances such as achieving reliable minimum datasets and beginning to include the system's social aspects, such as the need for stronger political and institutional ownership, sufficient organisational resourcing, and the formal institutionalisation of workforce intelligence functions. Importantly, countries consistently prioritised "good enough" system functionality over 'perfect' solutions in any given domain, reflecting the very real and practical policy realities HWPS policymakers and managers face when presenting plans and initiatives in highly contested funding environments.

Discussion: Each plan tracks country choice and agreement on HWPS priorities that are included in the subsequent sustainability plans. From this early evidence of FSWIS use and transferability, its adaptability to country contexts and the avoidance of one-size-fits-all solutions are revealed. The range of plans also substantiates the concept of planning archetypes, which implies that as countries improve, they can progress to the next of four distinct planning types, each with a different mix of technical and social capabilities and attributes. This progress is observed as countries gain sufficient capacity in the framework's technical factors; they can then seek to strengthen the HWPS's social aspects by addressing governance and institutionalisation actions. Altogether, this demonstrates how a novel capacity-building framework can be operationalised at scale and used to support the institutionalisation of workforce planning and intelligence generation across varying country contexts, to support future-ready and resilient health systems.

Organisational commitment and coping strategies in high-strain healthcare systems: evidence from physicians (ID 215)

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Introduction: Research on healthcare has examined patient outcomes and physician burnout, yet physicians' experiences are often treated as individual-level phenomena rather than as products of systemic institutional failure (Dyrbye et al., 2018). In low- and middle-income countries, chronic resource scarcity, weak governance, insecurity, and large-scale physician outmigration have rendered medical practice increasingly untenable (Onah et al., 2022; Orewa et al., 2025). While brain drain literature emphasises migration as the primary response, far less is known about how physicians who remain cope with persistent institutional strain. Guided by coping theory (Lazarus & Folkman, 1984), this study examines how Nigerian physicians cope in a resource-constrained health system

Method: This qualitative study used in-depth, semi-structured interviews with 30 licensed physicians practicing in public, private, and public–private partnership (PPP) hospitals in Nigeria. Interviews explored working conditions, ethical and emotional strain, coping responses, and migration considerations. Interviews were conducted via secure video platforms, transcribed verbatim, and analysed in ATLAS.ti using iterative, theory-informed coding (open and axial) guided by coping theory, attending to patterned and context-embedded coping strategies.

Results: Physicians in Nigeria face chronic, system-level constraints—resource shortages (staffing, infrastructure, equipment, pay), weak workplace governance, fragile regulatory/security systems, and widespread patient poverty—driving excessive workloads, safety risks, moral distress, and burnout. They cope through four interconnected strategies: resigned acceptance (detachment, lowered expectations), emotional resilience (self-care, hope/faith, meaning-making), relational dependency (support and resources from colleagues, family, patients, communities), and strategic adaptability (skill-building, improvisation, multiple jobs, contingency planning, preparedness for system failure).

Discussion: Our study foregrounds the lived experiences of Nigerian physicians who remain in a health system marked by institutional dysfunction, workforce shortages, and sustained outmigration. Shifting beyond migration-centric accounts of brain drain, we show how physicians navigate persistent ethical, emotional, and professional strain through four interconnected coping strategies: resigned acceptance, emotional resilience, relational dependency, and strategic adaptability. These strategies function as practical alternatives to migration, enabling continued care delivery despite systemic failure. Physicians frequently engage in ethical improvisation to mitigate immediate patient harm, a practice that sustains professional identity while coexisting with moral distress and exhaustion.

Theoretically, our study extends coping theory by demonstrating that coping in fragile systems is not episodic or individualistic but relational, morally anchored, and structurally constrained. Embedded within communal logics akin to ubuntu and harambee, collective coping sustains care in the short term while potentially normalising institutional dysfunction, underscoring the need for system-level interventions beyond individual endurance.

Developing a framework for sustainable health workforce intelligence systems: outputs from the WHO HEROES Joint Action (ID 217)

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As highlighted elsewhere, Workforce planning is a classic 'wicked problem'. In the face of demographic change, societal and technological transformation, and repeated system shocks, all European health systems face some degree of labour market imbalances. Workforce planning and intelligence are critical enablers for the region in delivering sustainable health systems.

While most countries collect health workforce data and undertake planning exercises, in many cases, these data are fragmented, the processes are poorly governed, and planning outputs are insufficiently connected to policy decisions and implementation. The difficulty in developing consistent approaches to address these issues lies in the heterogeneity of national contexts, health systems, and planning architectures across the region.

Developed as part of the HEROES Joint Action, the World Health Organisation will outline the Framework for Sustainable Health Workforce Intelligence Systems. This is the first specialised capacity-building framework designed to support countries in strengthening national health workforce planning systems, moving beyond technical issues such as data and models to address the social elements of the health system, such as governance and political engagement, which are fundamental to the production of actionable workforce intelligence and its successful application in the real world.

The Framework adopts a 'systems' approach to defining health workforce intelligence as a series of interdependent domains that encompass the political and contextual factors shaping the national context, the governance and institutional arrangements of the planning system, the collective capacity of planners, and the tools used for planning, such as data and models. It offers a structured, practical approach to identifying strengths and weaknesses, building consensus around priorities, and sequencing improvements.

The presentation highlights that this systems approach, which moves beyond the 'technical' elements of a planning system to include the 'social' aspects of governance, political support, and policy dialogue, is critical to developing planning and intelligence systems. This includes an explicit focus on the critical nature of institutionalisation, including the formalisation of planning functions and mandates, long-term funding for planning activities and health investment, data-sharing agreements, and other measures.

The Framework is fully developed and completed and is currently being applied by 18 Member States participating in the HEROES Joint Action to assess, strengthen, and institutionalise improvements to their workforce intelligence systems.

This presentation highlights that sustainable and resilient health systems depend on equally sustainable workforce intelligence systems. By embedding a practical, continuous approach to iterative system-level improvements, the HEROES Framework advances the field of workforce planning and provides countries with a practical, scalable tool to support their efforts to deliver a future-ready health workforce aligned with population needs.

Organisational slack and wage differentials for nursing staff: evidence from U.S. nursing homes (ID 218)

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Introduction: Nursing homes (NHs) face persistent challenges recruiting and retaining Registered Nurses (RNs), Licensed Practical Nurses (LPNs), and Certified Nursing Assistants (CNAs), threatening care quality and regulatory compliance (Pradhan et al., 2025). Wages are a critical determinant of workforce stability, yet compensation in NHs remains lower than in other healthcare settings and varies widely across facilities (Sharma & Xu, 2022). Prior research documents wage disparities but offers limited insight into how organisational and environmental context shape wage-setting (Huang & Bowblis, 2020). Guided by Resource Dependence Theory (RDT), this study examines how organisational slack, ownership structure, community affluence, and market competition are associated with facility-level nursing staff wages in U.S. NHs.

Method: We merged four national datasets for 2020–2022: Payroll Based Journal, Medicare Cost Reports, LTCFocus.org, and the Area Health Resource File, yielding 37,936 facility-year observations (N=12,645 NHs annually). Dependent variables were inflation-adjusted facility-level hourly wages for RNs, LPNs, and CNAs. Key independent variables included organisational slack (facility size, occupancy rate, payer mix), ownership/chain affiliation (for-profit [FP] chain, FP independent, not-for-profit [NFP] chain, NFP independent), county-level median household income, and market competition measured using the Herfindahl–Hirschman Index (HHI). Models controlled for staffing intensity, resident acuity, racial/ethnic mix, county demographics, Medicare Advantage penetration, and COVID-19 period. Multivariable linear regressions were estimated separately for each staff category with state and year fixed effects.

Results: Average hourly wages were $37.58 (RNs), $29.13 (LPNs), and $17.59 (CNAs). Greater organisational slack was partially associated with higher wages: larger facilities and higher private-pay shares were positively related to wages across all staff categories ($p<0.001$), while Medicare share increased RN and LPN wages only. Contrary to expectations, NFP independent NHs paid the highest wages for RNs ($\beta=1.05$), LPNs ($\beta=0.71$), and CNAs ($\beta=0.93$), while FP independent NHs paid the lowest (all $p<0.001$). Chain affiliation partially buffered wage constraints among FP NHs but did not eliminate ownership-based disparities. Higher county income and greater market competition were consistently associated with higher wages across staff types. Wages increased significantly in the post–COVID-19 period.

Discussion: Findings indicate that nursing staff wages are strategic organisational outcomes shaped by resource capacity, ownership incentives, and local labour markets rather than simple market rates. Consistent with RDT, NHs with greater financial flexibility—larger size and favourable payer mix—were better positioned to invest in wages. The higher wages observed among NFP independent facilities suggest that local discretion and mission-driven governance may enable stronger workforce investments than chain-affiliated structures. Conversely, persistently lower wages among FP independent NHs reflect tighter resource constraints and margin pressures. Community affluence and competitive markets further amplify wage-setting pressures, underscoring the role of external dependencies. Policy efforts to strengthen the NH workforce may require ownership-sensitive reimbursement strategies and wage-targeted mechanisms to ensure public funds translate into frontline compensation, thereby supporting workforce stability and quality of care.

Viral falsehoods and unequal harm: health misinformation in Hispanic/Latinx populations (ID 219)

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Introduction: Health misinformation is a growing public health threat, undermining trust in health institutions and contributing to poorer health outcomes (Nasution et al., 2025; Dennis & Lindberg, 2025). Amplified by social media, misinformation now spreads rapidly and at scale, often outperforming credible public health guidance (Wang et al., 2019; Avaaz, 2020). Hispanic/Latinx communities face heightened vulnerability due to language barriers, reliance on Spanish-language media, lower health literacy, and structural inequities in healthcare access (Kearney et al., 2023). Fragmented evidence limits system-level responses, underscoring the need for integrative analysis to inform culturally responsive health policy and management strategies.

Method: We conducted a review using PRISMA 2020 guidelines, searching PubMed, ScienceDirect, Web of Science, and PsycINFO. Eligible studies used qualitative, quantitative, or mixed-methods designs and reported Hispanic/Latinx-specific findings related to health misinformation, trust, or health behaviors. Three reviewers independently screened records, assessed full texts, and extracted data across three analytic domains: (1) misinformation sources and transmission pathways, (2) contextual moderators shaping interpretation, and (3) downstream health beliefs and outcomes. Evidence from 34 studies was synthesised using an integrative conceptual framework linking information ecosystems, trust, and health system engagement.

Results: Misinformation rarely originated from a single source; instead, it circulated through interconnected ecosystems. Social media platforms—particularly Facebook, YouTube, and Instagram—were the most frequently identified entry points, while closed messaging applications (e.g., WhatsApp) acted as accelerants by embedding misinformation within trusted family and community networks. Spanish-language television, radio, and interpersonal communication further reinforced message credibility. Interpretation was strongly moderated by limited English proficiency, low health and digital literacy, and pervasive institutional mistrust of government, pharmaceutical companies, and healthcare systems. Across studies, repeated exposure to misinformation was associated with vaccine hesitancy, delayed or foregone preventive care, health scepticism, and conspiracy beliefs, extending impacts beyond COVID-19 to broader patterns of health system disengagement

Discussion: Our review demonstrates that health misinformation in Hispanic/Latinx communities is not merely an informational failure, but a systemic challenge shaped by trust, culture, and structural inequities. Interventions focused solely on fact-checking or content correction are unlikely to succeed without addressing the social contexts in which misinformation gains legitimacy. For health systems and policymakers, effective mitigation requires strengthening trusted community partnerships, expanding linguistically and culturally tailored communication, and investing in health and digital literacy initiatives. Addressing institutional mistrust is central to restoring engagement with preventive services and public health guidance. Our findings underscore the need for health management strategies that integrate communication, community trust-building, and equity-oriented system design to counter misinformation and improve population health outcomes.

Strengthen infodemic management by leveraging digital health and AI: insights from focus groups with health managers (ID 220)

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Context: The COVID-19 pandemic highlighted the impact of infodemics on public health decision-making and societal trust. Rapid digitalisation and AI-powered platforms have transformed information flows, enabling accurate dissemination but also facilitating rapid spread of misinformation. Despite technological advances, health systems struggle with intersectoral collaboration and structured digital governance, limiting effective infodemic management. This study explores how health managers perceive institutional barriers, communication gaps, and the potential role of AI and digital tools in enhancing health system resilience against infodemics. Understanding these perspectives is crucial to designing strategies for coordinated, technology-enabled responses to future infodemics.

Methods: A qualitative study was conducted through two focus-group workshops involving 35 health managers and medical professionals from the Republic of Moldova. Data were thematically coded using Taguette into five domains: (1) actors in infodemic management, (2) population literacy and resilience, (3) barriers and deficiencies, (4) managerial roles, and (5) intervention strategies. Discussions addressed experiences with infodemic management, digital communication, and intersectoral coordination. Participants also performed a "5 Whys" root cause analysis to identify underlying factors contributing to insufficient collaboration. This method enabled mapping of causal links between institutional structures, communication strategies, technology adoption, and infodemic outcomes. The approach emphasised both systemic and behavioural factors, capturing perspectives on organisational culture, leadership, and digital literacy. Insights from this structured analysis informed recommendations for leveraging AI and digital health tools to improve coordination, real-time information verification, and professional training for effective infodemic management.

Results: Content analysis revealed that most fragments concerned actors in infodemic management (122), followed by barriers and deficiencies (68), managerial roles and interventions (39 each), and population literacy (36).

Analysis of "5 Whys" identified four direct causes of insufficient infodemic management: (I) lack of a clear framework for cross-sector coordination, (II) institutional fragmentation and sectoral autonomy, (III) influence of political and personal factors, and (IV) limited adaptive capacity to emerging infodemics. Each direct cause was supported by two root causes, including absence of a responsible central authority, lack of institutional memory, accelerating technological progress (internet, AI, social networks) without appropriate adaptation, separate regulations, weak collaborative culture, economic or personal interests, prioritisation of political goals, and limited prior experience with infodemics. Consequences included unaligned decisions, incoherent interventions, passing of responsibility between institutions, decreased credibility of public messages, and rapid spread of misinformation. Managers highlighted the need for integrated digital systems, AI-driven analytics for real-time verification, and structured training programs to enhance digital literacy. For instance, AI could monitor social media, detect high-risk misinformation, and flag content for rapid verification and correction.

Discussion: Digital health technologies and AI are pivotal to strengthening health system resilience against infodemics. Effective implementation requires coordinated governance structures, defined leadership roles, and ongoing capacity building in digital competencies. AI tools can guide communication strategies, rapidly detect misinformation, and support population health literacy. However, cultural and institutional barriers—such as resistance to collaboration, fragmented authority, and lack of systematic digital training—limit adoption. Addressing these gaps can enhance intersectoral synergy, accelerate evidence-based communication, and empower managers to lead digital transformation. Future strategies should integrate AI-driven monitoring with proactive engagement of health professionals, media, and civil society to build technologically-enabled, resilient systems capable of managing infodemics efficiently. These findings provide actionable insights for designing AI-supported interventions to improve communication, coordination, and public trust in health crises.

The impact of Europeanisation on mental health reforms in the Western Balkans: a framework-based comparative analysis (ID 221)

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Context: Mental health is increasingly recognised as a fundamental component of health and wellbeing, yet remains neglected in many countries. In the Western Balkans, mental health reforms have historically lagged behind broader health system transformation. While Europeanisation – the process of aligning domestic policies with EU norms – has influenced governance, legislation and service provision in the region, its impact on mental health policy remains underexplored. This study investigates how the European accession process has shaped national mental health policy reforms across six Western Balkan countries (Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia) over a 20-year period, using EU Progress Reports as primary data.

Methods: This study uses a qualitative content analysis of annual EU Progress Reports from 2005 to 2025, covering six Western Balkan countries. All textual references to mental health were manually extracted and coded using a dual-framework approach. The first framework applies Eni et al.'s Europeanisation model, grounded in the Globalisation and Population Health Framework, which categorises policy influence across contextual (governance), distal (system inputs), and proximal (service delivery) levels. The second framework draws from the European Observatory's Health Systems Performance Assessment (HSPA), focusing on governance, resource generation, financing and service delivery. Findings were triangulated against WHO's Mental Health Atlas and the Comprehensive Mental Health Action Plan (2013–2030) to assess alignment with global benchmarks. Coding categories included types of EU influence (e.g. legal approximation, funding incentives, normative pressure) and thematic areas (e.g. deinstitutionalisation, workforce reform, access to care, human rights, stigma).

Results: The analysis reveals an uneven but growing integration of mental health within EU Progress Reports over time, with variation across countries and reform dimensions. Contextual-level influence was most prominent, with EU actors promoting governance reforms, national strategies and legislative alignment, particularly post-2014. However, implementation gaps persisted due to fragmented governance (e.g. Bosnia), political instability (e.g. North Macedonia) or limited central capacity (e.g. Kosovo). At the distal level, EU influence contributed to workforce training and the scale-up of community-based models, but sustainability and equitable distribution remained major challenges. Proximal-level changes included the expansion of community mental health centres, improved access to outpatient care, and integration with primary care in select contexts (e.g. Serbia, Montenegro), though coverage and service quality were inconsistent. Overall, mental health remained more visible where EU funding or donor mechanisms existed but often lacked integration into broader health system reform agendas.

Discussion: This study offers the first systematic analysis of how EU accession has shaped mental health policy in the Western Balkans over two decades. While mental health is increasingly acknowledged in EU Progress Reports, most changes have occurred at the governance level, with less consistent transformation at the level of financing, resource generation or service delivery. The analysis highlights both the enabling role of Europeanisation – via conditionality, technical support, and normative pressure – and its limitations in contexts of institutional fragmentation and weak political will. Findings also underscore the tension between formal policy adoption and effective implementation. Importantly, the integration of WHO frameworks helps identify alignment gaps between EU-supported reforms and global mental health goals. As the Western Balkans advance toward EU membership, embedding mental health within broader health system reforms and ensuring sustained financing and local ownership will be critical. This study contributes to filling a key gap in the Europeanisation literature by centring mental health as a policy lens.

Developing and pretesting questionnaires to assess perceptions on digital health and AI in Romania and the Republic of Moldova (ID 222)

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Context: The ongoing digital transformation of healthcare and the expanding role of artificial intelligence (AI) require understanding the perceptions of both patients and healthcare professionals regarding medical data use. In 2025, as part of a bilateral Romania–Republic of Moldova research collaboration, our team established the methodological foundation for a transnational study exploring attitudes, trust, and experiences with digital health and AI-based tools. This preparatory work aimed to develop rigorously designed, context-appropriate instruments that would capture multi-dimensional perspectives on digitalisation and AI adoption, including ethical considerations, barriers, and educational needs.

Methods: Two questionnaires were developed—one targeting healthcare professionals and one for patients—based on an extensive review of recent literature on digital health adoption, AI applications, and medical data ethics. The instruments were designed to capture professional and demographic profiles, digital literacy, technology use, attitudes toward AI, perceived barriers, ethical and regulatory concerns, and training needs. Draft items were iteratively refined with input from both Romanian and Moldovan partners to ensure methodological harmonisation and cross-country comparability. Pretesting involved at least 10 healthcare professionals and 10 patients per country, using individual interviews to assess item clarity, coherence, and relevance. Feedback from these pretests informed adjustments to wording, section flow, and conceptual coverage, ensuring that the instruments are readable, understandable, and culturally appropriate.

Results: The final questionnaires are structured to cover comprehensive themes:

Healthcare Professionals:

A. Professional profile; B. Current technology use; C. Digital competencies and literacy; D. Attitudes toward digitalisation and AI; E. Ethics, regulations, and data security; F. Perceived technical, infrastructural, and human barriers; G. Data-sharing practices and research participation; H. Training needs and intentions regarding digital competencies; I. Optional section for managerial staff; J. Demographics

Patients:

A. Consent and eligibility; B. Technology use and digital literacy; C. Experiences with digital health; D. Attitudes toward AI; E. Genomics and personalised medicine; F. Wearables and sensor data; G. Perceived barriers; H. Intentions and willingness for education; I. Demographics

Pretesting confirmed clarity, readability, and completeness of items, laying the foundation for large-scale data collection.

Conclusions: This methodological work provides rigorously developed instruments (in Romanian) ready for application in both Romania and the Republic of Moldova, supporting comparative analyses of healthcare digitalisation and AI adoption. By detailing thematic coverage for both healthcare professionals and patients, the study ensures that multiple perspectives—including technical, ethical, and educational dimensions—are captured. The pretested tools advance research on technology acceptance, responsible management of medical data, and the digital transformation of healthcare systems. These instruments also provide a framework for understanding user experiences with AI-driven solutions, identifying barriers, and informing targeted training programs. This preparatory phase strengthens the empirical basis of the project and equips researchers to generate evidence that can guide policy, implementation strategies, and educational interventions in digitally transformed health systems.

Revitalisation project of inpatient unit: "Activate to Recover". Moisès Broggi University Hospital's experience (ID 223)

Revitalization project of inpatient unit: "Activate to Recover". Moisès Broggi University Hospital's experience. Helena Alcazar Duran, Revitalization project of inpatient unit: "Activate to Recover". Moisès Broggi University Hospital's experience. Laura Rodríguez Gutierrez, Revitalization project of inpatient unit: "Activate to Recover". Moisès Broggi University Hospital's experience. Beatriz Angela Caro Cebador, Revitalization project of inpatient unit: "Activate to Recover". Moisès Broggi University Hospital's experience. Carmen Maria Roldan Cañete

Introduction: Early mobilisation (*EM*) plays part in enhanced recovery after surgery (*ERAS*) protocols key strategies and furthermore, is associated with better quality of life and post-discharge satisfaction. Unit 5 of Moisès Broggi University Hospital cares for both surgical and medical patients of different departments (gastroenterology, otolaryngology, reconstructive plastic surgery...) and *EM* has long been a priority objective. The main goal of this project was to strengthen this working line by integrating patient empowerment and humanisation of the environment.

Primary objective: Promote *EM* to improve the functional recovery of hospitalised patients.

Secondary objectives: Empower patients/families with visual tools that establish clear goals during hospitalisation. Humanise hospital area by adapting it to the patient's sociocultural environment. Advance health education from pre-surgical phases. Reduce complications, average length of stay, and unnecessary consultations.

Project development: The project was launched in 2023 and co-designed by the project management department, the citizen service unit and an external company. At the beginning of 2025 a pilot test was carried out at unit 5, which includes the following 3 tools:

- Vinyl hallways to encourage self-guided mobility.
- Visual exercise panels created with support from rehabilitation department.
- An educational tool provided from the first healthcare contact.

The project was fully implemented in November 2025.

Results: In July 2025, 25 pre-implementation surveys were conducted to identify areas for improvement. The results revealed the following:

- 56% of patients did not receive instructions on exercises, and only the 44% knew what to do.
- 76% of patients felt encouraged to walk by staff, and 60% said they found it easy to walk through the unit.

The project introduces a visual and technological management approach to address the lack of systematisation and reinforce the active role of the patient.

Conclusions: The survey results highlight the need to standardise *EM*. The project provides practical tools to guide, motivate, and empower patients and families. The project contributes to the humanisation of care and improves communication between healthcare staff and patients' environment.

Applicability to other settings: With a positive impact on the pilot phase, the extension of this project is planned to be carried out in other units where *EM* it could be beneficial. This implementation will be followed by continuous evaluation and adjusments based on the specific needs of each unit.

From built environment to behavioural environmentalism: an empirical analysis of green building effects in the healthcare sector (ID 228)

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Context: The climate crisis is a global issue threatening human health, with the healthcare sector being both affected by and contributing to this crisis. While technical aspects such as energy efficiency of healthcare buildings are frequently evaluated, behavioural and cognitive effects on employees remain understudied. Whether LEED-certified green buildings function as awareness tools in shaping employees' environmental attitudes and behaviours represents a significant research gap. This study examines the relationship between climate-health consciousness, pro-environmental workplace behaviours, and perceived indoor environmental quality by comparing healthcare personnel in LEED-certified and non-certified hospitals.

Methods: This cross-sectional comparative study was conducted with 436 healthcare workers at two similarly-scaled hospitals (LEED-certified, n=261; non-certified, n=175) within a private healthcare group in Turkiye. Data collection instruments included the Climate and Health Tool (CHAT), Turkish Pro-Environmental Behaviour Scale (TPEBS), and a 10-item Indoor Environmental Quality (IEQ) perception form from the literature. IEQ items were evaluated in two categories: indoor environmental quality elements (temperature, humidity, noise, ventilation, lighting) and design elements (layout, wayfinding, materials, natural elements, outdoor access). Data analysis employed independent samples t-test, Pearson correlation analysis, and multiple linear regression analysis.

Results: LEED-certified hospital employees reported significantly higher satisfaction in four indoor environmental quality elements (temperature, humidity, ventilation, lighting; $p<0.05$) and in material perception among design elements ($p<0.001$). CHAT total scores were significantly higher in the LEED-certified hospital ($p=0.008$); however, no significant difference was found in TPEBS total scores ($p=0.065$). Weak positive correlations were observed between IEQ items and CHAT ($r=0.10-0.19$), while no significant relationship was found with TPEBS. In multiple regression analysis, when demographic variables were controlled, LEED status lost its significance on both CHAT ($p=0.105$) and TPEBS ($p=0.204$). Age, gender, occupation, professional experience, environmental education, and wayfinding system perception emerged as common significant predictors in both models.

Discussion: Findings reveal that LEED-certified hospitals create positive differences in physical environmental quality perception; however, this effect does not directly translate to employees' pro-environmental behaviours. The loss of significance of LEED status when demographic variables are controlled suggests that green building effects may occur indirectly through individual characteristics. Environmental education emerging as a strong predictor in both models emphasises that green building design alone is insufficient and must be supported with training programs. For green hospitals to function as "awareness tools," integrating organisational environmental culture and education strategies beyond physical design is recommended.

Strengthening resilience in cardiovascular care: a practical tool to support health managers and care providers in Europe (ID 230)

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Context: The COVID-19 pandemic exposed vulnerabilities in cardiovascular care delivery, highlighting the need to strengthen health system resilience to future shocks. Resilience refers to the capacity of institutions and health actors to prepare for, absorb, and recover from disruptions while maintaining core functions. Despite growing conceptual work on health system resilience, practical pathway-level assessment tools for acute cardiovascular care remain limited. The RESIL-Card Consortium addresses this gap by developing a resilience assessment tool for cardiovascular care pathways. It offers a structured and adaptable approach to support health managers and care providers in assessing preparedness and strengthening resilience in their specific context.

Methods: Employing a co-creative approach, the Consortium conducted an explanatory sequential mixed-methods study comprising: 1) a survey to European cardiologists, 2) five multi-stakeholder focus groups, and 3) development of a prototype resilience assessment tool in January 2025. Themes to assess and strengthen resilience were identified employing thematic analysis. Six dimensions relevant to cardiovascular care pathways were identified: (a) workforce, (b) organisation of care delivery, (c) governance and trust, (d) communication and cooperation, (e) medical devices and products, and (f) data collection and use (see Figure 1). To assess usability and context-sensitive adaptability, the tool was subsequently piloted in hospital settings in Austria, Italy, Poland, Serbia, and Spain during 2025. Multidisciplinary teams implemented the tool through the structured exercises included in the tool. Interviews with pilot participants took place from June to September 2025. Feedback about their experiences informed targeted refinements of the tool, resulting in a final version in December 2025.

Results: The RESIL-Card tool is an open-access online toolkit designed for use in acute care centres. It comprises three key components (see Figures 2-4): 1) a step-by-step guide outlining the self-assessment process; 2) a slide-based template to describe the cardiovascular care pathway in each local context; and 3) a preparedness checklist structured around the six resilience dimensions to systematically assess existing measures. Upon completion, the checklist generates a visual heatmap (Figure 5). This process supports teams in jointly identifying vulnerabilities, prioritising actions, and making implicit system weaknesses explicit. Teams are then prompted to define short- and long-term action plans to address identified gaps. The tool will be available on the RESIL-Card website, together with supporting resources, including relevant literature, and practical recommendations to guide the design and implementation of improvement actions in the first quarter of 2026.

Discussion: The use of the tool during the pilot test supported healthcare professionals in articulating the relevance of resilience and their role in strengthening it. The tool was perceived both as a quality assessment exercise and as a practical instrument to enhance preparedness for future crises, enabling the identification of concrete gaps and bottlenecks within existing care pathways. The RESIL-Card tool supports evidence-informed decision-making to strengthen cardiovascular care resilience in acute care settings. Its design facilitates both bottom-up and top-down assessments. Key outputs—such as the care pathway map, heatmap, and action plan—provide valuable inputs for short- and long-term planning. Additionally, it has the potential to enable the monitoring of improvements in cardiovascular care delivery across participating centres.

Leading when no one owns the pathway: clinical governance and distributed leadership through the BQ360 project (ID 231)

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Background: In highly specialised monographic hospitals, surgical pathways often span multiple clinical subspecialties, none of which fully owns the end-to-end process. While each subspecialty may operate efficiently within its own scope, this fragmentation frequently creates a paradox: everyone optimises their part, yet the pathway as a whole underperforms. Accountability becomes diluted, decisions rely on negotiation rather than ownership, and leadership is often exercised through representation of individual domains rather than stewardship of the system.

This work is being developed in a highly specialised monographic hospital focused on urology, andrology, nephrology and reproductive medicine, where surgical pathways inherently cross several interdependent subspecialties and challenge traditional hierarchical leadership models.

Objectives: To explore how clinical leadership and governance can be exercised when no single subspecialty owns the surgical pathway, using the BQ360 project as a real-world example of a governance-led transformation towards shared responsibility and distributed leadership.

Methods: The BQ360 project (so named to reflect a 360-degree, end-to-end view of the surgical pathway) was initiated as a governance-led transformation of the surgical pathway, with the explicit aim of managing surgery as a system rather than as a collection of subspecialty-driven activities. The project focuses on how leadership, accountability and decision-making are exercised when responsibility is inherently distributed. Through structured governance forums, the surgical pathway is being reviewed transversally, from planning to patient discharge, to make interdependencies visible, clarify roles and redefine ownership at pathway level. The project promotes a non-pyramidal, transversal way of working, based on shared responsibility among all clinical and care teams involved throughout the surgical process.

Results: During the early phases of implementation, the BQ360 project has begun to shift leadership dynamics across the surgical pathway. Decision-making is progressively moving from subspecialty-centred advocacy towards shared prioritisation at system level. This shift has contributed to clearer accountability, improved coordination between clinical subspecialties and care teams, and a reduced reliance on informal negotiations to resolve tensions along the pathway. Professionals increasingly act as stewards of the overall system, rather than solely as representatives of their specific domain.

Discussion and Conclusions: This experience suggests that effective governance of complex surgical pathways requires a fundamental shift in how leadership is exercised. When no single actor owns the pathway, leadership must be distributed, transversal and explicitly oriented towards system performance. The BQ360 project illustrates how a governance-led approach can transform fragmented expertise into collective responsibility without relying on hierarchical control or structural reorganisation. These principles are transferable to other highly specialised healthcare organisations facing similar challenges related to complexity, subspecialisation and shared ownership of care pathways.

From measurement to anticipation: data-driven governance for surgical block transformation in a highly specialised monographic hospital (ID 232)

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Background: Hospitals routinely generate large volumes of operational and clinical data, yet these data often fail to meaningfully influence governance and decision-making. Indicators are mainly used for descriptive purposes, report deviations and justify results, without translating into accountability, prioritisation or timely action. This gap between information and decision-making is particularly relevant in the surgical block, a high-complexity environment where misalignment between data, clinical leadership and operational management can limit a system's capacity to adapt and anticipate change.

With Industry 4.0 increasing data availability, the limiting factor is frequently not technology, but the organisational capability to interpret data and decide: the right indicators, the right profiles, and the right governance spaces. These challenges are especially pronounced in highly specialised monographic hospitals, where concentrated complexity and strong interdependencies require integrated and anticipatory governance models.

Objectives: To describe how a governance-led surgical block transformation programme (BQ360) is moving from descriptive reporting to anticipatory decision-making by (1) prioritising a limited set of relevant, mostly process-focused KPIs and (2) creating defined roles, teams and formal forums ("commissions") responsible for interpreting data and acting on it across the full surgical pathway.

Methods: A governance-led transformation of the surgical block was initiated with the aim of progressively integrating the full surgical pathway, including planning, scheduling, execution and discharge. The objective was not to introduce new technologies, but to redefine the role of data within decision-making structures. A reduced set of agreed KPIs (key performance indicators) covering surgical activity, waiting times, capacity, patient flows, complexity, resource utilisation and experience, were identified and aligned with organisational strategic priorities. In parallel, these KPIs were embedded within formal governance forums, with clearly defined roles, responsibilities and regular review cycles oriented towards decision-making. This surgical block transformation programme, referred to internally as BQ360, was developed in the context of a highly specialised monographic hospital and serves as a framework to connect data, clinical leadership and operational management within a single decision-making system.

Results: Early deployment shows a shift in decision dynamics: indicators previously used mainly for monitoring now inform prioritisation, capacity redistribution and organisational adjustments along the surgical pathway. Importantly, the combination of concise, process-relevant KPIs with trained decision-makers and dedicated governance spaces has begun to create anticipatory capacity—identifying emerging pressures and bottlenecks earlier and enabling corrective actions before they become structural. This has strengthened accountability, reduced reliance on reactive negotiation, and improved alignment between clinical teams and operational management.

Discussion and Conclusions: Although still under deployment, this experience suggests that meaningful anticipatory decision-making does not emerge from "more data" alone, but from a people-centred governance system: few relevant indicators, clear roles, and formal spaces where data are interpreted and decisions are made. When data cover the entire surgical process and are embedded within defined governance structures with defined responsibilities, they support real anticipatory capacity and system resilience. The core contribution this model lies in converting available information into shared interpretation and accountable action. In high-complexity environments such as highly specialised monographic hospitals, this approach can support more coherent, transparent and sustainable management and is transferable to other healthcare organisations facing similar challenges.

When expertise is not enough: governance, accountability and patient voice in a monographic hospital for rare diseases (ID 233)

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Background: Centres of excellence for rare diseases are usually associated with high levels of expertise and technical performance. However, when care needs extend across decades rather than isolated episodes, this understanding becomes incomplete. In many health systems, responsibility for patients with rare congenital conditions weakens at the transition from paediatric to adult care, leading to fragmentation, loss of continuity and uncertainty for patients and families. Bladder exstrophy clearly illustrates this challenge: while highly specialised care is essential in childhood, long-term coordination, follow-up and accountable decision-making are equally critical throughout adult life.

Objectives: To describe how a truly monographic hospital redesigned its organisational and governance model to assume lifelong responsibility for patients with rare congenital conditions, integrating patient voice, accountability and inter-specialty collaboration within a single care framework.

Methods: The organisational model was developed through a governance-led transformation process, driven by the recognition that lifelong conditions require lifelong accountability. Rather than treating paediatric care, transition and adult follow-up as separate phases, care pathways were deliberately redesigned to integrate all stages within a single accountability framework.

Inter-specialty collaboration was organised around patient needs across the life course: other specialties contributed expertise when required, while overall responsibility for the care trajectory remained clearly defined. Regulatory designation, participation in regional and European networks, and recognition by an international patient-led organisation were intentionally aligned as governance instruments to reinforce transparency, continuity and patient-centred value. Patient experience and expectations were explicitly incorporated into decision-making, particularly in relation to continuity of care, transition and long-term responsibility.

Results: This governance-led redesign resulted in a shift from an episode-based model to a life-course-based care approach. By retaining institutional responsibility for adult care, the hospital reduced discontinuities at transition and limited dependence on individual professionals, strengthening organisational resilience. The monographic structure enabled sustained focus, standardised pathways and clearer accountability across paediatric and adult services. Patient-led recognition introduced an additional layer of accountability, reinforcing trust, transparency and long-term commitment as core dimensions of quality beyond traditional performance indicators.

Discussion and Conclusions: This experience suggests that excellence in rare disease care is not solely a matter of expertise, but the outcome of deliberate governance choices. Embedding lifelong responsibility and patient voice within a single organisational framework transforms a centre of excellence from a site of specialised interventions into a coordinating node responsible for complete care trajectories. Monographic hospitals that structure care around accountability to patients and integrate other specialties according to patient-defined needs can address persistent system challenges such as transition, equity and sustainability. These lessons are transferable to other rare and complex conditions where fragmented responsibility continues to limit health system performance.

Shaping access pathways for precision oncology: a system dynamics approach to ctDNA MRD implementation in lung, pancreatic, and colorectal cancer (ID 234)

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Context: Circulating tumor DNA (ctDNA)-based minimal residual disease (MRD) testing offers significant potential to personalise follow-up, reduce overtreatment, yet adoption in Europe remains slow, fragmented. Addressing this, the GUIDE.MRD consortium—an IHI public-private partnership of 25 academic, industry, and patient partners launched in 2023—aims to tackle these adoption barriers. To support future-proof planning and decision making, the project applied a system dynamics approach to map how clinical, regulatory, commercial, and policy factors interact. The goal was to identify access pathways and strategic leverage points for integrating ctDNA-MRD testing into routine practice.

Methods: A structured co-creation process combined qualitative research, stakeholder mapping, and system dynamics modelling. Semi-structured interviews (n=31) were conducted with clinicians, laboratory experts, regulators, payers, industry, academics, and patient organisations to capture roles, motivations, unmet needs, and perceived barriers. These insights informed a stakeholder map and an initial, visually rich picture of the ecosystem. An interactive workshop (n=30) and a prioritisation exercise (n=48) provided insight into behaviours, power dynamics, and important barriers. A public consultation (n=56) further validated the map and refined key influencing factors. All inputs were translated into a causal-loop model representing actions, relationships, enablers, blockers, and feedback structures across the diagnostic and care pathway. The model identifies reinforcing and balancing loops that explain system behaviour and reveal opportunities for strategic intervention.

Results: The system map reveals five interconnected dynamics shaping ctDNA MRD adoption: clinical implementation, diagnostic infrastructure, evidence generation, commercial uptake, and improved outcomes. Across these areas, the most critical barriers identified include heterogeneous laboratory processes, inconsistent pre-analytical quality, absence of reference standards, fragmented evidence with non-comparable endpoints, insufficient real-world data, unclear clinical decision pathways, workforce and infrastructure limitations, and unpredictable reimbursement. These factors collectively undermine confidence among clinicians, regulators, health technology assessment bodies, and payers. Conversely, the analysis also identifies clear enablers: consensus-building on MRD use cases, shared data and reporting standards, improved laboratory governance, targeted education, and policy mechanisms that support structured evidence generation and reimbursement clarity. Three feedback loops (market, regulatory, and policy) explain slow uptake but also highlight leverage points for accelerating integration through coordinated, system-level action.

Discussion: Findings demonstrate that ctDNA MRD implementation challenges arise primarily from systemic misalignment rather than technological feasibility. Regulatory expectations, evidence requirements, laboratory capacity, and clinical workflows evolve independently, creating friction that slows adoption. A system dynamics perspective makes these interactions visible, enabling health system leaders to anticipate bottlenecks, target interventions, and design more resilient pathways. Opportunities include establishing MRD reference standards, aligning evidence expectations across regulators and HTA bodies, investing in diagnostic quality governance, supporting multidisciplinary workflows, and strengthening reimbursement frameworks. Importantly, the co-creation process surfaces behavioural and cultural barriers, such as limited clinical confidence and inconsistent multidisciplinary collaboration. Addressing these collectively, rather than through isolated actions, creates the conditions for the sustainable and equitable integration of precision diagnostics. This approach supports future-proofing by linking long-term strategy with actionable system-level change.

Healthcare services employees' perceptions of IT leadership: a cross-sectional study in a private healthcare group in Istanbul (ID 236)

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Context: Digital transformation in healthcare requires strong IT leadership to ensure effective technology adoption. Healthcare services employees serve as the primary point of contact between patients and health systems, playing a critical role in digital transformation processes. Despite extensive research on IT leadership among clinicians and nurses, studies focusing on patient services personnel remain limited. This study examines IT leadership perceptions among healthcare services employees in a private healthcare group in Istanbul, Turkey, investigating how these perceptions vary across demographic variables including gender, generational cohort, education level, and professional tenure.

Methods: This cross-sectional study employs a quantitative research design using relational screening and comparative models. The target population comprises 1,693 healthcare services employees across 11 hospitals within a private healthcare group in Istanbul. Sample size was determined using Yamane's formula and G*Power analysis, targeting 350–400 participants. Data collection utilises an online questionnaire consisting of a demographic information form and the IT Leadership Scale developed by Ulutaş and Arslan (2017), which measures three dimensions: guidance, communication, and information (18 items, 5-point Likert scale). A pilot study with 30 participants demonstrated excellent reliability (Cronbach's α = .987). Data analysis includes descriptive statistics, Independent Samples t-test, One-way ANOVA, and Pearson correlation analysis using SPSS 26.0. Ethical approval was obtained from Acıbadem University Non-Interventional Clinical Research Ethics Committee.

Results: Pilot study findings (n = 30) revealed strong psychometric properties for the IT Leadership Scale. The overall Cronbach's alpha coefficient was .987, indicating excellent internal consistency. Item–total correlations ranged from .79 to .96, exceeding the recommended threshold of .30. Mean item scores ranged from 3.33 to 3.87 (overall M = 3.57, SD = 1.08), suggesting moderately positive perceptions of IT leadership behaviours. All five Likert response categories were utilised without ceiling or floor effects. Skewness (-1.103) and kurtosis (0.235) values fell within acceptable ranges for the normality assumption. The main study data collection is currently ongoing (January–March 2026), and preliminary descriptive results and comparative analyses examining differences across generational cohorts, gender, education levels, and professional tenure will be presented at the conference.

Discussion: This study addresses a significant gap in the literature by examining IT leadership perceptions specifically among healthcare services employees, a group often overlooked in digital transformation research. The pilot findings confirm the reliability and suitability of the IT Leadership Scale for this population. The results are expected to enhance understanding of how demographic factors, particularly generational differences, shape perceptions of IT leadership in healthcare settings. Given Turkey's advance.

Analysis of factors influencing nurses' job satisfaction: the experience of a university hospital in 2023-2025 (ID 237)

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Background: The analysis of nurses' job satisfaction indicators is one of the most relevant goals of the hospital's strategy, as it helps to identify problems with working conditions, reduce staff turnover and emigration of nurses, improve the quality of healthcare services provided, and ensure the sustainable development of the health system. In Lithuania in 2023, there were approximately 7.8 nurses per 1,000 inhabitants, compared to an EU average of about 8.5-9, and in countries such as Germany or the Scandinavian countries, the number exceeds 12. This indicates a shortage of nurses, which is directly related to workload and job satisfaction. Surveys reveal that more than 40% of nurses are considering changing careers or emigrating, mostly due to excessive workload, emotional burnout, and insufficient compensation. The average salary of nurses in Lithuania in 2024 amounted to around 1,400-1,600 euros "without taxes", when it often exceeds 2,500-3,000 euros in the old EU countries. In addition, research indicates that facilities with low levels of nurse satisfaction have a higher risk of patient safety incidents, ranging from 20-30%, longer treatment times, and lower patient satisfaction scores. Therefore, a systematic analysis of nurses' satisfaction allows making data-based decisions, improving working conditions, reducing staff shortages, and ensuring a higher quality of healthcare services.

The aim: to evaluate the factors influencing nurses' job satisfaction in a university hospital

Methods: A quantitative cross-sectional study design in the Lithuanian University Hospital was conducted three times - in 2023, 2024, and 2025. The questionnaire was filled out by 765 nurses in 2023, 511 nurses in 2024, and 504 nurses in 2025 out of 2630. Respondents rated 14 factors affecting their job satisfaction.

Results: Every year, the university hospital's administration analyses the factors influencing nurses' job satisfaction and develops strategies to address the problems that arise. Therefore, the results show that relations with colleagues and direct managers improved by 3 percent, employee engagement, personal development, and autonomy improved by 4 percent, conflict management improved by 6 percent, satisfaction with wages improved by 8 percent, and assessment of the psycho-emotional environment improved by 6 percent. High workload and vaguely defined work tasks are still cited as factors having the greatest negative impact on job satisfaction.

Conclusion: Analysing factors influencing satisfaction would not only reduce staff turnover and improve patient safety but would also reduce system costs in the long run. Therefore, to increase nurses' motivation and job satisfaction, it is necessary to seek innovative solutions, not only by applying financial incentives, but also by employing tactics that help ensure nurses' professional identity, facilitate timely conflict management, and thus create a motivating, safe, and emotionally supportive work environment. Increasing satisfaction should be considered a strategic direction of health policy.

Ageing and resource loss: interconnected health, financial, and social declines highlight the need for cross-sector health and social policy action (ID 238)

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Context: Older adults often experience concurrent changes in health, financial security, and social support—domains shaping healthcare access, care needs, and resilience. Conservation of Resources (COR) theory predicts "loss spirals", where an initial loss increases the risk of subsequent losses in other domains. For health-system managers and regulators, the key question is which cross-domain linkages matter most and whether vulnerability intensifies at advanced ages. Yet longitudinal within-person evidence is scarce, and few studies separate losses from gains or test age-graded amplification. We examine whether within-person changes across these domains are interconnected in later life, and how patterns vary by age.

Methods: We used panel data from the Survey of Health, Ageing and Retirement in Europe (SHARE), waves 1–2 and 4–9 (2004–2022), including 103,284 respondents aged 50–105 across 27 countries, who participated in two or more waves. Outcomes were four health indicators (chronic conditions; ADL and IADL limitations; depressive symptoms, EURO-D), two financial indicators (equivalised PPP-adjusted household income; difficulty making ends meet recoded as financial hardship), and two social indicators (partner in household; confidant social network size). We estimated linear, Poisson, and logistic FE models with asymmetric effects that separate accumulated losses from gains in time-varying predictors. For binary outcomes in the asymmetric and interaction models, we estimated fixed-effects logit models using conditional logistic regression with respondent-specific strata and robust standard errors. Age–loss interaction models produced marginal effects by age (50–100). Analyses are complete.

Results: Resources changed with age: functional limitations and depressive symptoms rose (accelerating after ~70), partnership declined, and social networks increased until ~80 then contracted; income fell while reported hardship declined. Cross-domain changes were interconnected. Health deterioration increased odds of entering financial hardship (3–5% per unit increase in chronic conditions/IADL limitations/depressive symptoms) and partner loss (11–32%). Entering financial hardship predicted worse subsequent health (15% higher ADL and IADL limitations; 9% higher depressive symptoms) and smaller networks (3% decline), while recovery from hardship was linked to health improvement. Partner loss was a major trigger: 52% higher odds of hardship and worse functioning and mood (27% higher ADL; 28% higher IADL; 19% higher depressive symptoms). Several pathways became more adverse at older ages, most consistently for links between health decline/ financial hardship and subsequent network contraction; gender differences in dynamic associations were minimal.

Discussion: The findings indicate that later-life disadvantage often unfolds through cross-domain cascades rather than isolated "single-issue" problems, aligning with COR theory and highlighting leverage points for future-proofing health systems. Policy and regulatory implications are threefold. First, prevention and early mitigation should be triggered by sentinel events (onset of financial hardship, functional decline, bereavement/ partner loss), using systematic screening and shared risk stratification across providers. Second, integrated responses are required: coupling health and long-term care with income protection, affordable out-of-pocket support, and structured opportunities for social participation (e.g., social prescribing and community-based outreach) to interrupt downstream losses. Third, the age pattern suggests prioritising rapid, coordinated support for people aged ~75+ where network contraction becomes more tightly linked to health and financial shocks. Overall, results provide quantitative evidence to inform cross-sector governance and resource allocation aimed at reducing inequalities in access, delivery, and outcomes.

Development and evaluation of the effectiveness of educational tools to facilitate the memorisation of nursing protocols: the experience of a university hospital (ID 239)

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Background: Adherence to nursing protocols is one of the cornerstones of patient safety in healthcare. Research shows that adherence to protocols is closely related to protecting patients from adverse events, hospital-acquired infections, and other complications that can have serious consequences for patients' health. Statistical data show that compliance with protocols in different health care systems is uneven and often lower than recommended - the level of compliance with Standard Preventive Measures among nurses can be only about 53.5%, so almost half of the protocols are not applied consistently in daily practice. Across countries, compliance rates ranged from 64% in China to 82.6% in the Philippines and only 12% in Ethiopia, depending on training, resources, and organisational culture. Such statistical indicators reveal that although protocols exist, they are not always properly applied in practice, which poses a real risk to patient safety. A low level of adherence to protocols can lead to a higher chance of hospital-acquired infections and adverse events. Estimates from the World Health Organisation indicate that more than 100 million patients experience healthcare-acquired infections or complications each year, often related to non-compliance with protocols and safety guidelines. Searching for and creating educational tools that make it easier to remember the steps of nursing protocols is one of the most relevant priority strategic areas for hospital administration, because educational tools help to ensure patient safety, improve the quality of work, speed up the learning process, and reduce the likelihood of errors. It is an investment in safer and more effective nursing practice.

Aim: Development and evaluation of the effectiveness of educational tools that facilitate the memorisation of nursing protocols.

Methods: The following methods were used in the study:

- Descriptive statistics: 3 educational tools for memorising the nursing protocol were presented, and 120 nursing protocol implementation cases were observed in 2 stages, in 18 departments of the university hospital. Comparing the obtained data, the effectiveness of the educational tools that help memorise the nursing protocol was analysed.
- A quantitative cross-sectional study. In a university hospital, 190 nurses were surveyed about continuing education methods for better memorisation of nursing protocols.

Results: The most effective learning tool for memorising the main steps of the nursing protocol is the nursing protocol performance video material. This is confirmed by the results obtained during the observation of nursing protocol cases and the nurses' survey.

Conclusion: Developing and searching for educational tools is a very important strategic area of the hospital, because educational tools help to memorise and apply nursing protocols more effectively. Properly prepared tools ensure that nurses learn procedures faster, comply with safety requirements, and reduce the likelihood of errors. In this way, not only does the quality of patient care improve, but also the nurses' confidence in their competence and ability to react quickly in emergencies increases. Educational tools also facilitate continuous professional development and help standardise work processes, so their development and application in nursing practice are relevant and useful for both patients and health care personnel.

Keywords: nursing protocols, educational tools, nurses.

Towards scalable European Health Data Space (EHDS) capacity building: cross-case study on EHDS adoption readiness through an implementor lens (ID 240)

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The European Health Data Space (EHDS) is a major regulatory initiative affecting a wide range of ecosystem actors, including national authorities, healthcare providers, health IT systems developers, and academic institutions. By reshaping primary and secondary data use and strengthening interoperability requirements, EHDS demands significant institutional, organisational, and workforce adaptation. As timelines advance, capacity building remains a cornerstone of successful EHDS adoption. Evidence from recent studies[1] suggests uneven levels of preparedness across stakeholders, alongside high demand for practical guidance. This study provides an interim cross-case assessment of EHDS capacity-building efforts and reflects on recurring patterns and implications for scalable approaches.

This study uses a comparative cross-case synthesis of empirical evidence from multiple EHDS-related capacity-building projects. NTT DATA's dual role as a delivery partner supporting national and regional healthcare systems and as a contributor to pan-European EHDS capacity-building actions enables analysis across EU-wide initiatives, including the Capacity Building for Secondary Uses of Health Data for the European Health Data Space (EHDS2) and Xpanding Innovative Alliance (XiA), complemented by various regional digital transformation projects, as well as corporate education through the example of NTT DATA University. Data sources include structured stakeholder surveys, maturity assessments, feedback sessions with project partners and clients, and desk research. These data were analysed using a theme-based comparative approach to identify recurring capability gaps, implementation frictions, and design elements that constrained or enabled effective capacity building. The cases involve different stakeholder groups, ranging from national authorities to academic institutions and industry actors.

Our analysis suggests that EHDS preparedness is fundamentally a socio-technical capability, implying that readiness depends on organisational and operational digital business capabilities as much as on technical standards knowledge. It also indicates that EHDS preparedness is an uneven challenge across stakeholder groups. First, implementers report heterogeneous levels of organisational and workforce readiness, alongside acknowledged gaps in EHDS-related knowledge and skills. Second, despite differing institutional contexts, capacity-building approaches based on modular and flexible learning designs appear better suited to address evolving regulatory requirements and diverse professional roles. Third, effective EHDS capacity building requires continuous updating and contextual adaptation, supported by validated and standards-aligned learning units that can be combined into tailored pathways. Evidence from delivery contexts further suggests that the success of capacity-building initiatives depends not only on content development, but also on pragmatic design choices related to learning formats, sequencing, dissemination channels, and scalability under real-world operational constraints.

This study builds on real-world cases that are still evolving and should therefore be interpreted as an empirical and interim reflection rather than a definitive evaluation. Nevertheless, the findings highlight the importance of approaching EHDS capacity building as a cross-stakeholder challenge spanning governance, education, and delivery contexts. Greater alignment between these domains, supported by shared competence frameworks, modular learning architectures, and systematic feedback loops, may help reduce fragmentation and enhance the sustainability of EHDS uptake. The analysis also raises questions about what regulatory, institutional, or operational signals are required to trigger meaningful learning investment within organisations. Future work should examine how insights from ongoing and forthcoming EHDS initiatives can be synthesised as additional evidence becomes available and how delivery-oriented instruments, such as maturity assessments and corporate learning systems, could inform capacity-building approaches beyond organisations with comparable resources.

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Navigating competing institutional logics in municipal health and care: lessons for sustainable and resilient systems - insights from a qualitative study in Norwegian municipalities (ID 241)

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Context: European health systems face mounting sustainability challenges driven by demographic change, rising complexity of user needs, and persistent workforce shortages. Municipal health and care services are at the frontline of these pressures, tasked with implementing policy ideals such as aging-in-place while managing resource constraints and fragmented service structures characterised by siloed, specialised units with limited coordination. Despite reforms promoting integration and efficiency, implementation often falters. Understanding how organisations navigate these tensions is critical for future-proofing health systems and designing governance strategies that reconcile efficiency with person-centred care.

Methods: To explore these dynamics, we conducted a qualitative study in two Norwegian municipalities – one a rural district with severe workforce shortages, the other a more urbanised municipality facing acute financial constraints – reflecting challenges common across the sector. Using purposive sampling, we recruited managers and frontline staff from short-term care units, home care, rehabilitation teams, and service allocation offices. Fourteen semi-structured interviews (including four group interviews) were carried out, lasting 40–90 minutes. Interviews explored experiences with collaboration, resource constraints, and organisational priorities. Data were transcribed verbatim and analysed using an inductive–deductive approach informed by the institutional logics perspective, enabling us to identify how cultural beliefs and organising principles influence decision-making and hybridisation strategies in practice.

Results: Our analysis revealed persistent tension in how sustainability imperatives are enacted in practice. Three overarching institutional logics emerged: professional (care, medical, rehabilitation), managerial (administrative/financial, operational, coordination), and policy/societal (aging-in-place). These logics coexist but frequently collide, producing tensions in resource allocation, discharge decisions, and service design. For example, care-oriented values of dignity and continuity often conflicted with managerial imperatives for efficiency and throughput. Policy ideals such as aging-in-place introduced further complexity, requiring cross-sector collaboration and environmental adaptations beyond health services' control. Actors employed selective coupling and hybridisation strategies — pragmatic ways of combining elements from different logics — such as prioritising coordination mechanisms or adapting workflows to balance efficiency with care values. However, structural constraints (geography, staffing shortages) amplified tensions and hindered integration. These findings underscore the need for governance strategies that enable flexibility while addressing structural barriers.

Discussion: Our findings highlight that sustainability challenges cannot be addressed solely through structural reforms or efficiency measures. Institutional complexity — manifested in the interplay of professional, managerial, and policy logics — shapes how reforms are enacted, producing hybrid practices instead of full convergence. This raises critical questions about how governance can balance efficiency with care values in resource-constrained settings. For managers and policymakers, this underscores the need for governance models that accommodate multiple logics and foster dialogue across professional and organisational boundaries. Practical strategies include creating robust coordination arenas, aligning policy ambitions with local capacity, and supporting workforce adaptability. By connecting sustainability imperatives with the micro-dynamics of institutional logics, this study provides actionable insights for designing resilient, people-centred systems capable of navigating demographic and resource pressures.

Exploring management capability in the National Health Service (NHS) in England using a dynamic capabilities approach: a qualitative case study analysis (ID 242)

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The UK National Health Service (NHS) is facing unprecedented challenges to meet growing service demands from an ageing population, and to improve service quality to keep up with life standards and technology advances, whilst operating in a financially constrained environment. In the UK, managers in healthcare organisations have long been denigrated as 'pen pushers' and 'bureaucratic burdens' by politicians and mass media. Recent formal reviews of the NHS have condemned such 'manager-bashing'. However, the recent abolishment of NHS England - the governing body that has been providing leadership for health service commissioners and providers since 2012 - suggests the government perception remains that the NHS is over-managed.

Our research questions this oversimplistic account of the state of management in the NHS. Existing literature suggests that management is a complex activity that has profound implications for the wider organisation, and even more so in healthcare organisations. Moreover, healthcare organisations are highly dynamic, hybrid environments where different values coexist and compete. However, there is little acknowledgement or understanding of *who* NHS managers are, or about the range of roles that they perform.

Our research differentiates itself from other studies exploring management and leadership in healthcare by applying the multifaceted concept of dynamic capabilities, building on a resource-based view, and using this as our theoretical lens.

In this two-year Health Foundation funded project, we focus on a challenging but increasingly important area - innovation implementation - to gain a more sophisticated understanding of NHS management capacity and capability in hospitals. Seven in-depth case studies of NHS trusts in England across acute, mental health, and ambulance sectors were conducted. More than 100 interviews were held with clinical and non-clinical NHS managers, across a range of seniority. Considering three sub-processes of dynamic capabilities: sensing, seizing and reconfiguring, we illustrate *facilitating* factors around enhancing managerial capability, factors that may present *barriers* to building capability, and discuss the potential impact on performance outcomes.

Our thematic analysis offers a novel contribution by highlighting that an organisation's dynamic capabilities are determined by more than individual level of competence. Rather, the development and embeddedness of dynamic capabilities in an organisation requires unique resources (i.e. managerial dynamic capabilities), which are closely associated with continuing investment and growth in managerial human and social capital, and managerial cognition. Our findings illuminate the important influence of the interconnectedness between managers, system level routines and processes, and the broader organisation level context.

The potential influence that the wider socio-political and geographical context can have on manager capacity, capability and performance outcomes is also considered. Our approach and findings can have value for scholars and health care stakeholders in other countries with publicly funded health care systems too, such as Spain, Brazil, Canada and France.

Intersectoral integration of mental-health and psychosocial-support services for children and adolescents: lessons from a UNICEF project in Italy (ID 244)

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Context: This paper presents the Italian component of the multi-country project *Child & Youth Wellbeing and Mental Health First* (REFORM/IM2023/025), implemented by UNICEF in cooperation with the European Commission through the Technical Support Instrument. The study examines the current state of cooperation among stakeholders providing mental-health and psychosocial-support (MHPSS) services for children and adolescents in Italy, offering an integrated analysis of governance frameworks, regional implementation models and collaborative practices.

Methods: Anchored in the Rainbow Model of Integrated Care, the project conceptualises integration across micro (clinical), meso (professional and organisational) and macro (system) levels, exploring how relational coordination can strengthen cross-sectoral service delivery. A systematic international desk review of eighteen peer-reviewed publications encompassing 335 primary studies identified successful models of integrated youth-centred and community-based care. Key enablers included multidisciplinary teamwork, co-location of services and joint professional training, while persistent barriers involved fragmented governance, insufficient workforce capacity and limited inter-agency communication. These insights informed a multi-regional assessment of Italian MHPSS systems, combining documentary analysis of regional health and mental-health plans with in-depth interviews, structured consultations with district-level stakeholders, and five case-studies of relevant practices that illustrate real-world barriers and enablers for successful integration.

Results: Findings reveal substantial regional disparities in access, coordination and workforce resources. While multidisciplinary teams, typically comprising child neuropsychiatrists, psychologists, social workers and educators, operate across most territories, few regions maintain permanent or formalised coordination mechanisms among health, education and social sectors. Systemic challenges include professional shortages, long waiting lists and uneven financing models, despite targeted investments through the National Recovery and Resilience Plan and European Structural Funds. Nevertheless, the diversity of local practices demonstrates fertile ground for innovation through relational approaches that build collaboration, trust and shared purpose among actors spanning institutional and disciplinary boundaries. The project represents a shift from transactional coordination towards distributed, human-centred governance. By fostering co-creation and adaptive partnerships among ministries, regional health authorities, municipalities and civil-society organisations, the initiative exemplifies the relational turn in public management, wherein wellbeing and innovation emerge as collective outcomes of interaction rather than top-down design.

Discussion: The project aligns with relational public management emphasis on learning systems and participatory inquiry, positioning integration as a relational capability that depends on reflexive communication, shared accountability and mutual trust. Ultimately, the study contributes to European debates on how integrated, relational and place-based public-service systems can respond to complex psychosocial needs of youth. It provides an evidence-based foundation for subsequent project phases, including district-level workshops and the development of practical tools to enhance coordination across agencies. By integrating the analytical rigour of health-system research with the human-centred ethos of relational public management, the project offers a novel framework for understanding and improving MHPSS adolescent service integration in Italy, one that values cooperation as both a policy instrument and a relational practice essential to sustainable wellbeing.

What have we gained from the digital use of the surgical safety checklist? (ID 245)

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Content: Within the framework of the Health Care Quality Standards developed by the Ministry of Health, the use of the Surgical Safety Checklist (SSC) is mandatory for all surgical procedures performed under general, regional, or local anesthesia to ensure patient safety in operating room services. The SSC is a systematic tool that aims to prevent errors and reduce risks by ensuring that essential safety checks are applied at each stage of the surgical process. This study evaluates the feasibility of implementing the SSC through the Hospital Information Management System (HIMS) at Ankara Etlik City Hospital and examines the benefits of this digital application.

Method: To implement the SSC via HIMS at Ankara Etlik City Hospital, comprehensive planning was conducted and the checklist was integrated into the system. The digital workflow was designed so that progression to the next stage was not possible unless the previous stage was completed, ensuring a controlled and standardised process. Technical infrastructure improvements were carried out, and training sessions were provided to healthcare professionals involved in surgical care.

All SSC sections are completed in the prescribed order through the system. The benefits and limitations of the implementation were assessed using descriptive statistics such as numbers and percentages. To comply with the "SAH07.03 The surgical safety checklist must be kept in the patient record" standard under the Operating Room Services section of the Health Care Quality Standards, the SSC was defined as a digitally archived document within the Medical Records Archiving Procedure, and its digital storage was formally documented.

Results: Ankara Etlik City Hospital has 125 operating tables and a planned capacity of 4,050 beds, providing services across 11 surgical specialties. According to 2024 data, a total of 45,609 surgical procedures were performed between January and July. The SSC process begins in the clinic, where the "Before Leaving the Ward" section is completed by the ward nurse via HIMS before patient transfer to the operating room. The remaining checklist stages are completed in the operating room prior to the relevant procedural steps.

Although the mandatory and stepwise structure of the system initially caused adaptation challenges for clinical and operating room teams, this approach strengthened interdepartmental self-control and accountability over time. As familiarity with the system increased, the SSC became fully integrated into routine practice, enabling consistent and sustainable use.

Digital implementation of the SSC prevented an average of 217 paper printouts per day, resulting in significant paper savings and supporting digital archiving. Additionally, the ability to monitor the "SSC Compliance Rate" indicator through the system contributed to quality management processes and supported digital infrastructure development in line with HIMSS objectives.

Discussion: The findings indicate that implementing the SSC through HIMS is both feasible and sustainable in a high-volume city hospital. Digital use of the SSC enhances surgical safety while also improving process standardisation, quality monitoring, and efficient resource utilisation. Although the study is limited by its single-center design and the absence of direct evaluation of clinical outcomes, the results provide valuable evidence supporting the applicability of digital quality practices in large-scale healthcare facilities.

Desirability and feasibility of policy options to strengthen system sustainability in Finland: A qualitative study of decision-makers' and stakeholders' perspectives (ID 247)

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Context: Population ageing is accelerating globally as longevity rises and fertility declines, increasing pressure on health and care systems. Finland is among the fastest-ageing EU countries, facing growing demand and expenditure. Building on the framework by Cylus et al. (2019), this study applies four policy approaches: promoting health and wellbeing to reduce care needs, improving the service effectiveness and efficiency, strengthening paid and unpaid work (for older people), and ensuring sustainable financing. Within the SustAgeable project, this study examines solutions that ensure people's health and well-being and secure the financial sustainability of health and welfare services in the future.

Methods: We conducted a qualitative study using online focus groups discussions held in Spring 2025. Participants included policymakers and stakeholders from multiple levels of the Finnish health and care system, including officials from the Ministry of Social Affairs and Health and the Ministry of Finance, managers of wellbeing services counties, long-term care managers, care professionals, representatives of organisations and older adults themselves. The analysis combined inductive and deductive approaches. Following Bingham (2023), the data were first coded inductively and organised into research question–driven categories using Atlas.ti (version 9.1). The analytical framework proposed by Cylus et al. (2019) was subsequently applied to structure the overall analysis and discussion.

Results: Finnish decision-makers and stakeholders considered several internationally recommended policy measures as feasible and implementable in the national context. They emphasised that no single intervention could address population ageing; instead, multiple action is required parallel. Mental health promotion, reducing loneliness, and strengthening social inclusion emerged as key priorities, alongside the role of organisations in supporting everyday well-being. Improving the cost-effectiveness of health and long-term care, particularly by expanding home-based care, was regarded as most effective strategy for containing expenditure. Community-based housing and activities were considered beneficial both for resource efficiency and for addressing loneliness. Digitalisation and technology were considered helpful but limited by older adults' digital capabilities, raising doubts about their impact on cost containment. Informal care was highlighted, especially the need for better support for caregivers. Financing reform emerged as the most urgent issue, reflecting concerns about funding arrangements, political decision-making, and implementation of efficiency.

Discussion: While the framework by Cylus et al. emphasises cost-effective health promotion, it pays limited attention to mental health and social isolation. In Finland, stakeholders highlighted reducing loneliness and promoting mental well-being as key policy priorities, particularly in the context of widespread single-person households and their implications for health service use. The findings also highlight concerns about social sustainability, particularly unmet care needs among older people. Across stakeholder groups, the availability and accessibility of health and care services emerged as major challenges, with strict eligibility criteria for home care highlighted as a key barrier. Reforming the service funding model was identified as the most urgent structural challenge. Participants expressed concern that the current funding model lacks effective incentives and may inadvertently encourage service minimisation rather than ensuring adequate access to care. The study provides policy-relevant evidence on solutions that promote population health and well-being while securing the financial sustainability of health and welfare services in the future.

Can outpatient pooling scheme reform reduce healthcare expenditures? Evidence from a simulation-based counterfactual analysis (ID 248)

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Context: In China, a nationwide reform of outpatient benefits under the Urban Employee Basic Medical Insurance (UEBMI) system was implemented in 2021, replacing individual Health Savings Accounts (HSA) with Outpatient Pooling Scheme (OPS). However, evidence remains limited regarding how healthcare expenditures changed following this outpatient pooling reform. Therefore, the objective of this study is to investigate whether the enhancement of outpatient pooling benefits can reduce total healthcare expenditures (THE) and further explore the potential mechanisms underlying the policy effects.

Methods: We utilised longitudinal UEBMI claims data covering the period from January 2022 to December 2024 from a reform - implementing city that carried out OPS reforms in 2023 and 2024. THE were defined as the monthly total of all medical costs incurred during outpatient visits and inpatient admissions. We constructed cohorts based on individual characteristics, with variables such as age and gender taken into account. The THEs for each cohort were calculated by including both outpatient and inpatient services, and monthly clustering was performed. The optimal subset of predictor variables was selected using the Incremental Feature Selection (IFS) method. The machine-learning-based prediction model was employed to simulate the THE in counterfactual scenarios where the reform was either not implemented or implemented earlier. Specifically, outpatient benefits and healthcare-seeking behaviour variables were substituted with the corresponding post-reform values to simulate THE for each cohort under the advanced implementation scenario. Moreover, these variables were replaced with the corresponding pre-reform values to simulate THE under the delayed implementation scenario as a robustness check. The policy effect was estimated as the difference between the observed THE and the counterfactual predicted THE. Model performance was evaluated using mean absolute error (MAE), coefficient of determination (R^2), and root mean squared error (RMSE).

Results: A total of 50333,54548, and 59915 cohort were included in this study in 2022, 2023, and 2024, respectively. XGBoost showed the best predictive performance. Under the advanced implementation scenario, THE were 4.56% lower than observed, with reductions of 2.10% in 2022 and 6.56% in 2023. Delayed implementation scenario yielded consistent results. Heterogeneity analyses indicated larger cost reductions among older patients, those with ACSCs, individuals in economically developed regions, patients receiving care at specialised hospitals, and those with higher inpatient utilisation.

Discussion: This study demonstrates that outpatient pooling scheme can effectively reduce the increasing THE. These reductions could potentially be attributed to the improvement in outpatient benefits, leading to outpatient care replacing avoidable hospitalisations. Our findings offer evidence to guide outpatient benefit reforms in countries with comparable economic conditions that aim to more effectively control the rising THE.

Responding to professional identity threat under AI: boundary work and career adaptability in the health workforce (ID 249)

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Context: The rapid diffusion of artificial intelligence (AI) in healthcare is reshaping professional roles, expertise boundaries, and patient–professional relationships. While AI promises efficiency and decision support, it also challenges professional autonomy, legitimacy, and identity, particularly in occupations with relatively low symbolic protection and high exposure to consumer-facing AI tools, such as clinical nutrition. Drawing on research on professional identity threat and boundary work, this study examines how nutritionists respond to AI-induced identity threat and relational change through boundary work strategies that range from predominantly competitive efforts aimed at defending and contesting "professional territory" to more configurational forms of boundary work, which involve designing, organising, or rearranging existing boundaries to accommodate new actors and practices. We further examine how these responses relate to professional outcomes. The study contributes to debates on health workforce adaptation, professionalism, and competence building in digitally transforming health systems.

Methods: We conducted an online survey with practicing nutritionists in Cyprus (N = 43, preliminary sample). Established scales were used to measure AI-induced professional identity threat, the nutritionist–patient relationship, sense of professional meaning, and career adaptability. Because no validated quantitative scale exists for boundary work, we developed and adapted measures capturing three forms of boundary work identified in prior qualitative research: competitive, collaborative, and configurational boundary work. Analyses are exploratory and descriptive, complemented by regression models to examine associations between identity threat, boundary work strategies, and professional outcomes. Given the preliminary nature of the dataset, findings are interpreted as indicative patterns rather than generalisable estimates.

Results: Preliminary findings indicate that nutritionists already encounter AI indirectly through patients who bring AI-generated information into consultations. Perceived professional identity threat is generally low to moderate, with status-related concerns emerging as the most salient dimension. Contrary to expectations of predominantly defensive responses, higher levels of perceived identity threat are positively associated with collaborative boundary work, while associations with competitive and configurational boundary work are not statistically significant at this stage. Collaborative boundary work is positively related to all dimensions of career adaptability, especially curiosity, and to a stronger sense of professional meaning. These patterns suggest that perceived threat may activate adaptive integration strategies rather than purely defensive boundary maintenance.

Discussion: The findings suggest that AI-related identity tensions in the health workforce do not necessarily translate into resistance or withdrawal. Instead, professionals may respond by actively negotiating new collaborative boundaries that preserve professional meaning and support adaptive capability. This has implications for workforce development, suggesting that fostering constructive engagement with AI, rather than solely mitigating perceived threat, may strengthen professional resilience and adaptability. For health systems facing workforce shortages and rapid technological change, understanding how professionals reconfigure roles and reshape boundaries becomes critical for sustainable human capital management. Ongoing data collection with physicians will enable more robust testing of these relationships and cross-professional comparison.

Assessment of patient independence across activities of daily living (ID 251)

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Context: In Lithuania, a national system is used to assess nursing workload in healthcare institutions, incorporating variables such as service type, patient autonomy level, and clinical setting. At the Hospital of the Lithuanian University of Health Sciences, Kaunas Clinics, patient autonomy assessment has been incorporated into the nursing incentive mechanism as a quantitative indicator. However, existing guidelines describe autonomy assessment in abstract and non-standardised terms, limiting practical applicability. This highlighted the need for a standardised instrument to ensure consistent and objective evaluation of patient autonomy.

Methods: The assessment instrument was developed by a multidisciplinary working group. The tool was based on the Roper–Logan–Tierney nursing model, assessing patient functioning across activities of daily living. Four autonomy levels (S1–S4), ranging from fully independent to fully dependent and requiring continuous monitoring, were defined using operationalised criteria. Implementation into the Hospital Information System occurred in stages, including pilot testing, iterative revisions, and staff training. The instrument enabled the transition from paper-based nursing documentation to a fully digitalised nursing record that calculates patient autonomy levels and generates standardised clinical documentation.

Results: Implementation of the instrument enabled standardised, objective, and real-time assessment of patient autonomy across clinical departments. The digitalised nursing record improved data consistency, while automated calculation of autonomy levels supported transparent workload evaluation and nursing incentive allocation. Autonomy scores were integrated into clinical management processes, facilitating individualised care planning and improved workload distribution. Data were automatically collated within the Hospital Information System, enhancing accessibility for both operational and administrative purposes. Overall, the instrument contributed to increased fairness in incentive distribution and improved efficiency of nursing workload assessment.

Discussion: The developed instrument provides a structured and measurable approach to patient autonomy assessment within the Lithuanian nursing workload model. Its integration into the Hospital Information System supports the systematic identification of prevalent patient care needs, the development of individualised nursing plans, and the consistent evaluation of patient independence across the hospital. However, applying a single standardised instrument across diverse clinical profiles remains challenging, as patient needs and care intensity vary significantly between specialties. Therefore, ongoing evaluation, user feedback, and methodological refinement are required to ensure adaptability and sustained validity. Further research, including multicenter studies and staff surveys, is recommended to assess long-term impact, optimise applicability across clinical contexts, and support sustainable nursing workforce management while minimising professional burnout.

Job satisfaction of nurse managers: leadership perspectives in healthcare organisations (ID 252)

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Context: Europe's healthcare systems are facing increasing workforce shortages, rising burnout rates, and declining job satisfaction among nurses. While structural and financial factors are often emphasised, growing evidence suggests that leadership plays a decisive role in shaping nurses' everyday work experience. Nurse managers influence frontline nursing practice by implementing organisational strategies, affecting work climate, professional support, and staff wellbeing. However, the implications of nurse managers' leadership for both their own job satisfaction and that of general practice nurses remain underexplored in health management discussions.

Background: Findings from literature indicate that leadership styles demonstrated by nurse managers significantly affect nurses' job satisfaction, motivation, and retention. Democratic and transformational leadership approaches are consistently associated with higher levels of professional engagement, psychological safety, and perceived organisational support, whereas authoritarian leadership is associated with emotional exhaustion and dissatisfaction. It is important to note that the leadership styles used by nurse managers primarily influence their own work experience and job satisfaction. Through everyday managerial practices such as communication, conflict management, and staff empowerment, they also indirectly shape the working conditions of general practice nurses. Theoretical frameworks such as Herzberg's two-factor theory and Kanter's structural empowerment theory help explain how leadership behaviors translate into job satisfaction outcomes in healthcare settings.

The aim of the study is to assess the relationship between nursing administrator's leadership style and job satisfaction.

Focus of the study. This study is based on a conceptual approach to examine the relationship between leadership styles and job satisfaction among nurse managers. Drawing on existing literature, the study focuses on how leadership behaviours, organisational support, and structural empowerment shape nurse managers' own work experience, wellbeing, and professional satisfaction. The ongoing master's research aims to further explore these relationships empirically, while situating nurse managers as a critical link between organisational strategies and frontline nursing practice.

Contribution: By emphasising the job satisfaction of nurse managers as a critical yet often overlooked component of healthcare workforce sustainability, this study contributes to health management discussions on people-centred systems. Nurse managers' job satisfaction is not only essential for their own professional wellbeing, resilience, and retention, but also for their capacity to lead effectively within complex healthcare environments. The findings highlight leadership development and structural empowerment as strategic interventions to support nurse managers in high-responsibility roles. Strengthening leadership competencies at the managerial level may serve as a sustainable approach to enhancing organisational stability and, indirectly, supporting frontline nursing practice and overall health system performance.

What determines earnings of self-employed physicians in Austria? Evidence from quantile regressions using linked tax records (ID 253)

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Context: Shortage of healthcare workers is a growing challenge, and financial remuneration may influence recruitment efforts. In Austria, self-employed physicians can either work as contracted or non-contracted physicians. While non-contracted practices are expanding, sickness funds face increasing difficulties in recruiting contracted physicians. This study aims to analyse physician income, its key determinants and whether financial incentives could help SHI funds address recruitment challenges.

Methods: We used data from the Federal Ministry of Finance and the Federation of Social Insurances to derive descriptive statistics for self-employed physicians. In-depth data on contracted physicians enabled us to explore determinants of their income using quantile regressions.

Results: In 2022, contracted GPs had median annual earnings of EUR 191,649 before taxes, while contracted specialists earned EUR 210,988. Among GPs, an additional consultation was associated with an increase in earnings of EUR 11.70. Being a male GP corresponded with higher earnings of EUR 6,763 compared to female GPs. For specialists, each additional consultation increased earnings by EUR 27.94, and being female was associated with decreased earnings of EUR 13,413. Due to missing data on key variables, regression analysis was not possible for non-contracted physicians, but their median income was EUR 100,849

Discussion: Given higher earnings of contracted physicians compared to their non-contracted peers, it seems unlikely that increased financial incentives would help SHI funds in recruiting contracted physicians.

Global access to gene therapies: a comparative analysis of regulatory approvals, prices, and public coverage in the US, EU and UK (ID 255)

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Context: Gene therapies offer a transformative shift in the prevention and treatment of a wide range of debilitating and costly conditions. However, differences in regulatory approval and treatment cost across countries may pose challenges to access and affordability. This study systematically characterises and compares the authorisation, market withdrawal, orphan designation, pricing and public reimbursement of gene therapies in the European Union (EU), United Kingdom (UK), and United States (US). Study findings provide insights into global disparities in equitable access to high-cost advanced therapeutics and aim to inform ongoing policy discussions.

Methods: This observational study included all gene therapies approved for marketing by the European Medicines Agency (EMA), the UK Medicines and Healthcare Products Regulatory Agency (MHRA), and the U.S. Food and Drug Administration (FDA) through December 31, 2025. Approval dates, orphan designations, and market discontinuations data were collected from regulatory databases. Therapy prices and reimbursement data were derived from Micromedex Red Book (US), and national databases in Germany and the UK. Prices were adjusted to constant 2025 US dollars. For chronic therapies, costs were annualised. Comparative price ratios were calculated between countries. Coverage rates by public health systems in Germany and the UK were analysed relative to therapies authorised by EMA and MHRA, respectively. Authorisation overlaps, time lags between agencies were assessed, along with therapeutic class and regulatory milestones. Descriptive statistics summarised pricing patterns and time-to-authorisation differences across jurisdictions.

Results: The three regulatory agencies authorised 30 therapies through December 2025. The EMA authorised 22 (one additional therapy pending European Commission authorisation), the MHRA 18, and the FDA 27. Of these, 63.3% were authorised by both the EMA and FDA, 26.7% by the FDA only and 10.0% by the EMA only. Post-Brexit, MHRA authorised 60.0% of EMA-approved therapies. Antineoplastic and immunomodulating agents represented 40.0% of all authorisations. Orphan designation was granted to 69.6% (EMA) and 88.9% (FDA). The FDA was first to approve in 66.7% of cases -median lags of 309 days (EMA) and 133 days (MHRA). One FDA and five EMA approved therapies were discontinued. Median prices in Germany and the UK were 96.6% (IQR 27.2%) and 101.2% (IQR 5.2%) of US prices. Twelve therapies in the US, seven in Germany, and five in the UK exceeded $2 million. Public payers covered 70.8% (Germany) and 55.6% (UK) of authorised therapies.

Discussion: Most gene therapies targeted rare diseases and received orphan status. therapies targeted rare diseases. The EMA and FDA led authorisations, with the FDA approving most therapies earlier. The MHRA's post-Brexit authorisations lag behind the EMA, potentially impacting UK market access. While gene therapy prices appeared to be lower in Germany, comparisons may be confounded by confidential discounts and negotiated rebates in the US and UK. Cross-country comparisons may be further complicated by currency fluctuations. Notably, a significant proportion of gene therapies are priced above $2 million, raising questions about treatment affordability and long-term financial sustainability, even in high-income countries. Market withdrawals underscore safety challenges. Public reimbursement levels in Germany and the UK suggest partial but inconsistent payer support. Greater regulatory alignment and enhanced transparency in pricing and reimbursement frameworks may improve global equity in access to gene therapies.

How leadership practices shape retention and intention to leave in healthcare organisations: a systematic literature review (ID 256)

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Context: Healthcare systems are facing growing sustainability challenges due to population ageing, the increasing prevalence of chronic conditions and persistent workforce shortages. Traditional performance-driven management models appear increasingly inadequate to address rising burnout, turnover intentions and declining well-being among healthcare professionals. Understanding the relationship between leadership practices -at all organisational level and healthcare professionals employees' intention to leave is therefore strategic. This study aims to describe and synthesise findings from a systematic review examining how organisational leadership practices influence healthcare professionals' intention to leave their current organisation, offering practical insights to support the development of sustainable healthcare organisations.

Methods: The literature review will be conducted using PubMed, Scopus, APA PsycINFO, and Web of Science databases, following the PRISMA approach. The PRISMA Statement guide the reporting of the literature search, screening and selection process. Eligible studies include empirical research examining the relationship between organisational leadership practices and healthcare professionals' intention to leave, intention to stay, or retention outcomes. Both qualitative and quantitative studies will be considered. To critically analyse the included articles, an analytical grid will be developed to capture key characteristics of each study including leadership models, work environment features, healthcare professional groups involved, and study design. Intention to leave and retention will be considered the primary endpoint of the review, while job satisfaction and burnout will be analysed as secondary endpoint given their relevance to workforce sustainability.

Preliminary Results: The literature review will identify different leadership models and practices adopted across different healthcare contexts, highlighting their distinctive characteristics and underlying assumptions. The synthesis of findings will reveal patterns linking specific leadership approaches to healthcare professionals' intention to leave and retention outcomes. In particular, we expect that leadership practices emphasising support, communication, recognition, and involvement will tend to be associated with lower turnover intentions and higher retention, while more transactional or performance-oriented approaches will tend to show mixed or less favourable associations. The expected research outcome of this review is the development of a conceptual framework grounded in the literature, integrating leadership practices, organisational conditions, and individual-level outcomes to clarify how training in leadership should be designed and delivered to health managers and clinical leaders to increase their proficiency in leading successfully healthcare professionals, improving their motivation, retention and well-being, and consequently performances.

Discussion: Workforce shortages, rising burnout, and declining retention underscore the limitations of management models rooted in operational and performance-driven practices especially in turbulent times. In this context, leadership roles enacted at the frontline level play a strategic role in shaping healthcare professionals' experiences and employment decisions. By synthesising evidence across diverse healthcare settings and professional groups, this review contributes to a more integrated understanding of how leadership practices influence retention and intention to stay. The findings offer practical implications for healthcare leaders and managers, suggesting that investing in relational and supportive leadership practices may be essential to fostering workforce sustainability. Moreover, the review highlights gaps in the existing literature and points to future research directions on leadership development and organisational strategies aimed at retaining healthcare professionals in increasingly constrained health systems.

Health asymmetry among older adults: behavioural correlates and healthcare utilisation — A cross-sectional study of 14 countries (ID 258)

Health Asymmetry among Older Adults: Behavioral Correlates and Healthcare Utilisation — A Cross-Sectional Study of 14 Countries Linjing Gong[1,2,3], Health Asymmetry among Older Adults: Behavioral Correlates and Healthcare Utilisation — A Cross-Sectional Study of 14 Countries Jiajia Li[1,2,3]

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Background: Subjective health does not always align with objective health, a phenomenon known as health asymmetry, which classifies individuals as health optimists, health pessimists, or health realists. Such discrepancies are particularly common in later life and may shape health behaviours and healthcare utilisation, yet existing evidence remains limited and inconsistent. Drawing on harmonised survey data from adults aged 60 years and older across 14 countries, this study examines how health optimism and health pessimism are associated with health behaviours and healthcare utilisation.

Methods: Data were drawn from the harmonised 2018 waves of CHARLS, SHARE, and LASI, including 49 451 adults aged 60 years and older. Health optimism, health pessimism, and health realism were determined by the standardised difference (Z-score) between self-rated health, measured on a five-point scale, and the frailty index constructed from chronic conditions, ADL and IADL limitations, mobility, cognitive function, and self-rated hearing and vision. Distribution across demographics was described by frequency and percentage. To estimate the net effect of health asymmetry, kernel matching on the frailty index was performed within each country. Each health optimistic and health pessimistic individual was separately matched with a health realistic counterpart who had comparable objective health. Linear regression was then used to compare outpatient visits, and logistic regression was applied to assess associations with smoking, physical activity, and depressive symptoms.

Results: Overall, Europe (12 countries) had the highest proportion of health realism (76.23%), China showed a higher prevalence of health optimism (23.20%), and India exhibited the highest proportion of health pessimism (16.77%). Women were more likely to be health optimistic compared with their counterparts, while men were more likely to be health pessimistic. A higher prevalence of health realism was observed among individuals with higher levels of education. Compared with health realist older adults, health optimistic individuals were less likely to smoke (OR=0.77, $p<0.001$), report depressive symptoms (OR=0.69, $p<0.001$), and use outpatient services (Coeff = -0.086, $p<0.001$), but more likely to exercise regularly (OR=1.23, $p<0.001$). Health pessimistic individuals showed the opposite pattern, with higher odds of smoking (OR=1.31, $p<0.001$), depressive symptoms (OR=1.50, $p<0.001$), and outpatient use (Coeff = 0.074, $p<0.001$), and lower odds of regular exercise (OR=0.81, $p<0.001$).

Discussion: Health asymmetry exhibited distinct patterns across countries and demographic groups, reflecting cultural and socioeconomic influences on subjective and objective health. Health optimists and pessimists were associated with systematically different patterns of health behaviours and healthcare utilisation, underscoring the role of health asymmetry in shaping health-related decision making in later life. Addressing health pessimists through targeted strategies, including improved health literacy, more effective health communication, and psychosocial support, may promote healthier behaviours and more appropriate healthcare use.

From population health management to smart population health management: a necessary shift? (ID 259)

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Health systems face growing structural challenges that threaten their sustainability and responsiveness, including an ageing population, the increasing prevalence of chronic diseases, growing clinical and social complexity, increasing pressure on health expenditure, and the accelerated adoption of new technologies with significant cost implications. In this context, Population Health Management (PHM) has emerged as a strategic framework to support the transition from predominantly reactive care models to more proactive, integrated, and people-centred approaches.

Briefly, PHM corresponds to an approach focused on managing a defined population through data, stratification, and care planning. Despite its widespread adoption, the operationalisation of PHM remains strongly dependent on the availability and strategic use of information, with several experiences highlighting both the potential and limitations of current PHM models (1).

In recent years, the concept of Smart Population Health Management (SPHM) has emerged, driven by technological advances and the growing availability of multisectoral data. SPHM proposes an evolution of traditional PHM, incorporating more proactive, predictive, accurate, participatory and personalised approaches, as well as adaptive management supported by real-time information.

In Portugal, the recent creation of Local Health Units represents a significant step towards the adoption of PHM, promoting integration between primary and hospital care and strengthening accountability for geographically defined populations. However, the lack of a widely adopted conceptual framework distinguishing levels of PHM maturity limits strategic direction for the transition towards more advanced models, such as SPHM.

The aim of this work is to conduct a comparative analysis between PHM and SPHM, identifying common elements, structural differences and implications for public policy and health system management, in a context where conceptual ambiguities persist regarding the distinction between the two approaches and their implications for governance and decision-making.

Methodologically, the study takes the form of a policy brief, based on the conceptual systematisation of both models, critical analysis of experiences, and identification of fundamental comparative dimensions.

Therefore, the comparison is structured around areas such as the nature and integration of data, approaches to risk stratification and prediction, focus on the community and level of personalisation of responses, interoperability, and governance models. The analysis shows that, although PHM shares fundamental principles with PHC, it introduces qualitative changes that increase the capacity of health systems to anticipate needs, reduce inequalities, and improve efficiency in the use of resources.

This work contributes to clarifying the conceptual debate surrounding PHM and SPHM, offering a comparative framework that can support policymakers, managers, and researchers in defining strategies for the transformation and modernisation of health systems.

They're only human after all: examining the central role of staff in hospitals' response to dynamic environments (ID 260)

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Context: Hospitals face unprecedented uncertainty and increasing difficulty in preparing for and responding to shocks. At the same time, workforce challenges are intensifying, as growing numbers of staff report diminished health and well-being and an increasing intention to leave the profession. To remain viable in such a dynamic environment, hospitals must strengthen their capacity to cope with uncertainty and shocks while safeguarding staff well-being and retention. This dissertation accordingly examines how hospitals can build the capabilities needed to deal with today's dynamic environment with an emphasis on learning how to better support the workforce.

Methods: Empirical studies were conducted across Dutch hospitals and span the period before, during, and after the COVID-19 pandemic (i.e., a prolonged shock). The dissertation includes two mixed-methods studies and a multiple case study examining organisational and staff responses to the pandemic (763 pages of internal documents, 635 minutes of video material, 194 newspaper articles, 274 survey respondents, and 72 interviews across five hospitals). Additionally, a quantitative study analysed the relationship between slack (i.e., excess) resources and staff absenteeism and turnover across all Dutch hospitals between 2017–2021 (342 hospital-year observations). A longitudinal qualitative study explored persistent post-shock challenges (40 interviews across four hospitals). Lastly, a multiple case study examined the role of team leaders in supporting staff in the post-pandemic period (23 interviews across three hospitals). Together, these studies enable an integrated analysis of how organisational, leadership, and system-level conditions shape workforce well-being and hospitals' capacity to cope with uncertainty.

Results: Hospitals' capacity to cope with shocks and ongoing uncertainty was strongly contingent on staff health, availability, and commitment. Staff commitment was undermined by competing demands, limited opportunities for recovery, energy depletion, and perceived lack of appreciation and support. Although mental health risks were widely recognised, staff support strategies were often generic and reactive rather than proactive and tailored to individual needs, contributing to low utilisation of (psychosocial) support. Quantitative analyses show that slack resources significantly reduce staff turnover during stable periods and substantially buffer absenteeism during shocks. Three persistent challenges extend beyond the pandemic: structural workforce constraints amid increasing care demands, the need for organisational collaboration in competitive contexts, and the importance of inclusive leadership within predominantly top-down structures. Team leaders emerged as key actors in supporting staff by balancing staff needs with managerial demands, but their effectiveness was frequently constrained by limited trust, autonomy, and support from higher management.

Discussion: This dissertation demonstrates that the workforce lies at the core of hospitals' ability to cope with today's dynamic environment. It therefore calls for "the centrality of humanity" in healthcare organisations. That is, recognising that organisational functioning fundamentally depends on the sustained availability of healthy staff, who should not merely be treated as 'resources' but as individuals with intrinsic human needs that should be met. Responsibility for staff well-being should primarily reside at the organisational level rather than staff. Team leaders can act as critical intermediaries in protecting staff well-being, but only when granted sufficient trust, autonomy, and support from higher management. At the organisational level, slack resources constitute a key resilience mechanism, enabling hospitals to retain staff during stable periods and buffer against absenteeism during shocks. At the system level, financing and governance structures should be adapted to enable sustained investment in staff, facilitate organisational collaboration, and strengthen resilience.

Variation in continuity of care across four municipalities: evidence from patient records (ID 261)

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Context: Continuity of care is widely recognised as a cornerstone of high-quality, people-centred health systems. It reflects the degree to which patient care is coordinated and consistent over time, influencing access, outcomes, and patient experience. In decentralised systems such as Norway's, where municipalities are responsible for primary health and long-term care, continuity can vary substantially across regions and service levels. Understanding these variations is critical for improving equity and system performance. This study examines continuity of care at the individual level across four municipalities, using electronic health record (EHR) data to generate standardised indices that allow benchmarking and inform policy.

Methods: We calculated Bice-Boxerman Continuity of Care (COC) indices for all adult patients receiving municipal health and care services between 2012 and 2023. The index measures the concentration of patient contacts among providers, ranging from 0 (completely fragmented care) to 1 (perfect continuity). Data were extracted from municipal EHR systems, encompassing service utilisation, provider identifiers, and patient trajectories across home care, nursing services, and other municipal health interventions. Analyses included descriptive comparisons of COC scores across years, individuals, municipalities and service levels, as well as regression models adjusting for age, sex, functional status, and comorbidity to explore determinants of continuity.

Results: Preliminary findings reveal marked variation in continuity across municipalities and service types. At the individual patient level, the COC scores in the entire period ranged from 0 to 1, with 95% of patients score between 0.017 and 0.126. Higher continuity was observed in nursing homes and lower continuity in services involving multiple providers or frequent transitions. Older age and higher functional dependency were associated with greater continuity, likely reflecting concentrated care among fewer providers. Conversely, patients with complex needs and multiple service types exhibited lower continuity, indicating potential fragmentation. These patterns persisted after adjusting for demographic covariates.

Discussion: Continuity of care indices derived from EHR data provide actionable insights into healthcare delivery and system performance. Variation across municipalities suggests differences in organisational models, workforce stability, and coordination practices. Lower continuity among patients with complex needs highlights a critical challenge for integrated care and underscores the importance of strengthening cross-service coordination. By benchmarking continuity at the individual level, municipalities can identify gaps, monitor progress, and design interventions to enhance patient-centred care. These findings have implications for governance, resource allocation, and workforce planning, supporting efforts to build more resilient and equitable health systems.

Encounters between fields: integrating military forces into the health field's epidemiological effort during COVID-19 in Israel (ID 262)

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Background: This article examines the integration of the Israeli military into civilian health efforts during the COVID-19 crisis through Bourdieu's field theory. It shows how global trends toward securitising health legitimised military involvement, but in Israel this process intensified power asymmetries between the IDF and the Ministry of Health. Government decisions strengthened the military field's economic, social, and symbolic capital, marginalising the health field and weakening its authority. Interviews reveal that unclear role definitions and political interventions exacerbated tensions, hindered communication, and reshaped crisis management practices. The study argues that understanding inter-field competition is essential for designing civil-military cooperation in crises.

Method: The study employs a qualitative methodology to gain an in-depth understanding of the processes involved in coping with the COVID-19 pandemic, using a case study design and semi-structured, in-depth interviews. Between February and May 2021, twenty interviews were conducted with Ministry of Health professionals and IDF officers who were involved in epidemiological investigations. The interviews, held via Zoom and lasting 40–60 minutes, included participants from different hierarchical levels and were conducted in accordance with ethical guidelines, ensuring informed consent and confidentiality. All interviews were recorded, transcribed, and analysed using an inductive qualitative approach that included open coding and the identification of key categories and themes. Data analysis was conducted concurrently with data collection by two researchers independently, in order to minimise bias and enhance the reliability of the findings.

Findings: The findings reveal deep structural and cultural gaps between the military and health fields that shaped cooperation during the COVID-19 crisis. Major differences emerged in social, cultural, symbolic, and economic capital: the IDF benefited from flexibility, rapid mobilisation, strong public legitimacy, and extensive resources, while the Ministry of Health (MOH) struggled with bureaucracy, limited authority, and chronic underfunding. Although cooperation at the local level was often harmonious, power struggles dominated decision-making arenas, where the IDF increasingly assumed control. The absence of clear role definitions and authority boundaries intensified tensions, turning collaboration into symbolic rather than a substantive partnership. MOH professionals felt marginalised as military logic of speed and command clashed with public health norms emphasising professional judgment and quality. At the macro level, political and societal preferences for the military reinforced asymmetrical power relations, weakening the health field's autonomy. Overall, the crisis exposed how state-backed militarisation reshaped inter-organisational dynamics, often at the expense of professional health authority.

Discussion: differences in social, cultural, economic, and symbolic capital. The IDF's flexibility, authority, and resources allowed rapid mobilisation and decision-making, while the MOH faced bureaucratic constraints and limited resources. War metaphors, public perception, and media coverage amplified the military's saviour image, undermining the health field's professional authority. These structural imbalances created an unequal partnership, with the military taking control of crisis management. The findings underscore how capital disparities, societal norms, and securitisation culture shape inter-organisational power dynamics during emergencies.

The study's conclusions indicate that clear definitions of civilian and military roles, communication, and leadership are essential for effective crisis management. Public health organisations require adequate funding, recognition, and legitimacy. Strategic planning, flexible response strategies, and defined decision-making processes can reduce conflicts, foster cooperation, and strengthen national crisis preparedness.

From experts to partners: evaluating the transformation in nurses–parents relationships in Maternal and Child Health Centers (MCHC) through the most significant change methodology (ID 263)

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Context: The current abstract presents the outcomes of a training program developed for nurses working in Israeli Maternal and Child Health Centres (MCHC), grounded in the Family Partnership Model (FPM), which conceptualises the nurse–parent relationship as a collaborative, parent-led partnership. The program equips nurses with evidence-based tools to support parenting through empathy, nonjudgmental communication, shared decision-making, and participatory exploration, with the overarching aim of enhancing child development and well-being. Implemented nationwide, the program includes multi-phase nurse training, professional supervision, and policy-level support. This study examines the program's effectiveness and assimilation using the Most Significant Change (MSC) methodology.

Methods: MSC methodology is a qualitative approach that captures participants' perspectives on meaningful changes resulting from a training program. MSC stories were collected from nurses and head nurses in Israeli Maternal and Child Health Centres (MCHC) between June and July 2023, at least one year after completing the training. Participants were asked to describe stories that illustrated the most significant change they had experienced in their professional demeanour and relationships with parents following the training. Of the 48 invited, 33 respondents submitted stories, and 32 stories were analysed. Analysis combined qualitative and quantitative dimensions: key domains of change were identified (partnership with parents, welfare and well-being, play and playfulness), and the scale and beneficiaries of changes were assessed. In the final phase, 15 organisational stakeholders reviewed and discussed the stories, selecting the most significant and evaluating their relevance, linking individual experiences to broader organisational learning and practical implications for clinic work.

Results: Three main dimensions were identified: domains of change, axes of change, and beneficiaries. The domains of change were: creating partnerships with parents; promoting parental well-being; supporting play and playfulness (a new focus in nurses' practice); and focusing on the entire family, not just the infant. Nurses described transformations along five axes. These included moving from directive to empowering approaches; from rigid constructs to reflective practice; from infant-focused to family-centred care; from intuitive to systematic processes using professional language; and from specialised practitioners to professionals equipped with versatile communication tools. Beneficiaries included parents, who received strength-based collaborative care; nurses themselves, who reported increased professionalism, confidence, and reduced burnout; colleagues, who experienced improved teamwork; and organisations, which noted enhanced patient satisfaction. These demonstrate that structured professional development can produce meaningful, lasting improvements in practice and contribute to broader organisational culture and ongoing learning within clinics.

Discussion: In most healthcare systems, the patient-nurse relationship has traditionally been paternalistic. However, international guidelines emphasise the importance of patient participation in care. Barriers to implementing shared decision-making include professional perceptions, organisational structure, intra-organisational politics, limited time, and scarce resources. Effective leadership and collaboration with management and policymakers are essential for sustaining change. The current training program addressed these challenges by engaging managerial stakeholders, mapping organisational needs, and aligning the training accordingly. Nurses' perceptions shifted to prioritise the whole family and parental well-being, resulting in practice changes such as bridging professional gaps and treating parents as partners in care. These changes influenced colleagues and prompted adjustments in clinic routines. Evidence from Australia and New Zealand shows that the Family Partnership Model (FPM) enhances nurses' confidence and effectiveness. Sustaining these changes requires supportive organisational conditions, leadership commitment, and practical measures to ensure the model's principles are maintained during crises.

Usability of electronic record systems and caring behaviours among nurses of different generations (ID 264)

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Context: The integration of digital technologies into healthcare has transformed how nurses deliver and document care. Electronic Record Systems (ERS) are essential for ensuring data accuracy, coordination, and safety, yet their perceived usability and influence on caring behaviours vary across generations. Nurses from different age cohorts may approach technology differently, reflecting distinct professional values, ethical orientations, and attitudes toward patient interaction. Understanding these generational differences is critical to achieving a balance between technological proficiency and human-centred care. This study explores the relationship between ERS usability and caring behaviours among nurses from X, Y, and Z generations working in intensive care units.

Methods: This descriptive and correlational cross-sectional study was conducted between July to October 2025 using an online survey distributed via a snowball sampling strategy. The study population included nurses providing direct patient care in inpatient units of public, university, and foundation hospitals across Türkiye. A total of 391 valid responses were analysed from 516 completed surveys. Data were collected using three tools: a Personal Information Form, the Usability Scale of the Electronic Record System in terms of Nursing Functions (USERSNurse), and the Caring Behaviours Inventory-24 (CBI-24). The USERSNurse evaluates electronic record usability in three dimensions: Contribution to Nursing Practice, Knowledge Management, and Efficiency and Productivity, with a Cronbach's α of 0.944. The CBI-24 measures four dimensions of caring behaviour with a Cronbach's α of 0.941. Data were analysed using SPSS version 29, employing descriptive statistics, Spearman correlations, Kruskal-Wallis and Mann-Whitney U tests, and multiple regression analysis ($p \leq 0.05$).

Results: The findings indicated a weak yet positive correlation between ERS usability and caring behaviours ($r = 0.216$; $p < 0.001$). Z-generation nurses demonstrated the highest mean usability scores, emphasising digital participation, data accessibility, and operational efficiency. In contrast, X-generation nurses reported higher scores on caring behaviour, reflecting their emphasis on ethical responsibility, relational sensitivity, and patient communication. Y-generation nurses occupied an intermediate position, balancing digital competence with interpersonal care values. The most highly rated usability dimension was "information management," suggesting that ERS primarily facilitates clinical documentation and coordination rather than interpersonal care processes. Organisational barriers, such as limited technical support, inconsistent training, and resistance to change, were identified as key challenges influencing perceptions of usability across generations.

Discussion: This study highlights that generational diversity significantly shapes nurses' interaction with digital systems and their ability to integrate technology into the humanistic dimensions of care. Younger nurses exhibit strong digital adaptability and technological confidence, while experienced nurses contribute ethical judgment and relational competence. This intergenerational complementarity reflects Ren's (2024) concept of "technological-human balance," underscoring the need to harmonise digital proficiency with empathy and professional wisdom. Health institutions should establish mentoring structures that encourage mutual learning, leveraging younger nurses' technological agility alongside senior nurses' experiential insight. Moreover, incorporating digital literacy, data ethics, and patient-centred digital communication into nursing education will foster responsible use of technology. Ultimately, sustainable, compassionate, and person-centred digital nursing practice requires viewing ERS not merely as administrative tools but as enablers of holistic, ethical, and collaborative care.

From theory to practice: building sustainable and resilient surgical systems through reduction of day-of-surgery cancellations (ID 265)

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Context: Day-of-surgery cancellations are a persistent operational challenge that undermine health system sustainability, patient access, and care reliability. Cancellations disrupt operating room utilisation, delay needed procedures, strain staff, and disproportionately affect patients with higher clinical or social risk. Despite broad awareness of the problem, many organisations rely on anecdotal explanations or isolated fixes that fail to produce lasting improvement. At Kettering Health System, a baseline day-of-surgery cancellation rate approaching 8% prompted a system-wide effort to translate improvement science theory into operational practice, with the dual aim of strengthening financial resilience and expanding equitable access to surgical care.

Methods: Kettering Health System applied the DMAIC (Define, Measure, Analyse, Improve, Control) framework to address day-of-surgery cancellations across the surgical continuum. A cross-functional team was formed, representing scheduling, pre-admission testing, anaesthesia, nursing, surgeons, perioperative services, and operations leadership. The project began with a clearly defined problem statement and standardised measurement of cancellation rates, stratified by cause, service line, and timing.

Data analysis replaced historical assumptions with statistically validated drivers of cancellation, including uncontrolled blood glucose, incomplete cardiac risk stratification, patient or provider illness, weather-related disruptions, and non-adherence to NPO instructions. Root-cause analysis guided prioritisation of interventions with the highest operational and clinical impact. Seven targeted interventions were implemented, emphasising upstream readiness, standardised workflows, accountability, and real-time visibility. Control plans included performance dashboards, escalation pathways, and operational ownership to ensure sustainability beyond the initial improvement phase.

Results: Within one year of implementation, Kettering Health System reduced its day-of-surgery cancellation rate from nearly 8% to less than 4%, representing an approximate 50% reduction. This improvement translated into millions of dollars in direct margin through improved operating room utilisation and reduced wasted capacity. Equally important, the reduction in cancellations increased access to care for patients who historically experienced last-minute procedural delays, particularly those with complex medical conditions or higher preoperative risk.

Performance gains were sustained through ongoing monitoring and integration of the interventions into standard operating procedures, rather than reliance on temporary workarounds or individual heroics. The use of statistically driven prioritisation ensured that improvement efforts were focused on interventions with measurable impact, allowing the organisation to achieve meaningful results without increasing staffing or capital investment.

Discussion: This work demonstrates how disciplined application of improvement science can strengthen both sustainability and resilience in complex healthcare systems. By shifting from assumption-based problem solving to data-driven decision making, the organisation was able to reduce variation, improve reliability, and expand patient access while improving financial performance. The cross-functional structure of the work was critical, as cancellations are rarely attributable to a single department or role.

The results highlight the importance of embedding control mechanisms and operational ownership to prevent regression and ensure long-term impact. While the specific interventions may vary across organisations, the underlying approach—rigorous measurement, statistical prioritisation, and system-level accountability—is broadly transferable. This case illustrates how health systems can move from quality improvement theory to practical, scalable operations that deliver durable outcomes for patients, staff, and the organisation.

The role of organisational communication and diversity policies in reducing (ID 266)

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Background: Healthcare organisations in ethnically diverse societies face tensions that spill over into caregiver–patient interactions, affecting employee well-being and quality of care. Socio-political conflicts can intensify ethnic-based violence, particularly toward minority healthcare workers, who may also experience racism from colleagues and managers. While diversity enhances cultural competence and patient-centred care, it can expose staff to stereotypes and prejudice. Effective organisational communication, clear anti-violence and anti-racism policies, and managerial support are essential to reduce workplace aggression, foster positive relationships, and create safe, equitable environments. This study examines employees' perceptions of ethnically motivated violence and the role of organisational policies in mitigating it.

Methods: primarily Jewish (93.3%) and about half secular (48.6%). Participants worked as nurses (42%), physicians (12%), and in administrative or other roles, with an average of seven years' experience. Data were collected through an online panel, including employees directly serving patients and families over the past year.

Measures included organisational communication about violence, diversity policy, perceived ethnic differences, perceived racism, race-based violence, and general violence, assessed using adapted validated scales (Postmes et al., 2001; Mason et al., 1995; Abu Asba, 2025; Shenhav-Goldberg et al., 2012; Enosh et al., 2014). Items were rated on 1–5 scales, with internal consistency ranging from acceptable to high (α = .59–.95).

Data were analysed using path analysis in SPSS and AMOS 29, with model fit assessed via χ^2, NFI, TLI, CFI, RMSEA, and SRMR. Controls included gender, age, economic status, and managerial role. Serial mediation was tested with bootstrapping of 5000 samples and bias-corrected 95% confidence intervals.

Results: included gender, age, economic status, and managerial role. Independent variables were organisational communication about violence and diversity policy, and mediators were positive perception of ethnic differences, perceived racism, and race-based violence, in serial order. Variables were standardised, and bootstrapping with 5000 samples and bias-corrected 95% confidence intervals was applied. The model fit the data well ($\chi^2(15)$ = 21.49, p = .122; NFI = .967; TLI = .968; CFI = .989; RMSEA = .034; SRMR = .037).

Organisational communication about violence was associated with a positive perception of ethnic differences. This perception was linked to lower perceived racism, which in turn was associated with lower race-based violence and ultimately lower experience of general violence. Several indirect paths were significant: higher organisational communication predicted lower race-based violence and experienced violence, while positive perception of ethnic differences reduced perceived racism and race-based violence, thereby lowering experienced violence.

Discussion: This study examined violence against healthcare workers in Israel, focusing on ethnic differences. In hospitals, which mirror societal tensions, ethnically diverse groups interact closely under emotionally charged conditions. Findings show that positive perceptions of ethnic differences are associated with lower perceived racism and reduced ethnically motivated violence toward staff. Moreover, organisational communication about violence enhances these positive perceptions, indirectly decreasing both perceived racism and exposure to violence. The results highlight the critical role of vertical organisational communication – messages conveyed from management to staff influence employees' sense of safety and their interactions with patients. Diversity policies alone did not show similar effects, emphasising the unique contribution of active communication in fostering a supportive organisational climate. The findings support intergroup contact theory (Allport, 1954) and suggest practical strategies: clear, proactive communication about violence and diversity can reduce racism and aggression, improve employee well-being, and enhance overall healthcare service quality.

Collaborative triad in multilevel health policy implementation (ID 267)

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Context: Translating policy into effective health outcomes remains a persistent challenge. National frameworks often rely on coordination across multiple governance levels, yet traditional vertical models are insufficient for meeting modern policy demands. Contemporary implementation requires bridging technical expertise, local knowledge, and institutional divides. Regional governance structures have emerged as crucial intermediaries, linking national policy with local realities, yet their role in facilitating collaboration with local authorities and professional specialists remains underexplored. This study conceptualises implementation as a collaborative triad comprising regional clusters, local authorities, and professional actors, whose coordinated interactions can enhance the effectiveness of health policy.

Methods: The "Growth Leap" project, a municipal policy initiative promoting healthy nutrition, was examined using a qualitative approach to explore governance dynamics. Semi-structured interviews were conducted with 2 regional cluster representatives, 9 professional nutritionists, and 11 municipal officials from 18 municipalities, lasting 45–60 minutes via Zoom in Hebrew. This approach captured interactions among regional coordinators, municipal officials, and professional specialists across diverse local contexts. By examining participants' experiences, relationships, and collaborative practices, the study highlighted how contextual factors, emergent adaptations, and multilevel governance arrangements shape policy implementation, offering nuanced insights into the processes and effectiveness of local health governance initiatives. Data were analysed using Bingham and Witkowsky's five-phase process, combining deductive coding aligned with research questions and theoretical frameworks with inductive open coding to identify emerging themes and patterns. Key themes included actor roles, relational mechanisms, governance coordination, and peer learning across municipalities, integrating findings with implementation science perspectives.

Results: Analysis of the "Growth Leap" project revealed a multilevel governance structure involving four key actors. Regional clusters acted as facilitators, providing financial resources, professional leadership, and emotional support while leveraging relational capital to ease municipal entry, though funding instability and bureaucratic constraints limited long-term sustainability. Local authorities functioned as mediators, supplying infrastructure, personnel access, and interdepartmental coordination, but the absence of dedicated health promotion units weakened strategic continuity. Municipal nutritionists served as boundary-spanning change agents, translating regional strategies into local interventions while building trust through relationships, with success strongly influenced by senior leadership engagement. An unexpected fourth pillar emerged: peer learning networks among nutritionists across municipalities. Through shared knowledge, collaborative content development, and mutual support, these horizontal networks enhanced implementation efficiency, fostered professional communities, optimised resource use, and promoted collective problem-solving. Together, these actors created a dynamic, interdependent system enabling more effective local health policy implementation.

Discussion: Effective policy implementation relies on alignment and mutual commitment among all actors in the collaborative triad. Using the "Growth Leap" project as a case, it highlights how multilevel and collaborative governance functions in practice, revealing both enabling and constraining dynamics. Regional clusters act as strategic anchors, translating national priorities into local action, mobilising resources, and supporting professional capacity. Yet their centrality can create local dependencies and slow the institutional embedding of health promotion initiatives. professional nutritionists serve as boundary-spanning actors, navigating institutional asymmetries and exercising soft power through trust-building, adaptive leadership, and context-sensitive engagement. Local municipalities contribute infrastructure, coordination, and administrative support, but gaps in dedicated health promotion capacity can limit continuity. The findings underscore the importance of deliberate investment in intermediary structures, professional development, and local institutional anchoring to ensure sustainable, contextually adapted policy implementation and long-term effectiveness of health promotion initiatives across multilevel governance systems.

Employer branding as a strategic workforce tool in healthcare: lessons from international good practices and a centralised health system (ID 268)

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Context: Health systems across Europe are facing persistent workforce shortages, making the attraction and retention of healthcare professionals a strategic priority. This research was inspired by the author's involvement in the EU-funded Joint Action, HEROES, which focuses on strengthening health workforce planning, data use, and capacity across European health systems. While workforce planning typically concentrates on forecasting, data availability, and system-level capacity, the author's professional experience raised complementary questions about the role of institutional attractiveness and employer-side strategies. In this context, employer branding is explored as a strategic workforce instrument, rather than a communication or marketing activity.

Methods: The study applies a mixed qualitative approach combining three elements. First, a comprehensive review of Hungarian and international literature on employer branding, strategic human resource management, and healthcare workforce challenges was conducted, following a structured screening and selection process. Second, semi-structured in-depth interviews were carried out with healthcare leaders, HR managers, and communication experts from both public and private healthcare institutions, using a predefined thematic framework. Third, international and national employer branding good practices in healthcare were mapped through a systematic online analysis of healthcare providers' publicly available materials. The triangulation of literature, expert insights, and good practices enabled a comparative analysis between the decentralised and highly centralised healthcare systems context.

Results: The findings confirm that employer branding can support health workforce attraction, retention, and engagement when embedded within broader human resource and leadership frameworks. Analysis of international good practices highlights recurring enabling conditions, including organisational discretion in HR decision making, leadership ownership of workforce strategies, and alignment between institutional values and daily professional practice. In a more centralised health system context, the effective application of employer branding appears constrained, particularly within publicly governed provider organisations. Expert insights indicate that limited local decision-making authority, restricted flexibility in workforce-related incentives, and narrow interpretations of employer branding as a communication activity reduce its perceived legitimacy and practical impact. Across contexts, greater organisational discretion emerged as a key enabling condition for achieving meaningful workforce-related outcomes.

Discussion: This study reframes employer branding as a governance-dependent health workforce strategy, rather than a standalone HR tool. By combining international good practices with insights from a centralised public health system, it demonstrates how institutional autonomy and governance arrangements shape the feasibility and effectiveness of employer-focused interventions. The findings are particularly relevant in a context where healthcare professionals increasingly value supportive working environments, work-life balance, recognition, and meaningful organisational culture alongside traditional employment conditions. Addressing workforce shortages and professional burnout, therefore, requires governance frameworks that enable provider organisations to actively shape these factors. For policymakers and health system leaders, the results suggest that workforce sustainability depends not only on improved planning, data, and forecasting, but also on governance models that allow sufficient organisational discretion to translate strategic intent into day-to-day workforce practices. When enabled through appropriate governance, employer branding can contribute to more resilient, people-centred and sustainable health systems.

Nurse-to-nurse consultations without patient presence: a model to improve care coordination and continuity between primary care and Hospital Care at Salut Sant Joan Reus Baix Camp (ID 269)

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Background: The increase in patients with chronic conditions and multimorbidity makes it essential to strengthen coordination between care levels in order to ensure continuity, safety, and efficiency. In this context, the role of nursing as a driver of improvement in chronic care management and therapeutic education is key. At Salut Sant Joan Reus Baix Camp, a model of Nurse-to-Nurse Consultations Without Patient Presence has been implemented between Primary Care (PC) and Hospital Care (HC) nursing teams. The objective is to establish a standardised circuit that facilitates the resolution of clinical and care-management queries, preventing decompensations and avoiding unnecessary face-to-face referrals. This model acts as an agile professional communication mechanism that reinforces coordination and promotes person-centred care.

Methods: A consensus-based circuit was designed between primary care and hospital nursing teams, which includes:

- Definition of shared objectives and operational criteria for each nursing specialty.
- Establishment of workflows enabling queries from PC to be channelled towards specialised units.
- Identification of monitoring indicators (volume, origin, response time, and non-face-to-face resolution).

Referral criteria were structured into specific areas:

- Oral Anticoagulant Therapy (OAT): INR instability, interactions, procedure preparation, therapeutic education, and warning signs.
- Complex wounds: slow-evolving wounds, difficulties in home care, or uncertainty about criteria and protocols.
- Heart Failure: suspected clinical instability, adjustment of diuretics, adherence, and education.
- Ostomies: lack of specialised follow-up, complications, adaptation problems, and education.
- Diabetes: questions regarding material or continuous glucose monitoring systems, glycaemic variability, and skin reactions.
- Smoking cessation: recurrences, pharmacological doubts, low adherence, and special situations.

Implementation was supported by written procedures and periodic follow-up meetings.

Results: In the initial phase, the circuit was implemented in the complex wound care clinic (100 consultations during 2025) and in the OAT clinic (approximately 300 consultations). The growing use of the circuit and its high capacity for non-face-to-face resolution led to its expansion in January 2026 to four additional clinics: Heart Failure, Ostomies, Diabetes, and Smoking Cessation. Quantitative indicators (response time, resolution rate, impact on referrals and emergency visits) are currently being deployed, and the evaluation of professional and patient satisfaction is being initiated.

Discussion: The nurse-to-nurse consultation circuit without patient presence between different care levels consolidates a clinical coordination mechanism that enhances decision-making agility, standardisation of practices, and professional empowerment in chronic care management. The use of unified criteria reduces variability and directs interventions towards value: increased resolution close to the patient and improved continuity of care. Key challenges include the systematic monitoring of indicators and the scalability of the model. Next steps include implementing reverse referral and promoting cross-level training placements between PC and HC. The model is transferable to other territories, with adaptations to local service structures, and may contribute to reducing avoidable hospital admissions, duplications, and indirect costs, while improving both patient and professional experience.

Integrating health staff personal skills and organisational support: implications for quality of care, staff well-being, and retention (ID 271)

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Context: Nurses face complex challenges, managing high workloads, emotional demands, and critical medical conditions. Personal resources, particularly empathy and self-efficacy, are crucial for delivering high-quality care and maintaining professional functioning. Crises such as the COVID-19 pandemic, natural disasters, and refugee influxes have intensified stress, burnout, and turnover intentions among nursing staff, while reducing resilience and perceived self-efficacy. Organisational factors, including social support from managers and colleagues, further shape nurses' well-being, retention, and care quality. Understanding how personal skills and workplace support interact can inform interventions to enhance caregiver well-being, sustain healthcare teams, and improve patient outcomes.

Method: The study included 143 Israeli nurses (77.6% female) working in hospitals (83.9%) or the community (16.1%), aged 21–63 (M = 36.82, SD = 8.07) with 1–36 years of experience (M = 8.63, SD = 8.19). Most were Jewish (90.9%), married (65%), and held B.A. (58%) or higher degrees (42%).

Measures included socio-demographics (age, gender, ethnicity, income), well-being (SF-12; physical α = .66, mental α = .68), empathy (IRI; α = .80), self-efficacy (α = .88), social support (colleague α = .87, manager α = .93), perceived quality of care (α = .80), and intention to leave (α = .92).

Data were analysed using SPSS 29 and path analysis in AMOS 29. Variables were standardised, and control variables were correlated. Mediation was tested using bootstrapping (5,000 samples, bias-corrected 95% CI). Sample size was determined based on Kenny's (2017) calculator for adequate power to detect indirect effects. Descriptive statistics, Pearson correlations, and t-tests were also performed.

Results: Among 143 nurses, colleague support was higher than manager support, and physical well-being exceeded mental well-being. Empathy and perceived quality of care were high, self-efficacy moderate-high, and intention to leave low. Colleague and manager support were positively correlated, as were physical and mental well-being, and both sets were negatively associated with intention to leave. Empathy and self-efficacy were positively linked to quality of care, with empathy additionally negatively related to intention to leave. Age and seniority were negatively associated with well-being, and males reported higher self-efficacy. Path analysis revealed that colleague support, manager support, and self-efficacy were positively associated with total well-being, which mediated their negative relationship with intention to leave. Manager support also had a direct negative association with intention to leave. Empathy was directly associated with higher quality of care and lower intention to leave. Well-being did not predict quality of care.

Discussion: This study highlights how personal and organisational resources influence nurses' turnover intentions and quality of care through distinct mechanisms. Turnover intentions were reduced by self-efficacy and workplace social support via improved overall well-being, with manager support showing both direct and indirect effects, while colleague support acted mainly indirectly. Empathy was directly associated with lower turnover intentions, suggesting highly empathic nurses derive greater professional meaning from patient care. Quality of care was driven primarily by personal resources, self-efficacy and empathy, through direct pathways, independent of overall well-being. The findings underscore differentiated strategies: personal resources, particularly empathy and self-efficacy, are foundational to both retention and care quality, whereas organisational support selectively influences retention through well-being. Practical implications include investing in training programs, reflective practice, and empathy-oriented interventions, alongside fostering supportive managerial and peer networks. Together, these approaches enhance nurse competence, sustain emotional resources, reduce turnover, and ensure high-quality patient care.

Reimbursement policies for digital therapeutics: a bibliometric analysis of research trends, policy frameworks, and evidence gaps (ID 272)

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Context: Digital therapeutics (DTx) are health technologies delivering evidence-based interventions via software. DTx use and reimbursement discussions are visible in high-burden areas, particularly mental health and musculoskeletal disorders. Germany's Digital Health Act (DVG, 2019) defined "prescription digital health applications" and institutionalised reimbursement through the DiGA framework. France's PECAN approach emerged in 2023–2024 for early reimbursement/access mechanisms. Bibliometric studies mapping DTx reimbursement literature remain limited. This study aims to reveal the bibliometric profile, thematic evolution, and evidence gaps in DTx reimbursement literature. It seeks to provide a methodological contribution by evaluating AI tools' alignment with human decisions in systematic screening.

Methods: Studies published between January 1, 2015, and December 31, 2025, were searched in Web of Science and Scopus using keywords related to digital therapeutics (DTx) and reimbursement. Inclusion criteria comprised peer-reviewed research articles or reviews addressing DTx reimbursement, pricing, or market access themes. Exclusion criteria included conference abstracts, letters to the editor, and general DTx studies not addressing reimbursement. Title and abstract screening was conducted in two phases: (1) title screening (n=149) with three-category coding (eligible, ineligible, abstract review needed); (2) abstract screening (n=112) with binary coding (include, exclude). Human researchers' decisions were compared with outputs from three AI tools; Cohen's Kappa, Fleiss' Kappa, sensitivity, and specificity metrics were calculated. The final dataset (n=70) was analysed using Bibliometrix/Biblioshiny software. Analyses included annual production trends, Bradford's Law, Lotka's Law, logistic growth model, most productive authors/institutions/countries, citation analysis, keyword co-occurrence network, thematic mapping, and collaboration network analyses.

Results: The literature comprises 70 articles spanning 2019–2025. The annual growth rate was 61.89%; a 350% increase in publications occurred in 2021, driven by DiGA regulations. By country, Germany dominated with 43.7% of production (author contributions: n=118), followed by the USA (17.4%) and South Korea (6.7%). Regarding institutional productivity, Witten/Herdecke University (n=14) was the most productive institution; Journal of Medical Internet Research (n=8) the core journal. Thematic map analysis revealed that "reimbursement" and "digital therapeutics" clusters were positioned in the "basic themes" category, indicating evidence gaps in the literature concerning central topics. Collaboration network analysis identified 12 isolated clusters; international collaboration rate remained at 15.71%. In AI agreement analysis, agreement with human decisions at the abstract screening stage was κ=0.9238 (almost perfect) for AI_1, κ=0.6923 (substantial) for AI_2, and κ=0.4098 (fair) for AI_3. At the title screening stage, all AI tools underutilised the "abstract review needed" category reflecting uncertainty.

Discussion: This study reveals that DTx reimbursement literature is growing but exhibits a geographically concentrated and thematically fragmented structure. Germany's regulatory framework through the DiGA model has shaped the literature, highlighting the interaction between policy design and academic production. Increasing interest in the Asia-Pacific region (particularly China's quantitative rise in 2025) suggests the literature may diversify geographically. Findings indicate evidence gaps in the field. These include long-term cost-effectiveness evaluations, real-world evidence studies, comparative analysis of reimbursement models, and systematic examination of relationships between patient outcomes and reimbursement decisions. Deviation from Lotka's Law (single-article author ratio: 91.57%) indicates the field's early maturity level. Rapid DTx technology evolution necessitates that reimbursement and assessment bodies develop dynamic, transparent, and evidence-based decision frameworks. Methodologically, AI-assisted screening demonstrates high reliability at the abstract screening stage (κ=0.9238 for AI_1); however, human oversight maintains its decisive role in classification decisions involving uncertainty.

Embedding community experience into health system governance: The *Observatory of Community Experience in Health* (OECS) at Salut Sant Joan Reus–Baix Camp as a catalyst for person-centred, sustainable transformation (ID 277)

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Across Europe, health systems are operating under increasing structural pressure driven by demographic change, rising complexity of care needs and growing gaps between population expectations and service capacity. In this context, advancing person-centred care is not only a matter of quality improvement, but a strategic necessity to better address unmet needs, restore trust and enhance the sustainability and resilience of health systems. However, translating this imperative into organisational structures, governance mechanisms and management practices remains inconsistent. Patient and citizen experience initiatives are often fragmented, project-based or insufficiently integrated into core decision-making processes. This short paper presents the creation of the *Observatory of Community Experience in Health* (OECS) as an organisational innovation designed to respond to these challenges by embedding citizen experience into health system governance and management.

Established in 2025 within Salut Sant Joan Reus-Baix Camp, a public integrated healthcare organisation in Catalonia (Spain), the OECS was conceived as a transversal and transformative entity. Its mission is to position citizen experience not as a complementary activity, but as a central driver of organisational strategy, process management and cultural change. The OECS operates across clinical, managerial and corporate domains, acting as a shared organisational space where community's perspectives, professional expertise and leadership priorities converge.

The Observatory is structured around multiple strategic lines of work that operate simultaneously and autonomously, while remaining aligned through common principles and shared governance. These lines include: humanisation of care environments; training of health professionals in person-centred care; promotion of an organisational culture focused on experience; research and knowledge generation in experience and humanisation; development of humanised policies and protocols; improvement of information addressed to patients and families; and community health promotion. Each line is led by designated leaders who develop and implement projects independently, while participating in monthly coordination meetings with the Observatory's leadership to ensure coherence, alignment and collective decision-making.

This governance model combines distributed leadership with structured coordination, enabling agility at project level while maintaining strategic consistency at organisational level. The OECS thus functions as a catalyst for process-oriented transformation, supporting the redesign of care pathways, organisational circuits and service delivery models from a citizen perspective, with the aim of improving access, experience and perceived value of care.

Although outcome evaluation is ongoing, the OECS represents a deliberate shift from episodic experience initiatives towards a sustainable organisational infrastructure for people-centred care. By embedding citizen experience into governance and management processes, the Observatory strengthens social accountability, supports value-based decision-making and enhances the organisation's capacity to adapt to evolving population needs and future system challenges.

This case contributes to the international debate on how health systems can operationalise person-centred care through governance innovation, offering a scalable model for organisations seeking to move from strategic intent to systemic action.

Future-proofing clinical trial recruitment in primary care: barriers, enablers and ADKAR-based readiness among general practitioners in Northern Poland (ID 279)

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Context: Although primary care is well-placed to increase access to non-commercial and commercial clinical trials and to support people-centred healthcare systems, current recruitment pathways remain underutilised in practice. In Poland, research on the role of primary care in clinical trial recruitment is limited. Specifically, organisational barriers and the sector's readiness for new recruitment strategies remain poorly understood. Therefore, this study partially fills this research gap by analysing current experiences of general practitioners regarding recruitment to clinical trials, identifying perceived organisational barriers and factors facilitating patient referral to trials, and pilot assessing the ADKAR model (Awareness-Desire-Knowledge-Ability-Reinforcement) to assess readiness.

Methods: We conducted a cross-sectional observational survey among primary care physicians working in the Pomeranian region (Poland) between February and May 2025. Eligibility included physicians providing direct primary health care services (family medicine, internal medicine, paediatrics, obstetrics/gynaecology) and physicians without specialisation authorised to work in primary health care. The back-translation procedure ensured linguistic and contextual equivalence for the Polish healthcare environment. Items were rated on a 7-point Likert scale (1–7). The data were analysed descriptively in R. Ethical approval was granted by the Bioethics Committee of the Medical University of Gdańsk (KB/534/2024).

Results: A total of 128 physicians participated (51.6% women), most aged 40–49 years (43.0%). The mean primary care experience was 18.0 years, with a high workload (mean active patient list 2,225). While 56.3% had ever referred a patient to a clinical trial, 43.8% reported no referrals in the past three years. Most practices were not involved in clinical trials (89.1%), and few physicians held research roles (co-investigator: 11.7%; principal investigator: 1.6%). Key organisational barriers included lack of time to review protocols (mean 6.06), insufficient financial support (6.01), and limited time for patient discussions (5.78). Patient-related barriers were lack of interest (5.35) and participation burden (5.21). Highest-rated facilitators were protected time (6.32), EHR-integrated recruitment tools (6.17), a full-time on-site study coordinator (6.11), and standard referral pathways (6.08). ADKAR scores were high for awareness (6.02), willingness (6.05), and need for system support (6.27), whereas knowledge (5.00) and ability (5.41) were lower.

Discussion: Primary care physicians demonstrate strong willingness and recognise the strategic value of clinical trial recruitment; however, the system remains insufficiently "future-proof" due to capacity and infrastructure constraints. The gap between high motivation and low referral activity indicates that organisational structure, rather than attitudes, is the primary limiting factor. The findings support pragmatic, scalable solutions, including: 1) protected time and financial recognition for recruitment activities; 2) EHR-based study matching and recruitment prompts; 3) dedicated on-site coordinators and standardised referral pathways; and 4) targeted training to strengthen procedural knowledge and operational competencies. The ADKAR pilot indicates that readiness for change exists but requires formal institutional support and workflow integration to be sustained. Study limitations include its cross-sectional design and regional specificity. Self-reported measures may not fully capture organisational complexity. Nevertheless, strengthening primary care as a satellite recruitment network may improve access to screening, accelerate evidence generation, and enhance health system resilience.

Managing integration in practice: implementing the GERONTE model for older multimorbid patients (ID 280)

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Context: Population ageing is driving a sharp increase in multimorbidity, particularly among older cancer patients, whose complex needs challenge healthcare systems that are still largely organised around single-disease pathways. Fragmented care, duplicated interventions, and weak coordination generate inefficiencies, inappropriate resource use, and suboptimal patient outcomes. Although integrated, person-centred care models are widely promoted, their translation into routine operations remains difficult, especially across organisational and professional boundaries. The GERONTE model, developed within a Horizon 2020 European project and currently implemented in eight French hospitals, provides a concrete case study of how integrated care for older multimorbid patients can be planned, organised, staffed, and managed within existing hospital structures.

Methods: The paper pursues two interrelated aims. First, it presents GERONTE as an implementation-oriented case study of an integrated care model for older multimorbid cancer patients. Second, it analyses the main operational and organisational challenges associated with implementing an integrated model of care within routine hospital settings. The study draws on a hybrid effectiveness–implementation type 1 design, combining FRONE—a stepped-wedge randomised controlled trial conducted in eight hospitals in France, aimed at evaluating the effectiveness and cost-effectiveness of GERONTE—with IMPLEMENT, a multi-country observational study conducted in Belgium, France, Ireland, Italy, and the Netherlands. IMPLEMENT explores how contextual factors—organisational structures, professional collaboration, and digital infrastructures—facilitate or hinder implementation and scalability.

Results: The case study clarifies what managing integrated, person-centred care means in practice. GERONTE reconfigures care operations around a Health Professional Consortium (HPC), supported by an advanced practice nurse (APN) acting as case manager and by a shared digital platform and patient mobile application. This operational setup enables coordinated, patient-centred decision-making while preserving existing oncological workflows. Implementation highlights the managerial complexity of integration, which relies on the realignment and coordination of existing human and financial resources across departments and professional groups. The study shows that integration is primarily a managerial, rather than structural, transformation, requiring new coordination mechanisms, roles, and decision-making processes.

Implications: Lessons from FRONE and IMPLEMENT offer actionable insights for managers and policymakers seeking to operationalise integrated, person-centred care and provide practical guidance for organisations aiming to move from disease-centred pathways to integrated care models within existing resource constraints. Moreover, the study demonstrates the value of hybrid evaluation designs in supporting informed decision-making regarding the feasibility, sustainability, and scalability of new models of care. By linking clinical outcomes with organisational and economic evidence, GERONTE frames integration as an ongoing managerial effort that depends on coordination capacity, leadership, and data infrastructures rather than formal restructuring. The hybrid design proved essential to understanding both effectiveness and implementation, while also revealing challenges related to patient recruitment, sustained engagement, data harmonisation, and cross-site comparability, addressed through adaptive protocols and standardised case vignettes.

Nursing staff turnover differences between rural–urban nursing homes and its implications for quality (ID 281)

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Context: Rural nursing homes consistently exhibit lower quality of care than urban facilities, but the mechanisms underlying this disparity remain insufficiently understood. Nursing staff turnover (RN, LPN, and CNA) is a plausible pathway because workforce instability can disrupt continuity and coordination of care. The purpose of this study is (1) provide updated estimates of rural–urban differences in RN, LPN, and CNA turnover, and (2) test whether nursing staff turnover mediates the association between rural location and nursing home quality.

Methods: This study utilised data for years 2021 to 2023 (n = 33,179 nursing home-year observations), which were derived from Payroll-Based Journal, Care Compare, LTCFocus, and Area Health Resources File. The primary independent variable was geographic location which was coded as rural = 1, urban = 0. The dependent variable was the quality measures star rating (1 = lowest, 5 = highest). Nursing staff turnover rates (RN, LPN, CNA) were modelled as parallel mediator variables between location and quality. Structured Equation Modelling was done to examine the direct, indirect and total effects of location on quality of care in nursing homes. We controlled for facility-level and environmental characteristics which are known to influence quality of care in nursing homes.

Results: Rural location has a significant negative direct effect on nursing staffing turnover (RN: -0.026, p- value =0.002; LPN: -0.046, p value = 0.001; CNA: -0.05, p-value = 0.001). Similarly, turnover has a direct negative effect on quality star ratings across all nursing staff types (RN: -0.04, p-value 0.001; LPN: -0.04, p- value = .001; CNA: -0.03, p-value = 0.001). The direct effect of location on star rating is negative and significant (-0.02, p-value = 0.001). The indirect effect of rural location on five-star ratings, mediated by nursing staff turnover, is positive and significant for all three turnover indicators: (RN = 0.003, p-value 0.003; LPN = 0.01, p-value = 0.001; CAN = 0.01, p-value = 0.001). However, the total effect of rural location on five-star ratings is negative for all mediation routes: (RN = -0.06, p-value =0.05; LPN =-0.05, p-value = 0.05; CNA = -0.05, p-value = 0.06).

Discussion: Nursing staff turnover is an important predictor of nursing home quality, but it does not explain the rural–urban quality gap in the hypothesised direction. Instead, lower turnover in rural facilities partially attenuates the rural quality disadvantage, suggesting that other structural constraints (e.g., resource limitations and payer mix) may play a larger role in driving lower rural performance. Policies that strengthen the capacity of rural and Medicaid-heavy nursing homes—alongside targeted workforce stabilisation efforts—may be most effective for improving rural nursing home quality.

Models for healthcare workforce planning: how variation relates to healthcare systems, governance and cluster learning (ID 282)

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Context: Health workforce planning and forecasting has become a growing and important field in both health policy and health services research. The type of models that are developed and applied in practice vary in terms of their goals, approaches, scope, data usage and modelling techniques. On the one hand this is understandable from the fact that counties differ by healthcare system, type health workforce challenges and governance in place. On the other hand, the key principles of health workforce modelling and forecasting are common. Also, countries increasingly collaborate and exchange their models, in particular within the HEROES Joint Action.

Methods: In this paper we analysed in depth the health workforce planning and forecasting models as developed by the 19 countries currently participating in the HEROES Joint Action. There actual models and tools are first categorised based on their differences in goals, approaches, scope, data usage and modelling techniques – using the classification earlier developed by Batenburg (2015) and recently published by Lee et al. (2024) in his systematic review. Next, the categories are linked with a number of health workforce planning and forecasting models that are expected to be related to the type of workforce modelling and forecasting. Cross-country and cross-model comparisons are conducted to explore patterns in similarities and differences, interpreting these in 'clusters' of countries participating in the HEROES Joint Action.

Results: All 19 countries that currently participate in the HEROES Joint Action have developed some type of health workforce planning and forecasting model, while the type, stage of development and implementation differ. The classification by Lee at al. appears to be applicable to map the countries by their different models. But the variation observed requires other conceptual approaches to interpret and explain this. The comparative analyse proves that the approach and design of the health workforce planning and forecasting models are more related to the type of health policy governance then a countries' type of healthcare system and health workforce challenges. In addition, countries benefit from mutual learning, in particular if they are in a green field situation, leading to a certain degree of 'governance and model isomorphism' across countries.

Discussion: The results of the cross-country and cross-model comparisons imply that workforce modelling and forecasting have a number of common design and governance principles. These communalities go beyond the distinctions between health systems are often seen are deterministic for health policy making and governance. Exchange and mutual learning between the HEROES countries create windows of opportunities to learn in new country clusters. And this is also important to develop new approaches on how to steer isomorphism-related developments, and mitigate its unintended consequences. Still, context sensitivity and country-specific conditions remain highly relevant, as each country has a unique position, history and identity that is to be respected when implementing and innovating health workforce models and policies.

Workforce adaptations as a resilience mechanism to sustain non-pandemic care: lessons from COVID-19 for future health emergencies in Europe (ID 283)

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Context: The COVID-19 pandemic forced rapid adaptations within health systems to sustain non-pandemic care amid severe workforce and organisational pressures, often without strategic workforce planning for health emergencies. While much attention has focused on digital and service delivery innovations, less is known about the workforce strategies that made these changes operational. This study examines how workforce strategies were adapted to support continuity of regular and chronic non-pandemic care across Europe during COVID-19. Understanding how workforce capacity, skills, and roles were mobilised is critical for health managers seeking to strengthen system resilience and embed sustainable models of care for future health emergencies.

Methods: A scoping review was conducted to synthesise European evidence on workforce adaptations supporting the delivery of non-pandemic care during the COVID-19 pandemic. The review was undertaken as part of the RAPIDE project (Regular and Unplanned Care Adaptive Dashboard for Cross-border Emergencies; Grant Agreement No. 101136348), a Horizon Europe-funded initiative focused on strengthening the robustness and resilience of healthcare systems during health emergencies. Peer-reviewed and grey literature were identified through systematic searches of five electronic databases and relevant institutional sources. Studies from EU, EEA, Schengen countries, and the UK were eligible if they reported workforce modifications linked to the organisation or delivery of non-pandemic care. In total, 304 records published between 2020 and 2024 were included. Quantitative data were summarised descriptively, while qualitative evidence was analysed thematically to understand how workforce arrangements were modified and operationalised to support continuity of non-pandemic care.

Results: Over half of the included studies (56.2%) reported workforce adaptations, primarily reallocation across services, care settings, and modes of delivery. This included redeployment from inpatient and acute services to outpatient, community, and remote care roles, as well as redistribution across specialties and care pathways. Reallocations were typically supported by rapid upskilling through targeted training focused on digital tools, infection prevention, and new care pathways. The redistribution of clinical and coordination tasks between professional groups (task-shifting) enabled redeployed staff to take on new responsibilities, such as remote monitoring and triage by nurses, extended medication management by pharmacists, and virtual rehabilitation by allied health professionals. Trainees and early-career staff supported care coordination in some areas, while virtual multidisciplinary team collaboration strengthened care coordination across settings. The extent and effectiveness of these adaptations varied and mostly implemented reactively through extended shifts and informal role expansion, highlighting pressures on workforce wellbeing and longer-term sustainability.

Discussion: Workforce adaptations were central to sustaining non-pandemic care during COVID-19. These adaptations, supported by rapid capability building, enabled role flexibility and interdisciplinary collaboration, which were critical for operationalising digital and hybrid models of care. These findings demonstrate that workforce design underpins service reconfiguration and care pathway adaptation, especially during large-scale health emergencies. However, many adaptations were implemented reactively without pre-established workforce strategies for health emergencies, and relied heavily on informal practices, extended working hours, and professional goodwill. Consequently, the burden of system flexibility often fell disproportionately on individual healthcare workers, posing risks to workforce wellbeing and limiting the sustainability and transferability of these strategies beyond the emergency. This highlights a clear tension between short-term responsiveness and long-term resilience. To embed crisis learning into future preparedness, health systems must invest in structured workforce planning, sustained digital upskilling, and governance frameworks that support role adaptability while safeguarding care quality and workforce wellbeing.

When voices fade: organisational culture and middle management as gatekeepers of employee voice in healthcare (ID 284)

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Healthcare organisations operate under increasing pressure arising from workforce shortages, financial constraints, and rising expectations regarding quality and patient safety. In this context, employee voice—defined as discretionary upward communication aimed at improving organisational functioning—has become a critical yet fragile resource. While prior research highlights the importance of employee voice for patient safety, organisational learning, and staff well-being, healthcare settings remain particularly vulnerable to silence due to hierarchical structures, professional status differences, and complex formal and informal role systems. This study explores how employee voice manifests within a hospital organisation and which institutional and organisational mechanisms inhibit its upward transmission to top / senior management.

The research adopts a critical case study design focusing on a large, publicly owned hospital characterised by organisational fragmentation across multiple sites and strong hierarchical coordination. The case was selected because prior quantitative evidence indicated persistently weak employee voice despite the long-term use of a standardised staff satisfaction survey introduced through accreditation requirements. The study employs a mixed-methods approach. Quantitative data were drawn from three waves of an institutional staff survey, combining the Minnesota Satisfaction Questionnaire (MSQ) with open-ended items assessing environmental and communication-related factors. The survey data were analysed using statistical methods to identify trends in satisfaction, communication, and perceived managerial support.

To interpret and contextualise these findings, qualitative semi-structured interviews were conducted with senior leaders (medical, nursing, general, and strategic executives), the head of communication, and selected middle managers. Interview data were analysed using thematic analysis with a primarily deductive coding framework informed by employee voice, organisational culture, and leadership literature, complemented by inductive refinement during early analysis stages.

The findings reveal that employee voice is constrained not by the absence of formal mechanisms, but by organisational and cultural dynamics that weaken their effectiveness. Communication is largely top-down, feedback loops remain underdeveloped, and employee input is frequently filtered, translated, or stalled at middle management levels before reaching senior leadership. Middle managers thus emerge as key mediators of voice, simultaneously enabling and constraining upward communication.

The study concludes that the fading of employee voice in hospitals is a systemic and cultural phenomenon rather than an individual failure. Strengthening employee voice requires not only technical instruments such as surveys, but also cultural change, leadership development—particularly at middle management level—and governance arrangements that prioritise learning, trust, and meaningful feedback. These findings have implications for healthcare leadership, organisational design, and system-level reforms aimed at improving both workforce sustainability and patient care quality.

The Blue Button implementation in Catalonia: a tool to empower users to securely download their clinical data for sharing with other healthcare systems or research endeavours (ID 285)

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Catalonia has pursued a continuous digitalisation of its health system for over 40 years, aiming to ensure high-quality, continuous, and person-centred care. Key challenges include guaranteeing healthcare continuity by making relevant clinical information available to professionals when and where needed, enabling the use of private-sector health data for personalised care, and creating a new paradigm based on citizen empowerment and data portability. La Meva Salut is a personal digital health space that allows citizens to interact securely and remotely with the Catalan Health System, providing access to health information, professional consultations, and administrative procedures via web or mobile app.

Within this context, the Catalan Ministry of Health developed and integrated a "Blue Button" functionality into La Meva Salut. This service enables citizens to securely download their clinical data for sharing with other healthcare systems or research entities, supporting data portability and patient empowerment in compliance with the GDPR. Citizens can retrieve their International Patient Summary (IPS), a standardised, cross-border clinical document containing essential health information, as well as hospital discharge reports. The IPS includes diagnoses, treatments, medications, immunisations, test results, and allergies, supporting clinical decision-making, mitigating allergy-related risks, and addressing language barriers. The IPS is defined at international level and adopted at European, Spanish, and Catalan levels, in accordance with EN 17269 and ISO 27269. It represents a minimal, non-exhaustive yet clinically relevant dataset, independent of specialty or condition, composed of structured and reusable data elements.

To date, Blue Button functionality has been implemented in the US healthcare system and in the Catalan public health system. Clinical information is downloaded in compliance with HL7 C-CDA and Blue Button 2.0 specifications, as well as European IHE implementation guides. The International Patient Summary is provided in a structured XML format, intended for use by healthcare professionals through compatible viewing systems. This first version of the service is currently available to all citizens, reaching more than 200k downloads of IPS documents in 2025 in the public sector and more than 80 downloads in the private sector. iPhone users can directly visualise the IPS through the native Health app, and a dedicated IPS viewer has also been developed to facilitate professional access and interpretation. These technical choices ensure interoperability, standards compliance, and readiness for cross-border health data exchange within the European context.

Catalonia is also actively involved in multiple European Health Data Space–related Horizon Europe projects, contributing real-world evidence on the implementation of formatted clinical information exchange and the European Electronic Health Record Exchange Format (EEHRxF). Private-sector engagement has been promoted through agreements with ACES and the Unió Catalana d'Hospitals, supporting IPS adoption and interoperability-aligned implementations, including Blue Button integration into insurer portals and applications. Two pilots have been conducted, covering a population of approximately 500,000 people. The initiative has resulted in enhanced patient empowerment through immediate electronic access to health data, improved healthcare delivery via informed cross-border clinical decision-making, reduced allergy-related risks, and mitigation of language barriers through standardised documentation. Alignment with GDPR and EHDS requirements ensures legal and ethical compliance, while ongoing European collaboration positions Catalonia as a reference for scalable, citizen-centred health data sharing.

Local health authorities as healthcare ecosystems: a systemic microfoundations-based approach for value co-creation (ID 286)

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Context: Italian Local Health Authorities (LHAs) are institutionally accountable for guaranteeing Essential Levels of Care (*Livelli Essenziali di Assistenza, LEA*) within regional governance arrangements. However, their performance is often assessed through independent or aggregate indicators that obscure microfoundations through which value is actually generated and exchanged. This study reframes LHAs as healthcare ecosystems in which multi-level value co-creation emerges from interdependent value-demand and value-supply relationships among different actors. Building on a systemic microfoundations-based approach originally developed for ecosystem governance and decision support, we propose an adapted framework to manage and assess health value co-creation in the Italian setting.

Methods: We adapt a systemic microfoundations-based method to the LHA context by combining a multi-level ontology (micro, meso, macro) with a systems thinking logic that traces causal relationships among resources, value drivers, and outcomes. At the micro level, the unit of analysis is the actor (e.g., patients/citizens, general practitioners, community nurses, hospital units, outpatient services, digital suppliers). At the meso level, we model subsystems responsible for coordinated care pathways (e.g., chronic-care networks, emergency-urgent care, prevention departments, territorial telemonitoring). At the macro level, ecosystem outcomes are defined as LEA-related and population-value results. We identify shared resources (e.g., interoperability standards, data-governance, platform infrastructure, regional funding rules) and individual resources (e.g., clinical competencies, local IT assets). We then build a qualitative causal loop model and translate it into a decision-support measurement architecture specifying value drivers and indicators across levels, to be piloted through a single-LHA embedded case design using documents, administrative flows, and semi-structured interviews.

Results: The study proposes a healthcare-ecosystem governance framework that shows the ecosystem-level outcomes, highlighting the specific mechanisms of the actors that produce them. First, it maps key microfoundations (actor routines, data-sharing behaviours, clinical–administrative coordination). It links them to meso-level capabilities (pathway integration, continuity of care, cross-setting resource allocation) that shape macro-outcomes aligned with LEA.

Second, it identifies a structured set of value drivers that can be monitored to detect bottlenecks, for example when patient needs are not met by provider capacity, or when handovers between organisations generate a coordination workload that exceeds available resources. Third, the dynamic value model makes explicit the reinforcement and balancing feedback loops that link micro-level behaviours (engagement, adherence, self-management), meso-level coordination capabilities (pathway integration, resource allocation) and macro-level outcomes (adequacy, avoidable admissions, equity and LEA-related performance). Finally, to monitor misalignments between value demand and value added, we develop a set of KPIs designed to measure value creation and avoid waste of resources at all levels.

Discussion: Conceptually, this approach reframes LHA management as ecosystem governance, where value co-creation is an emergent property of interconnected exchanges rather than the product of single-organisation optimisation. The study operationalises microfoundations by providing a structured measurement system that supports strategic management and accountability. In practice, the framework helps LHA and regional decision-makers identify leverage points by distinguishing value exchange design issues (who requests what from whom and why) from execution capacity issues (resources, coordination workload, delays). By making causal assumptions explicit and verifiable, the model supports ecosystem governance and opens the way for future dynamic simulations to stress test policy and organisational scenarios under changing demand conditions and resource constraints. Future empirical work should validate causal pathways longitudinally and compare multiple LHAs to capture regional heterogeneity and policy-driven contingencies.

Psychological and structural factors determining job satisfaction: the combined role of resilience and balance in nurses (ID 287)

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Context: Nurses face varying emotional and physical demands depending on their care environment. High-intensity units can erode psychological resilience and work-life balance, ultimately reducing job satisfaction. Understanding the interaction between these structural and individual factors is crucial for fostering a healthier, sustainable workforce. This study aims to examine how nurses' working conditions influence their psychological resilience, work-life balance, and job satisfaction, while exploring the interrelationships among these variables to determine key predictors of professional well-being.

Methods: This cross-sectional study was conducted with 387 nurses employed across administrative, primary care, and clinical settings in İzmir. Participants were recruited using convenience sampling, and data were collected through face-to-face surveys assessing resilience, balance, and satisfaction levels. The influence of working conditions was evaluated in conjunction with the relationships between variables. Statistical analyses were performed using mediation analysis based on the bootstrap approach to identify direct and indirect effects.

Results: Nurses working in highly demanding clinical settings exhibited significantly lower psychological resilience, reduced work-life balance, and decreased job satisfaction compared to other groups. Psychological resilience significantly predicted work-life balance; however, its direct effect on job satisfaction was not statistically evident. Instead, work-life balance emerged as a strong, direct predictor of job satisfaction. The mediation analysis revealed that the effect of psychological resilience on job satisfaction was fully mediated by work-life balance.

Discussion: Individual and organisational conditions significantly influence nurses' psychological resilience, work-life balance, and job satisfaction. The findings suggest that while resilience is critical, it primarily improves job satisfaction by enhancing work-life balance. Therefore, strategies to improve nursing workforce well-being should focus on enhancing resilience as a means to support better work-life balance. Consequently, work-life balance acts as a central mechanism in translating personal resources into professional satisfaction.

A scalable digital pathway for early schizophrenia detection: integrating multi-omics, volatilomics, and AI into clinical decision support (ID 288)

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Schizophrenia affects ~1% of the global population and remains a leading contributor to disability, with substantial impacts on patients, caregivers, and health systems. Early-stage presentation often overlaps with major depression and bipolar disorder, leading to delayed diagnoses and suboptimal care. The absence of objective, scalable biomarkers further limit timely intervention, while affordability and feasibility are critical for real-world adoption. Digital transformation is therefore highly needed, and requires clinically trusted, interoperable data foundations and decision-support tools to translate complex biological signals into actionable insights.

VOLABIOS addresses the diagnostic gap in early schizophrenia by combining multi-omics (genomics, transcriptomics, proteomics), volatilomics (volatile organic compounds—VOCs), and advanced AI/ML models. Data are collected across ~4,000 high-risk subjects in six European countries and integrated by retrospective cohorts and animal studies. Portable and affordable spectrography devices for minimally invasive collection and analysis of VOCs are developed. Multi-omics analysis relies on innovative strategies (disease specific sequencing panels, long-read sequencing, high-throughput protein panels) to allow for early identification of disease-associated mechanisms during patient screening. Finally, in order to manage the wealth of early evidence produced by this novel, multiscale strategy, VOLABIOS proposes a digital toolset to support clinicians in disease detection and management.

Here, we present our cloud-based, secure, FAIR-aligned digital asset, providing dynamic resources for data storage, standardisation, and collaborative analysis. First, to ensure interoperability and downstream usability, anonymised data enter the VOLABIOS software ecosystem through Extract–Transform–Load (ETL) processes. Both structured and unstructured datasets are semi-automatically indexed and harmonised to the OMOP Common Data Model, supported by a novel AI-powered semantic similarity engine. Data are then securely transferred to a cloud-based infrastructure that provides a flexible, controlled environment for large-scale storage and highly available computing resources for collaborative analytics via a dedicated AI Development Environment. This environment includes a suite of standalone tools that enable comprehensive analysis of multidimensional datasets using both statistical and predictive AI models, with the primary objective of developing a Clinical Decision Support System (CDSS) to aid clinicians' practice. The VOLABIOS CDSS is informed by two AI-based engines: the Exploratory Analysis Software Engine (EASE) and the risk-stratification engine (SZ-STRAT). EASE automates data cleaning, preprocessing, and exploratory analysis for multi-omics datasets, ensuring data quality and reproducible workflows while revealing key statistical patterns and relationships. SZ-STRAT integrates multiple datasets and applies clustering and feature extraction methods to stratify populations and predict schizophrenia risk, supporting both novel biomarker discovery and early diagnosis. These outputs provide a first layer of recommendations that are delivered to the project's CDSS to support researchers and clinicians in decision-making.

Moreover, the CDSS includes a web-based platform that serves as the core interface between research data, AI-derived insights, and clinical workflows and decision making. Its user-friendly, interactive interface organises heterogeneous information into coherent views, enabling visualisation from cohort level to individual patient level. Its extensible architecture allows functional expansion to address market needs and support potential evolution from a research prototype to a product for routine healthcare.

Overall, the VOLABIOS multidisciplinary approach promises not only to bridge critical gaps in existing research methodologies, but also to pave the way for breakthrough diagnostic tools, identification of new therapeutic targets, and the formulation of personalised medicine strategies—unveiling previously undiscovered facets of SZ pathogenesis and treatment options and marking a major advancement in the field.

Popular financial reporting as a tool for health service co-assessment and accountability: an italian case study (ID 289)

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Context: In recent years, the demand for tools capable of capturing and integrating healthcare performance measures from users and the wider community has grown. Popular Financial Reporting (POP) responds to this need by enhancing transparency and accessibility regarding outcomes, outputs, and resources (Yusuf et al., 2013). Originally developed to make municipal finances understandable to non-experts, the POP Report has evolved into a tool for collaborative evaluation of public services. Its innovative feature lies in integrating AI-based sentiment analysis, which transforms unstructured online content into synthetic indicators, complementing traditional data and orienting performance monitoring towards perceived impact (Driss et al., 2019).

Methods: The study develops the case study (Eisenhardt, 1989) of a Sicilian association of accredited private hospitals and healthcare facilities (ACOP) that adopted POP Report to improve its accountability and dialogue with the users, the reference community and the institutional stakeholders (e.g. Local Health Authorities, the Regional Health Systems, etc.). The healthcare system of the Sicilian Region is marked by a long-standing involvement of accredited private providers in the delivery of public healthcare and social care services. The private sector manages over one third of acute hospital beds, delivers nearly 130,000 hospital admissions annually, and provides around 35% of publicly funded specialist services, with an even stronger role in social care and rehabilitation. Despite this significant contribution, the public value generated by accredited private providers is not always fully recognised at institutional and societal levels, highlighting the strategic importance of advanced reporting tools to enhance transparency and public accountability.

Results: The POP, originally developed for local government settings, was adapted and designed to account for the specific characteristics of the healthcare sector and the health services. In doing that, the POP report structure combined the Donabedian (1966) model together with the framework for outcome assessment provided by Modell and Grönlund (2007).
In particular, the contents of the POP report designed for health and social care organisations include:
Structure (e.g. facilities, hospital beds, infrastructure, etc.)
Process (e.g. discharges, services provided, analyses, etc.)
Expert-defined outcomes (retrieved from the Italian National Outcomes Programme, etc.)
Subjectively perceived outcomes (retrieved from sentiment analysis)
Social impact data (e.g. employment, gender equality, taxes, turnover, etc.)
The results show that ACOP's POP Report, integrated with sentiment analysis, broadens social reporting beyond financial data and allow to include the co-assessment of health services from the community perspective.

Discussion: The ACOP case shows how POP reporting can go beyond a simple informative role and become a useful tool for evaluating public performance together with citizens through a dialogic approach (Grossi et al., 2021). Through the POP Report, an organisation can highlight: (i) impact data measured through reliable sources (e.g. financial data, administrative data, etc.) and (ii) the perceptions of the reference community and stakeholders regarding that impact. This information makes it possible to identify potential gaps between actual results and their perceived impact, and to develop targeted operational strategies and communication programmes to bridge these gaps. Thus, for organisations delivering public services, the POP Report also represents a useful tool for monitoring not only the creation of public value, but also the recognition of that value by the community.

Cultural sensitivity and digital cancer communication: evidence from public and private hospitals in Spain (ID 290)

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Context: Social media have become a central tool for healthcare organisations to communicate with citizens, particularly in cancer awareness and prevention. Hospitals increasingly rely on digital platforms to disseminate information, shape public perceptions, and engage patients. However, little is known about how hospitals strategically frame cancer-related communication in culturally sensitive contexts. This study examines how Spanish public and private hospitals use Facebook to communicate about cancer, focusing on differences in communication strategies and the role of cultural factors. Spain offers a relevant setting, as potentially carcinogenic products such as processed meat and alcohol are deeply embedded in social and dietary traditions, posing challenges for transparent risk communication.

Methods: We analysed 8,061 cancer-related Facebook posts published by Spanish hospitals between 2020 and 2022. First, Latent Dirichlet Allocation (LDA) was applied to identify dominant cancer-related themes. Second, univariate analyses and multivariate regression models (logit and Tobit) were used to compare communication strategies between public and private hospitals, focusing on the discussion of cancer risk factors and post sentiment. To capture contextual nuances beyond word frequency, we employed an embedding-based regression technique ("*À la Carte on Text*"), which allowed us to analyse how specific risk factors are framed linguistically. This mixed-methods approach enables a fine-grained assessment of both the prevalence and tone of cancer risk communication in hospital social media discourse.

Results: Eight dominant themes structure cancer communication on Facebook, including risk and prevention, treatment, early detection, and service promotion. Private hospitals are significantly more proactive than public hospitals in discussing cancer risk factors and preventive behaviours, adopting a predominantly informational and educational tone. The analysis reveals systematic cultural sensitivity in communication strategies. Posts addressing cancer risks related to red and processed meat tend to be framed more positively, while discussions about alcohol consumption show a neutral tone, despite its established carcinogenicity. These patterns suggest deliberate framing choices aimed at aligning health messages with culturally embedded norms. Overall, private hospitals display a more market-oriented digital communication strategy, targeting health-conscious audiences while carefully managing culturally sensitive content.

Discussion: The findings support Market Orientation Theory, showing that private hospitals use proactive and strategic digital communication to differentiate themselves in competitive healthcare environments. They also align with the Health Belief Model by emphasising education and prevention to enhance perceived patient value. Importantly, the results confirm Cultural Sensitivity and Risk Communication theories, highlighting how hospitals adapt messaging to avoid resistance when addressing culturally significant risk factors. From a health management and policy perspective, this raises ethical concerns regarding the balance between cultural sensitivity and the obligation to communicate health risks transparently. Public hospitals could benefit from adopting more proactive digital communication strategies, while policymakers should develop guidelines that promote evidence-based, culturally informed, and ethically responsible cancer communication on social media.

From data to action: longitudinal insights on sustainability performance and best practices in Catalonia (ID 293)

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Context: Climate change is the greatest health threat of the 21st century, and the health sector accounts for over 4.4% of global net greenhouse gas emissions. The Health and Climate Project reflects a dual commitment: raising awareness of climate impacts on human health and promoting environmental protection within health and social care organisations. La Unió's first report is structured in three parts: a public health perspective on climate and health by Dr. Antoni Trilla, a detailed description of La Unió's strategic actions, and an annex providing international, Spanish, and Catalan context.

Methods: The Health and Climate Project of La Unió is structured around four main elements: a conceptual framework defined by international organisations, sustainability dimensions, the Health and Climate Manifesto, and strategic lines of action. Data were collected through structured surveys conducted with La Unió member organisations. Two editions of the Health and Climate Survey (2022 and 2023) provided quantitative information on key indicators, including carbon footprint metrics defined by the *Sanidad por el Clima* initiative, as well as environmental management indicators related to energy, water consumption, and waste. Additionally, information on best practices implemented by member organisations in Catalonia was collected and summarised in concise case reports. This methodology enabled a systematic, representative, and comparable assessment of environmental performance and sustainability initiatives across health and social care providers, supporting benchmarking, shared learning, and evidence-based recommendations for sector-wide climate action.

Results: The Health and Climate Survey received 104 responses from 62 mainly urban hospitals contracted with the Catalan Health or Social Services, covering 2022 and 2023. Carbon footprint was measured across three scopes: direct emissions, energy-related indirect emissions, and supply chain emissions (Scope 3). Despite its complexity, Scope 3 calculation is increasingly adopted by organisations. Results indicate slight reductions in Scopes 1 and 2, while Scope 3 rises as more entities include it. Ongoing efforts to improve measurement and comparability are expected to enhance data consistency, reliability, and robustness, supporting benchmarking and informed climate action across the health sector.

La Unió's collaborative Best Practices Community collected 59 initiatives from member organisations, mainly focused on equipment, infrastructure, and resource sustainability. While 59% measure environmental impact, only 15% and 34% assess social and economic effects, highlighting the need for more comprehensive evaluation of sustainability practices across the health and social care sector.

Discussion: Climate change is a global health crisis requiring coordinated action across health systems, governments, civil society, and the private sector. It increases disease burden through extreme weather events, shifts in infectious diseases, and environmental degradation. Health and social care systems must adopt sustainable practices to reduce their carbon footprint, enhance resilience, and promote adaptation.

Organisations can implement green strategies, including energy efficiency, waste management, and renewable energy use. Monitoring and evaluating sustainability initiatives with clear indicators and targets is essential to maximise impact. Health professionals play a key role in raising awareness among patients, while citizen engagement through environmental education, sustainable transport, recycling, and responsible consumption reinforces collective action.

Synergies between climate mitigation and health improvement demonstrate co-benefits for population well-being. Strong leadership and immediate, collaborative action across all stakeholders are crucial to ensure sustainable, resilient health and social care systems while protecting public health.

Evaluating the Catalan healthcare model: longitudinal insights into governance and professional management (ID 294)

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Context: The Catalan healthcare model represents a distinctive approach to public governance, characterised by a stable and diverse provider network, professional management, and a strong results-oriented culture aligned with public policy objectives. The model is grounded in transparency, continuous improvement, and systematic comparison of outcomes to promote shared learning. In this context, the Results Centre, established in 2003, serves as a collective benchmarking tool. La Unió, representing more than 100 healthcare providers, contributes to this effort through a study that analyses performance across different ownership models over the 2019–2024 period, providing comparative evidence on outcomes.

Methods: Management capacity and performance evaluation enable context-sensitive decision-making and support more efficient use of organisational resources. This approach supports improved performance and underpins the hypothesis that positive outcomes are driven primarily by effective management rather than by ownership models. In this sense, management tools play a decisive role in achieving high-quality results.

The study uses an observational and longitudinal design based on routinely published data from the Catalan Central Results system for primary care and hospital services. A set of validated indicators was selected across key dimensions, including effectiveness, appropriateness, efficiency, patient experience, and sustainability. Providers were classified according to their management and governance models, allowing comparative analysis across organisational structures and overtime. Results were explored using descriptive and graphical analyses, including quartile-based distributional comparisons. Differences between groups were assessed using statistical tests appropriate for the data characteristics: parametric tests were applied when normality and homogeneity assumptions were met, while non-parametric tests were used otherwise. Subsequent post hoc analyses examined pairwise differences to identify specific contrasts between provider categories.

Results: This study updates the previous version, incorporating longitudinal analysis to overcome the limitation of assessing indicators in a single year. The study's findings support the initial hypotheses, showing that performance is primarily driven by management quality rather than ownership. Across most indicators, no significant differences are observed between publicly owned organisations and state-contracted providers. Moreover, substantial variability exists within both groups, indicating that performance cannot be explained by ownership type alone. The analysis also reveals heterogeneous trends over time: while some indicators have already returned to pre-COVID levels, others are still in a recovery phase, highlighting differing capacities for adaptation and resilience. These results challenge common assumptions regarding governance models and underline the importance of management practices. Autonomy, managerial capabilities, and the effective use of management tools are consistently associated with better outcomes, reinforcing the role of professional management as a key determinant of performance in healthcare systems.

Discussion: This study builds on The Catalan healthcare model: a model of governance and professional management oriented towards results, published by La Unió in 2024, and incorporates a longitudinal perspective to assess whether observed performance patterns are sustained over time or reflect temporary contextual effects. The findings reinforce the value of the Catalan model, emphasising that provider diversity, transparency, and systematic comparison of results contribute to improved system performance. The Results Center remains a central instrument supporting governance, benchmarking, and shared learning across organisations. Strengthening these tools enhances system resilience and fosters continuous improvement in social value, service quality, and population health outcomes. Overall, the study highlights the critical role of structured governance, professional management, and longitudinal evaluation in achieving sustainable, high-value outcomes in public healthcare systems over time.

Economic outlook and its implications for Catalonia's health and social sectors: insights from 2024–2025 (ID 295)

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Context: The *La Unió Economic Survey – Health and Social Sector* has been conducted in Catalonia in 2024 and 2025. Its objectives are to capture a comprehensive view of the sector's economic situation, including key concerns and emerging challenges, and to collect data on revenue and expenditure trends. By comparing the two editions, the Barometer highlights how priorities and challenges have evolved over time. Combining timely insights with representative data, it provides a robust evidence base to assess funding adequacy, monitor tariffs and costs, and support informed decision-making and strategic planning within Catalonia's health and social care system.

Methods: The study aimed to provide a comprehensive overview of the economic situation and main current and future concerns in Catalonia's health and social sector. Findings inform a public sectoral report supported by the Scientific Advisory Council of the La Unió Foundation. A cross-sectional, descriptive, and qualitative approach was used, based on an online survey addressing both general economic aspects and issues specific to the health and social sectors.

The study population included organisations affiliated with La Unió. Data was collected during two periods, autumn 2024 and autumn 2025, allowing for comparison over time and identification of emerging trends. Responses were analysed to identify key priorities, concerns, and patterns in financial management, providing a robust evidence base to support sectoral decision-making, policy discussions, and strategic planning. The methodology ensured that the collected information was representative, timely, and actionable for stakeholders.

Results: The analysis highlights structural and sector-specific challenges within Catalonia's health and social sectors. Political instability and short-term policymaking limit economic growth, social base expansion, and inequality reduction. While the health and social sectors are recognised as strategic for a productive economy, this is more evident in discourse than in practice. Resource issues reflect not only allocation priorities but also expenditure management.

In the health sector, key weaknesses include underfunding, limited planning horizons, inequities in payment systems, rising labour costs, and low productivity; strengths include the actual network model and public-private collaboration (PPC); necessary reforms focus on improving territorial equity in funding, enhancing PPC, and increasing productivity. In the social sector, main weaknesses are underfunding, poor institutional coordination, and insufficient professional capacity and compensation; strengths include efficient resource management and PPC; and essential reforms involve increased funding, integration of health and social services, and better remuneration for professionals.

The discussion highlights the critical need for complementarity between public and private health and social care systems, underpinned by clear and fair rules. Key policy implications include reducing VAT on medical products, equipment, and supplies to mitigate rising costs in essential public services.

Improvements in payment systems are needed, including enhanced territorial equity, progress toward results-based payment, and capitation models integrating health and social services. While European Funds are positively received, concerns persist regarding transparency, unequal distribution, dependency on external sources, and outcome evaluation.

Limitations affecting organisational autonomy and strategic alliances include chronic underfunding, excessive regulation and bureaucracy, political interference in governance, and regulations misaligned with the public-private collaboration network model. Addressing these challenges is essential to strengthen governance, improve efficiency, and enhance the quality and equity of health and social services in Catalonia.

Complex systems thinking for rehabilitation technical platforms: a systemic modelling approach (ID 296)

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This paper examines rehabilitation technical platforms (RTP) in French medical and rehabilitation care as complex socio-technical systems rather than simple aggregations of equipment and professional silos. It mobilises Morin's complex thinking, Le Moigne's systemic modelling, and Beer's Viable System Model to propose a conceptual and methodological framework for designing viable, adaptive, and integrated RTP. After situating RTP within the evolving ecosystem of French rehabilitation and highlighting organisational, spatial, and informational compartmentalisation, the paper introduces key principles of complexity (recursivity, dialogic, hologrammatism, emergence) and the inforgetic paradigm to reframe information and decision processes as co-produced with organisational structures. It then uses systemography to model RTP as general systems open to their environment and combines this with the Viable System Model to diagnose tensions across operational, coordination, control, intelligence, and governance functions. Finally, the article outlines a three-stage improvement approach—systemographic framing, viable system diagnosis, and projection of systemic scenarios—aimed at supporting continuous learning, better management of uncertainty, and more coherent patient pathways. RTP are thus conceived as learning, resilient rehabilitation ecosystems capable of absorbing growing complexity in care trajectories.

Beyond the technical tool, this reflection carries a humanistic ambition: to make RTP places where functional restoration rhymes with permanent organisational learning, where each patient becomes co-actor of their pathway, and where each professional finds their place in a common project transcending disciplinary boundaries. The opened perspectives now call for concrete experiments, empirical validations, and diffusion of these systemic approaches within establishments, so that tomorrow's technical platforms are no longer merely care sites, but truly viable and resilient rehabilitation ecosystems.

The role of communication in fostering multilevel resilience in hospitals (ID 297)

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Context: The healthcare sector faces an increasing burden of challenges, ranging from day-to-day operational difficulties to extreme and unexpected events. As these challenges intensify, resilience has become a critical capability, enabling hospitals to protect staff well-being and provide high-quality patient care. Communication is recognised as one of the key organisational factors affecting resilience, as it supports coordination and alignment of actions throughout the organisation (e.g., Kim, 2021; Oloba et al., 2024). At the same time, communication is not confined to the organisational level; it also plays a crucial role at the team and individual levels within hospitals (e.g., Saleh et al., 2025). Drawing on multilevel resilience, sensemaking, and paradox perspectives, this study aims to explore the role of communication in fostering multilevel resilience, focusing on how communication channels help or hinder individuals, teams, and organisations in adapting to change and maintaining continuity under challenging conditions.

Methods: The qualitative study was based on 168 semi-structured interviews conducted in six hospitals across six European countries (Finland, France, Ireland, Italy, Lithuania, and Sweden). Semi-structured interviews were chosen to enable in-depth exploration of complex and multifaceted phenomena, allowing flexibility while ensuring comparability across cases (Yin, 2009; Creswell & Poth, 2016). Interviews were conducted with participants representing diverse professional roles and hierarchical levels within hospitals. The sample included clinical staff (physicians and nurses), middle-level managers, and senior executives (e.g., medical directors, directors of public health, nursing directors, HR directors, and union representatives). This purposive sampling strategy ensured the inclusion of perspectives from both clinical and administrative domains. Interview data were analysed using thematic analysis, with initial analyses conducted at the country level and subsequently integrated for cross-country comparison.

Results: The communication emerged as a double-edged mechanism shaping multilevel resilience in hospitals. At the *individual level*, open and supportive communication provided psychological safety and helped individual healthcare professionals manage stress, whereas communication gaps or unresponsiveness generated insecurity and emotional fatigue. At the *team level*, informal and frequent interactions enhanced team cohesion, shared responsibility, and mutual trust; in contrast, overly formal or strictly top-down communication weakened team coordination, reduced collective engagement, and constrained joint initiative. At the *organisational level*, transparent communication signalled inclusion and strategic clarity, but excessive messaging—multiple channels, repeated emails, parallel updates—led to information overload and diminished effectiveness. While these patterns were broadly observed across countries, the analysis also revealed both shared dynamics and context-specific differences in how communication shaped multilevel resilience.

Discussion: Existing literature emphasises that communication plays a pivotal role in shaping resilience by supporting coordinated action and timely information exchange. Other researchers have addressed communication at the team or individual level, particularly in relation to psychological safety and staff well-being. Our study extends this literature by explicitly examining resilience through a holistic, multilevel lens, showing how communication shapes individual, team, and organisational resilience simultaneously. The findings demonstrate that resilience is not produced at a single level: supportive communication enhances individual coping, frequent informal exchanges strengthen team adaptability, and transparent but manageable messaging supports organisational continuity. However, misalignment between levels—such as organisational information overload undermining team sensemaking—can weaken overall resilience. By linking communication practices across levels of resilience, this study provides a more integrated understanding of how hospitals sustain functioning under daily pressure and extreme events.

Public-private partnerships in healthcare service delivery - Scope, governance and performance: the patient perspective is somehow missing (ID 298)

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Context: Growing pressure on public health budgets has increased interest in public–private partnerships (PPPs) as a means to address resource constraints, leverage private-sector expertise, and foster innovation. Existing literature identifies infrastructure, capacity building, policy, and economic development as the most common purposes of healthcare PPPs, while service delivery remains less explored. Moreover, limited attention has been paid to the value generated by PPPs, particularly regarding patient outcomes. Despite a shared value-creation rationale, PPPs require different governance structures reflecting divergent partner objectives, raising questions about how service-delivery PPPs are governed and evaluated.

Methods: An exploratory literature review covering the past 25 years was conducted to examine the purposes, governance structures, and outcomes of healthcare PPPs. Three Swiss PPP case studies were selected based on contextual diversity and a minimum of five years of operation. The cases included university hospitals, regional hospitals, and private clinics, covering both clinical and support services. Semi-structured interviews were carried out with senior management and partnership representatives. To assess outcomes from the end-user perspective, an in-house patient survey was developed and administered within PPP-affiliated structures. Survey data were analysed using IBM SPSS Statistics 29 through descriptive statistics and visual analysis. The patient survey enabled assessment of perceived value creation and triangulation with stakeholder perceptions, stated objectives, and performance metrics used to monitor the partnerships.

Results: The analysed healthcare PPPs share the objective of ensuring quality care and service proximity, prioritising cooperation over competition. However, patient-related benefits are largely informal and weakly communicated. Governance structures differ across cases, ranging from contractual agreements without a dedicated entity to joint-stock companies with private majority ownership. None of the PPPs operates an autonomous quality management system. Financial performance is secondary in two cases, focusing on cost redistribution, while one case explicitly addresses profit-sharing. Success is strongly influenced by leadership alignment, personal relationships, and political support, which enhance legitimacy and stability. Collaboration between clinical staff from different organisations remains a major challenge due to cultural and operational differences. Performance monitoring relies mainly on operational and financial KPIs, with certification emphasised over qualitative patient outcomes. Overall, partnerships meet operational goals, but patient-centred strategies remain underdeveloped.

Discussion: Healthcare PPPs primarily pursue organisational efficiency, access, and sustainability, while patient-centred objectives remain marginal and rarely formalised. Patient benefits are generally treated as indirect outcomes linked to operational targets or certifications rather than as explicit performance goals. This results in performance frameworks that prioritise operational indicators over measurable patient outcomes. Governance models vary according to partnership objectives, confirming the absence of a universal PPP framework. Effective collaboration depends on alignment between public and private partners, often challenged by differing organisational cultures, with political support emerging as a key enabling factor. Although PPPs achieve operational objectives, the lack of explicit patient-focused goals limits their legitimacy and long-term value. This study contributes to the literature by linking purpose, governance, and performance in a holistic manner and highlights the need to systematically integrate patient outcomes into PPP design, monitoring, and evaluation.

Generative AI and the future workforce: a socio-technical framework for responsible integration in medical education (ID 299)

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Context: Since its widespread use and adoption, generative artificial Intelligence (GenAI) has been an instrumental tool in reshaping the knowledge, skills, and attitudes required of the future healthcare workforce. Large language models and AI-enabled assistants are increasingly used by medical students, tutors, and practitioners to enhance everyday task, including, but not limited to: literature searching, teaching, diagnostic reasoning, information documentation, etc. These tools have the potential to reduce cognitive and administrative burden, enabling learners and clinicians to spend more time solving complex problems and increasing patient interaction. At the same time, GenAI is associated with well-documented risks, including hallucinations, embedded bias, threats to academic integrity and originality, as well as users' over-reliance on GenAI tools that may weaken independent clinical judgement. These limitations are particularly heightened in under-resourced societies, where GenAI might be particularly useful in alleviating workforce shortages and strengthening existing inequities. Situated within the clinical environment of a teaching hospital, this study seeks to develop a socio-technical framework for the responsible use of GenAI that enhances workforce readiness while safeguarding professional standards and patient wellbeing.

Proposed Methods: The study is in the methodological design phase and adopts a mixed-methods approach. Quantitatively, it draws on an integrated conceptual framework combining the modified DeLone and McLean Information Systems Success Model with the Technology Acceptance Models to understand how system, information, and service quality influence perceived usefulness, trust, behavioural intention, and actual use. Moderating effects of trust in AI, social constructs (peer norms, supervisor expectations and professional culture), resource availability (e.g. internet connectivity, power supply, organisational support, etc) will be modelled to explore conditions under which GenAI strengthens or undermines learning and performance. Qualitatively, semi-structured interviews and surveys with medical professionals, tutors, recent graduates and medical students will explore experiences of GenAI in relation to professional development, cognitive load, and perceptions of risk. The findings will be used to develop practical guidelines for integrating generative AI into medical education safely and effectively. These will include principles for governance and design, such as "human-in-the-loop" oversight to ensure human control, routine checks to verify AI-generated information, and new approaches to assessment that maintain professional standards.

Expected Contributions and Implications: This work will potentially present an emerging framework that specifies when and how GenAI can most productively support the development of the future medical workforce, and where its use should be constrained or supported. It is expected to identify specific use-cases that add value (such as formative feedback, administrative support, and structured clinical reasoning prompts) and areas where hallucinations or bias pose unacceptable risk without effective verification mechanisms. By explicitly considering resource-constrained and crisis-affected environments, the study aims to generate guidance that is applicable beyond high-income settings. The discussion will focus on how health system leaders and educators can translate high-level GenAI strategies into actionable policies, curricula, and support structures that future-proof the workforce while preserving human presence, ethical practice, and trust in care.

Understanding stakeholder misalignments in cancer follow-up surveillance care: a multi-stakeholder study (ID 301)

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Context: Cancer follow-up surveillance care (e.g. scans or blood tests), involves multiple stakeholders, including patients, relatives, clinicians and administrative staff, whose journeys intersect in complex ways. Yet, most research focuses on the focal patient journey, overlooking the dynamic interplay between multiple stakeholders and the impact on experience outcomes. This gap is critical in healthcare, where coordination failures can exacerbate distress. This study examines how misalignment across stakeholder journeys shapes experiences and how alignment can improve them. It reframes experience as being shaped by multi-stakeholder systems rather than by isolated dyadic interactions.

Methodology: We adopted an ethnographic, multi-methods design across eight hospital departments and four cancer types. Data collection involved observations, semi-structured interviews, patient and relative diaries, and Photovoice exercises. Sixteen stakeholder journey maps were developed to capture the interdependencies between actors and touchpoints. Analysis followed constant comparison techniques and was validated through the involvement of participant co-researchers to ensure credibility. We build upon interdependence theory, which explains how outcomes in relationships are shaped by patterns of mutual dependence and interaction structures, influencing cooperation, conflict, and adaptation, with insights from psychosocial oncology. This theoretical framework underpins our interpretation and guides the development of a conceptual model for alignment across stakeholder journeys.

Results: Our preliminary analysis indicates that experiences during cancer follow-up surveillance care are influenced by interactions among various stakeholders. Organisational and stakeholder contexts often disrupt patient journeys, with misalignments arising from control asymmetry and fragmented information flow. One case illustrated how a “no news is good news” communication approach heightened uncertainty. The clinician said that she would only call if abnormalities were found, which was contrary to the patient's wishes. However, the patient remained anxious about potentially overlooked results, reinforcing distress and vulnerability. Conversely, we observed situations where stakeholders aligned more with patient needs. An oncologist asked patients whether they preferred preliminary results on the same day, even if not fully confirmed, and coordinated to enable this. Both the organisation and oncologist facilitated this faster procedure. Moments of transparency and collaboration were perceived as reassuring and gave patients a sense of agency. This demonstrates how aligning stakeholder journeys reduced surveillance-related anxiety.

Discussion: This study reframes patient experience in cancer follow-up surveillance care as being shaped by the coordination of multiple stakeholders, rather than isolated patient–provider interactions. Using Hollebeek et al.’s (2022) stakeholder journey perspective, we extend theory by identifying conditions that influence alignment across healthcare journeys and propose a conceptual model outlining mechanisms for better coordination and connection between stakeholders in cancer care.

Our findings offer practical strategies to better align stakeholders in cancer follow-up surveillance care. These include transparent communication protocols and collaborative scheduling mechanisms that reduce uncertainty and foster trust. By improving coordination across stakeholder journeys, these strategies aim to enhance psychological support, alleviate anxiety, and create more integrated, patient-centered pathways. While applicable to other complex service settings, their immediate value lies in guiding healthcare organisations toward more cohesive and supportive follow-up care

Socio-economic determinants of mental well-being in Türkiye: A micro data analysis at the national level (ID 302)

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Aim: Mental well-being is not merely an individual health outcome; it is a critical management indicator of the productivity of the healthcare workforce, service quality, and overall performance of healthcare systems. In recent years, there has been a growing body of evidence suggesting that mental health is shaped more by socioeconomic conditions and daily life practices than by clinical factors (Ribeiro et al., 2024; Salem & Robenson, 2025; Faruque et al., 2025; Kirkbride et al., 2024). This study aimed to examine the socioeconomic and lifestyle determinants of mental well-being in the adult population in Türkiye and provide implications for health policies.

Method: This study is based on a nationally representative cross-sectional microdata set for the year 2024. The data are drawn from a nationally administered survey and comprise 2,615 individuals-level observations (https://www.tgss.org.tr). Mental health was measured using a 10-item Mental Distress Index covering dimensions such as mental well-being, feeling depressed, emotional distress, sleep problems, loneliness, enjoyment of life, and difficulty coping with daily tasks (KMO = 0.91; Bartlett χ^2 = 9,639.2; $p < 0.001$; Cronbach's alpha = 0.89). The standardised mental distress index was used as the dependent variable (higher values indicated worse mental health). The independent variables included sleep quality, physical activity, household income, education level, age, sex, and the presence of long-term illness/disability. Analyses were performed using the Ordinary Least Squares method with robust standard errors. In addition, a mediation analysis was conducted to examine the indirect mechanisms through which the explanatory variables affect the outcome variable.

Findings: The results revealed that sleep quality was the strongest predictor of mental well-being. Better sleep quality was associated with a significant decrease in mental distress (β = -0.258; SE = 0.017; $p < 0.001$). Physical activity also had a protective effect (β = -0.081; SE = 0.022; $p < 0.001$). The findings point to a clear socioeconomic gradient. An increase in household income was significantly associated with a decrease in psychological distress (β = -0.018; SE = 0.004; $p < 0.001$). Individuals with long-term illnesses or disabilities had significantly higher psychological distress levels (β = 0.180; SE = 0.037; $p < 0.001$). Female reported higher psychological distress than men did (β = 0.169; SE = 0.032; $p < 0.001$). The level of psychological distress decreased with age (β = -0.010; SE = 0.001; $p < 0.001$). Educational level did not show a statistically significant direct effect on psychological well-being (β = -0.011; p = 0.40); however, mediation analysis revealed that the effect of education on psychological well-being occurred largely indirectly through income (education → income: β=1.307; $p<0.01$; income→ mental well-being: β=-0.021; $p<0.01$).

Conclusion: This study demonstrates that mental well-being is largely determined by structural socioeconomic conditions and daily life practices, rather than individual characteristics. The findings indicate that sleep quality and physical activity are independent determinants that substantially mitigate mental distress, whereas the effect of educational level on mental well-being is indirect and mediated through income. These findings suggest that mental well-being should be addressed not only through individual characteristics but also through managerial practices and organisational arrangements that shape working conditions in healthcare institutions, work-life balance, and income security of healthcare workers. The results show that organisational culture and human resource policies constitute a significant policy domain for protecting mental health.

Future gaps in the public provision of health services in Austria? A mixed-methods analysis for specialists in internal medicine (ID 303)

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Context: Population growth and aging are likely to increase pressure on healthcare providers, even in countries with high provider-to-population ratios. To plan appropriate policy measures, detailed information on supply and demand trends in the physician workforce for each medical specialty is essential. This article assesses the current supply of specialists in internal medicine in Austria and projects future supply and demand until 2035.

Methods: Our analysis follows a framework for workforce planning consisting of four stages: (1) horizon scanning, (2) scenario generation, (3) workforce modelling, and (4) policy analysis. We use stakeholder workshops, interviews and an online survey (n = 484) in the first two stages. Future supply is modelled using stock-flow models, whereas demand is projected using regression modelling based on existing forecasts and extrapolations of historical care use. Different scenarios are used to account for uncertain developments, and the two main settings of care in Austria—public hospitals and publicly financed outpatient care—are modelled separately.

Results: Overall, no severe shortage of specialists in internal medicine is expected in Austria until 2035. However, our analysis suggests that the two settings of care will experience very different developments: while the gap between supply and demand in public hospitals is expected to be small (±5 percent), the supply of specialists in publicly financed outpatient care is projected to fall between 10 and 25 percent short of demand.

Discussion: Without major reforms, capacity constraints will likely affect the publicly financed outpatient sector, driving patients into the private sector with higher user charges and potentially hindering the desired shift from inpatient to outpatient care. Therefore, it is essential for policy makers to incentivise physicians to work in contracted outpatient care. Increasing enrolment in medical schools is not a suitable policy measure, as no significant shortage of specialists in internal medicine is expected overall.

Challenges, barriers, and facilitators of telemedicine adoption in a paediatric setting: A scoping review (ID 304)

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Context: Telemedicine has emerged as a fundamental tool in paediatrics to improve access to care and optimise resources, experiencing a significant acceleration following the COVID-19 pandemic. Despite benefits such as economic savings for families and continuity of care, this practice presents several challenges for healthcare professionals (HCPs). This study aims to synthesise existing literature to identify the barriers and facilitators related to the implementation of telemedicine in paediatric settings. The findings are intended to provide a knowledge base to guide clinical, organisational, and policy choices.

Methods: This scoping review was conducted following the Arksey and O'Malley framework and reported according to PRISMA-ScR guidelines. The literature search was performed on PubMed, Web of Science, and Scopus databases using keywords such as "telemedicine," "barriers," "facilitators," and "paediatrics". Inclusion criteria focused on English-language studies reflecting the perspectives of healthcare professionals.

Results: The review yielded 17 articles. The main barriers and facilitators were identified and classified into seven macro-categories: administrative and financial, relational, propensity to use, organisational, economic, accessibility, and family-related factors. Identified barriers included the lack of reimbursement, high costs, diminished empathy and trust, clinical limitations of the physical examination, poor digital literacy, and fragmented workflows. Conversely, facilitators included time and cost savings, the ability to observe the child in their natural environment, and enhanced family involvement. At the organisational level, telemedicine fostered reduced waiting times, more efficient triage, and improved collaboration among multidisciplinary teams.

Discussion: These results demonstrate the potential of telemedicine to maintain a quality of care comparable to traditional methods. Adopting telemedicine in paediatrics requires a systemic approach to overcome professional resistance and infrastructural gaps. It is essential to implement targeted training programs to manage the clinical and relational implications of remote care. Organisationally, healthcare models must be redesigned through shared protocols to prevent professional workload burden. Furthermore, political commitment is necessary to ensure uniform reimbursement models and clear regulatory frameworks for liability and data protection. Only through multi-level interventions can telemedicine become an equitable and sustainable pillar of the paediatric healthcare system, reducing disparities in access to services.

Reorganising health professionals in a changing environment: a qualitative analysis of professional roles and responsibilities (ID 305)

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Context: Healthcare professionals (HCPs) are experiencing deep transformations in their roles within evolving healthcare systems. While their traditional clinical responsibilities persist, they are frequently assigned new tasks to ensure integrated, patient-centred care. In countries such as Italy, however, the existing large number of HCPs may lead to confused patterns of how their roles are evolving. This may imply overlapping responsibilities or, at the opposite, areas of intervention in which no one is clearly accountable. In this context, an in-depth qualitative analysis was carried out with the Italian Ministry of Health so to clarify career patterns and responsibilities of health professionals.

Methods: This study employed focus groups conducted in July 2025 to map core competencies and analyse career trajectories. Professionals were asked to clarify their typical tasks in different phases of their careers, specifying the equilibria between professional and managerial tasks. They were also asked to suggest new potential career trajectories so to respond to key challenges in the system and to improve the attractiveness of their profession. The analysis was carried out through an active participation of researchers, of the Italian Ministry of Health, and of the official national associations of each health profession.

Results: Though with differences among professions, main findings suggest that managerial responsibilities are doomed do increase in time and during career progression. Some professions find managerial responsibilities essential mainly in mid-/advanced career moments; other professions express the need to increase them already at the very first stages of their career. The latter is particularly the case for those professions that are already systematically involved in team-working activities. Additionally, it is also clarified that technological literacy is key to enhance effective professional development. Overall, the desired career trajectory is more balanced and harmonious, with professionals' progression accompanied by increased managerial skills, research, and teaching responsibilities, thereby consolidating the role of healthcare professions within the system and ensuring them greater visibility and institutional recognition. Specific desired activities in future evolutions of professions include process management, HR supervision and mentorship, support to organisational decision making, safety and quality control.

Discussion: Healthcare professionals must update their skills to meet new managerial and coordination responsibilities because modern healthcare is increasingly complex, team-based, and resource-constrained. Beyond clinical expertise, professionals are now expected to manage services, coordinate multidisciplinary teams, and contribute to quality improvement and patient safety initiatives. Developing managerial and coordination responsibilities improves communication, decision-making, and efficient use of resources, which leads to better patient outcomes. It also enables healthcare professionals to adapt to organisational changes, new technologies, and evolving policies. Without these new configurations of their roles, gaps in coordination can result in errors, inefficiencies, and reduced quality of care. Continuous skill development ensures professionals remain effective leaders within healthcare systems and are better equipped to deliver safe, integrated, and patient-centred care.

Operational and infrastructure management as a lever to achieve net zero hospitals. Mollet University Hospital study case (ID 306)

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Context: Hospitals are among the most resource-intensive organisations within health systems, accounting for a significant share of greenhouse gas emissions, water consumption, and material use. While sustainability is often addressed through policy commitments, its effective implementation depends on operational and infrastructure management. Under the EHMC Management, Operations, and Practice track, this abstract presents Mollet University Hospital as a mature operational case study demonstrating how sustainability objectives can be embedded into everyday management decisions. Over more than a decade, the hospital has systematically aligned infrastructure planning, facilities management, and operational processes with environmental performance goals. This approach enabled the organisation to reconcile efficiency, service continuity, and environmental responsibility, achieving Net Zero direct emissions by 2023 while responding to increasing healthcare demand and maintaining high standards of patient safety and quality of care.

Methods: The hospital adopted a management model centred on operational excellence, continuous improvement, and data-driven decision-making. Infrastructure interventions were prioritised through long-term investment planning and included geothermal energy systems, photovoltaic electricity generation, and the procurement of 100% certified renewable electricity. Building systems were upgraded with high-efficiency HVAC installations, radiant ceilings, improved thermal insulation, and low-impact refrigerant replacement. Operational practices focused on reducing high-emission activities through anaesthetic gas capture, electrification of the vehicle fleet, optimisation of sterilisation and support services, and process-level energy and water metering. Environmental performance was fully integrated into facilities management using ISO 14001 and ISO 50001 management systems. Dashboards linking operational KPIs with environmental, safety, and service performance indicators supported routine monitoring, corrective actions, and informed managerial decision-making across departments.

Results: Between 2012 and 2025, Mollet University Hospital reduced direct CO_2 emissions by more than 90%, achieving Net Zero status for Scopes 1 and 2 despite a 50% increase in healthcare activity. Electricity consumption decreased by 18% and water use by 36%, reflecting improved operational efficiency and infrastructure performance. These reductions were achieved without compromising operational reliability, patient safety, or clinical outcomes. Residual emissions were progressively minimised and responsibly offset.

In 2025, the hospital's operational and infrastructure achievements were externally validated through the Joint Commission Healthcare Sustainability Certification (first hospital in Spain and fourth in the world to achieve), international recognition at the World Hospital Congress with the Gold Award for Sustainability Accelerator, and from Health Care Without Harm Europe, we were honoured with the 2025 Health Care Climate Champion Award, and the Health Care Climate Action Awards in Mitigation, Leadership, and Resilience, a triple recognition that reinforces our role as a benchmark in sustainable healthcare. All of that confirms the robustness and replicability of the adopted management approach.

Discussion: This case demonstrates that hospital decarbonisation can be effectively driven through operational and infrastructure management rather than isolated environmental initiatives. Embedding sustainability into facilities planning, asset management, and routine operations enables healthcare organisations to simultaneously improve efficiency, resilience, and environmental performance. The experience of Mollet University Hospital shows that Net Zero targets are compatible with service growth and financial responsibility when supported by strong management systems and reliable indicators. These findings provide transferable insights for health managers seeking practical, operations-led pathways to sustainable and resilient hospital models aligned with the core mission of healthcare delivery.

Future-proofing breast cancer screening through inclusion: lessons learnt from women with intellectual disabilities and their caregivers in Austria (ID 307)

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Context: Future-proofing health systems require that organised prevention programmes deliver equitable access for all population groups. Despite universal coverage, women with intellectual disabilities (ID) continue to be underserved in terms of breast cancer screening, contributing to avoidable late-stage diagnoses and higher mortality rates. These gaps challenge the people-centred orientation and social responsibility of publicly funded screening systems. This study explores barriers and facilitators to screening participation from the dual perspectives of women with ID and their caregivers, generating evidence to inform actionable strategies for inclusive, resilient screening.

Methods: A qualitative study was conducted to capture experiences across the breast cancer screening pathway. Data were collected through semi-structured focus groups and individual interviews with 17 women aged 45 years and older with mild to moderate ID, and 10 caregivers in Austria. All interviews were audio-recorded, transcribed verbatim, and analysed using reflexive thematic analysis. A dual-perspective analytical approach was applied to integrate systematically the views of women with ID and caregivers, enabling identification of structural, organisational, professional, and social factors shaping screening participation.

Results: Findings indicate that low participation in breast cancer screening among women with ID is driven by an interplay of systemic, organisational, informational, and psychosocial barriers. Key challenges included exclusionary standardised procedures, inaccessible and insufficient information, limited opportunities for breast health education, psychological distress linked to prior healthcare experiences, societal taboos surrounding sexuality and disability, and diffusion of responsibility across healthcare providers, screening centres, and support systems. A recurrent theme was the lack of training among healthcare professionals regarding intellectual disabilities, particularly deficits in communication skills, supported decision-making, and confidence in engaging respectfully with women with ID. Women reported gaps in knowledge and understanding of breast cancer and screening processes, highlighting the need for targeted education and information. Caregivers played a pivotal but variable role in mediating access. Facilitators point to actionable system improvements, including training for health professionals, ID-sensitive communication, accessible information, emotional support, accompaniment, and familiar healthcare environments.

Discussion: Results highlight that achieving inclusive breast cancer screening requires attention to system design and workforce competencies, in addition to supporting individual participation. To future-proof preventive services, accessibility, disability competence, and person-centred approaches, must be embedded as core features of organised screening programmes. This study identifies key actionable steps, including mandatory training for healthcare professionals on intellectual disabilities, with a strong focus on communication skills and supported decision-making, alongside clear accountability across the screening pathway. Standardised accessibility guidelines, improved data collection on disability inclusion, and organisational support for caregivers are essential to reduce avoidable inequities in early detection. This research translates qualitative evidence into actionable strategies for governance, the workforce and service design. This advances health equity and supports health systems in complying with the UN Convention on the Rights of Persons with Disabilities, while ensuring inclusive, people-centred preventive care.

Indicator-based governance for total decarbonisation in healthcare organisations (ID 308)

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Context: As healthcare organisations succeed in reducing direct emissions, indirect impacts associated with procurement, mobility, food services, and material consumption become the dominant source of environmental pressure. Addressing these impacts requires governance models capable of influencing complex value chains beyond the organisational perimeter. Positioned within the EHMC Governance, Leadership and Social Responsibility track, this abstract examines how Mollet University Hospital strengthened its governance framework to advance total decarbonisation. The focus is on leadership accountability, performance management, and ethical decision-making as mechanisms to integrate sustainability into strategic governance and to fulfil the organisation's social responsibility toward patients, professionals, and the wider community.

Methods:

A structured governance framework was developed to embed sustainability objectives into strategic planning, executive oversight, and organisational accountability mechanisms. More than 60 environmental indicators were incorporated into performance management systems, enabling evidence-informed leadership decisions and transparent monitoring of progress. The Sustainability Accelerator Tool (SAT) was applied to assess organisational maturity across governance, environmental impact, and equity dimensions, and to prioritise high-impact actions. Sustainability criteria were systematically integrated into procurement policies, food service tenders, and supplier evaluation processes, extending governance influence across the value chain. Governance arrangements were reinforced through cross-functional committees, direct executive reporting lines, and active participation in international sustainability networks, facilitating benchmarking, shared learning, and external validation of governance practices.

Results: By 2025, governance assessments confirmed expert-level maturity in leadership, accountability, and strategic alignment. Priority Scope 3 initiatives were implemented across procurement, food services, professional and patient mobility, and material use, resulting in measurable reductions in resource intensity and indirect emissions. Sustainability considerations became embedded in executive decision-making, contract management, and supplier engagement. The governance model and its outcomes received international recognition, including the IHF Gold Award for Sustainability Acceleration and acknowledgements from Health Care Without Harm, validating the effectiveness of indicator-based governance in advancing responsible and resilient health system management.

Discussion: Total decarbonisation in healthcare requires governance systems capable of translating sustainability commitments into measurable organisational performance. This case illustrates how indicator-based governance, ethical leadership, and accountability mechanisms can address complex sustainability challenges beyond direct operational control. By integrating environmental responsibility into strategic oversight and decision-making structures, healthcare organisations can enhance resilience, credibility, and long-term value creation while fulfilling their social responsibility within evolving health systems.

Developing a green workforce: leadership and professional engagement for sustainable healthcare, the Mollet University Hospital experience (ID 309)

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Context: Future-proof health systems depend not only on infrastructure and governance, but also on a workforce capable of integrating sustainability into everyday professional practice.

Aligned with the EHMC Human Capital, Professionalism and People Management track, this abstract explores how Mollet University Hospital transformed sustainability from a governance objective into a shared professional competence.

The case highlights leadership approaches, workforce engagement, and skills development as essential drivers of cultural change, enabling sustainability to become embedded across clinical, diagnostic, and support activities rather than remaining a top-down policy ambition.

Methods: Sustainability competencies were systematically embedded into workforce management through mandatory environmental training, continuous professional development programmes, and participatory leadership structures.

A multidisciplinary network of 20 environmental ambassadors represented all organisational processes, fostering peer learning, local problem-solving, and professional collaboration.

Leadership supported professional ownership by integrating sustainability objectives into daily practice and recognising improvement initiatives. Laboratories played a leading role by optimising diagnostic processes in line with Green Lab standards, addressing energy use, material consumption, and waste generation.

Workforce engagement and cultural change were monitored through regular perception surveys, training indicators, and qualitative feedback mechanisms linked to professional performance and organisational objectives.

Results: In 2025, Mollet University Hospital became the first hospital in Spain to achieve Green Lab certification, a milestone driven by professional leadership and workforce engagement.

Survey results demonstrated high levels of awareness of the health and environment relationship and strong ownership of sustainability goals among professionals. Professional-led initiatives contributed to measurable reductions in waste generation, energy use, and resource consumption across multiple processes.

Workforce-related achievements were further recognised through the Joint Commission Healthcare Sustainability Certification (first in Spains fourth in the World), the IHF Gold Award, and the organisation of CleanMed 2025, highlighting the role of human capital in sustainable healthcare transformation.

Discussion: This case confirms that investing in people is critical to achieving sustainable and resilient health systems.

Leadership models that prioritise skills development, engagement, and professional ownership enable sustainability to evolve from policy into routine practice.

By empowering professionals as agents of change, healthcare organisations can strengthen innovation capacity, organisational resilience, and long-term sustainability while supporting the development of the health workforce of the future.

Strengthening health system resilience in a small island state: EU-funded medical equipment investments in Malta (ID 310)

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Background: Small European Island States such as Malta face structural vulnerabilities in maintaining resilient health systems, including limited economies of scale, resource dependency, and exposure to supply chain disruptions. The COVID-19 pandemic highlighted the importance of strategic investments in infrastructure and medical technology to ensure continuity of care and preparedness. This work examines how EU structural and recovery funds were utilised by the Maltese Ministry for Health ad Active Ageing to strengthen health system resilience through investments in advanced medical equipment across multiple public healthcare entities.

Methods: A descriptive analysis is being conducted using programme documentation, administrative data, and procurement records from EU-funded initiatives, including the European Regional Development Fund (ERDF), REACT-EU, and the Recovery and Resilience Facility (RRF). The analysis assessed funding allocation, procurement and coordination mechanisms, and alignment with national health system priorities.

Results: EU funding enabled targeted upgrades in diagnostic imaging, intensive care capacity, infection prevention and control systems, and digital health technologies. Enhanced cross-entity coordination supported equipment standardisation, maintenance planning, and service continuity. Key challenges included administrative capacity constraints, prolonged procurement timelines, and risks related to the long-term sustainability of equipment utilisation and maintenance.

Conclusions: The Maltese experience illustrates how EU financial instruments can act as catalysts for strengthening health system resilience in small island contexts. Beyond capital investment, sustained collaboration between national authorities, EU institutions, and healthcare providers (alongside strategic governance and long-term planning) is essential to translate funding into durable system-wide improvements and equitable health outcomes.

Vision-led coordination architecture for women's health: the Nordic Charter 2040 framework (ID 313)

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Context: Closing the women's health gap could unlock USD 30–50 billion annually in the Nordic region through productivity gains, reduced healthcare costs, and innovation growth. By 2040, 7–8 million Nordic women will navigate menopause and ageing simultaneously—a demographic shift that makes women's health an economic imperative, not merely an equity concern. Yet traditional gap analysis has documented deficits for decades without achieving systemic transformation. The Nordic Charter for Women's Health 2040, launched at the Finnish Embassy in Copenhagen in December 2025, supported by the Nordic Council of Ministers, tested whether vision-led participatory foresight could produce a coordination architecture that enables voluntary alignment across fragmented systems.

Methods: We conducted an 8-month participatory strategic foresight process with 136 contributors across Denmark, Finland, Iceland, Norway, and Sweden. Rather than cataloguing gaps, participants worked backwards from a shared 2040 vision, identifying what must be true for women's health to become anticipatory, data-driven, and integrated into everyday wellbeing.

The process anchored policy concepts in lived experience through narrative scenarios following three generations of women navigating health transitions. In September 2025, fifty experts convened at the Danish Parliament, working in five thematic groups: Equitable Research, Women-Centred Care, Inclusive Innovation, Innovative Governance, and Health Literacy & Awareness. Each group independently developed transformational shifts and concrete activities for their domain. We then systematically mapped outputs across all groups to identify convergent patterns.

Results: We expected five separate action plans. What emerged was convergent validation of shared infrastructure requirements. When mapped systematically, all five groups—regardless of starting perspective—independently identified identical infrastructure needs: workforce competence (People), sustainable funding (Money), regulatory frameworks (Policy), and interoperable data systems (Data). The difference was only the lens through which each group expressed these needs.

This convergence produced the Women's Health 2040 Framework: a 3×4+1 coordination matrix organising three operational domains (Research, Care, Innovation) supported by four shared infrastructure pillars (People, Money, Policy, Data) built on a foundation of Awareness—the system's cognitive infrastructure that enables policy, funding, and data to translate into action.

Published under open commons principles, the Charter enables voluntary adoption without proprietary constraints. Institutions can engage through multiple pathways: coordinated Nordic strategy, bilateral collaboration, individual initiative selection, or funding alignment. The accompanying Implementation Playbook (summer 2026) maps specific activities against existing Nordic and European initiatives.

Discussion: The independent convergence of five expert groups on identical infrastructure requirements suggests these are genuine system properties rather than artefacts of any single disciplinary perspective. This provides methodological validation for coordination frameworks developed through participatory foresight.

The approach offers transferability beyond the Nordic context. For European health management, vision-led foresight combined with systematic mapping of independent expert outputs provides a replicable method for identifying coordination opportunities that retrospective gap analysis misses. The framework complements existing European initiatives, including the European Health Data Space, by offering a coordination architecture rather than prescriptive mandates.

The Charter demonstrates that health system transformation may require not top-down mandates but shared infrastructure enabling voluntary alignment—a governance model relevant across health management challenges.

Analysis of digital addiction policies for children in Türkiye: a retrospective review using the health policy triangle framework (ID 314)

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Context: Digital addiction among children has become an increasingly prominent public health and health governance challenge, requiring coordinated policy responses that extend beyond individual-level interventions. In Türkiye, policies addressing digital addiction prevention for children have been shaped by the integration of global health norms, child protection frameworks, and national strategic objectives. Despite the expansion of regulatory and strategic initiatives in recent years, limited evidence exists on how these policies function in practice. This study aims to retrospectively analyse child-focused digital addiction prevention policies in Türkiye using the Health Policy Triangle framework developed by Walt and Gilson (1994).

Methods: This study employs a qualitative retrospective policy analysis design. A total of 20 policy documents published between 2015 and 2025 were systematically reviewed, including national development plans, strategic action plans, legal regulations, ministerial protocols, and institutional reports related to child health and digital wellbeing. Data collection followed a multi-stage approach consisting of grey literature database searches, analysis of official governmental and institutional websites, and review of expert and policy reports. Documents were analysed thematically according to the four dimensions of the Health Policy Triangle: content, context, actors, and process. This framework enabled an integrated examination of policy goals, stakeholder roles, implementation mechanisms, and governance dynamics.

Results: The analysis indicates that Türkiye has developed a comprehensive strategic framework and a multi-actor governance structure to address digital addiction among children, involving health, education, social services, and regulatory institutions. However, content analysis reveals that national protocols—such as the "Fully Monitored Child" programme—do not explicitly define the autonomous roles of paediatric nurses in digital risk screening, monitoring, and early intervention processes. This regulatory gap, when combined with delayed parental recognition of addiction-related symptoms, limits the effectiveness of early detection mechanisms. Process analysis further identifies insufficient inter-institutional data integration and the absence of clearly defined standards for the algorithmic regulation of technology companies as key implementation gaps within the current policy landscape.

Discussion: The findings suggest that child-focused digital addiction policies in Türkiye remain predominantly oriented towards parental responsibility and awareness-raising, while underutilising the potential of healthcare professionals in preventive and clinical roles. Strengthening policy effectiveness requires the formalisation of paediatric nurses' clinical authority in digital addiction prevention and follow-up processes, supported by clear legal mandates. Additionally, addressing structural determinants of digital addiction necessitates regulatory oversight of addictive algorithmic designs employed by digital platforms. Integrating health system actors with digital governance mechanisms may enhance early intervention capacity and policy coherence. These results highlight the need for a more balanced, health-centred, and governance-oriented approach to digital addiction prevention in child health policy.

Leadership strategies for environmental sustainability in hospitals: the role of sustainability ambassadors (ID 315)

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Background: Healthcare institutions have a significant environmental impact due to high consumption of energy, water, and materials, as well as substantial waste generation. Hospital leadership plays a critical role in embedding sustainability into organisational culture, policies, and decision-making processes. This study explores how structured leadership models, supported by sustainability ambassadors, can drive environmental performance and advance low-carbon healthcare strategies.

Objectives: The main objective is to analyse and propose leadership strategies that effectively promote environmental sustainability in hospital settings. Specifically, the study aims to identify key leadership principles supporting energy efficiency, waste reduction, and resource optimisation, and to evaluate the role of sustainability ambassadors in fostering a culture of sustainability among healthcare professionals across care processes.

Methods: A Sustainability Ambassadors Committee was established with representatives from all clinical processes (emergency, surgical, inpatient, outpatient care) and support services (laboratory, pharmacy, radiology). Ambassadors acted as local sustainability leaders, promoting green initiatives such as Green Lab, Green Pharmacy, and Green Diagnostic Imaging, and supporting progress towards a Net Zero Hospital (Scopes 1 and 2, with a pathway to Scope 3).

The methodology combined a literature review on leadership and sustainability in healthcare, structured interviews with ambassadors and professionals, analysis of sustainability performance indicators (energy, water, waste), and staff surveys assessing awareness and engagement with sustainability initiatives.

Results: The findings show that committed leadership significantly improves sustainability outcomes, including reduced resource consumption and enhanced environmental performance across hospital processes. Key sustainability risks were identified and prioritised, enabling targeted improvements aligned with green process objectives.

Staff surveys indicated that 80% of respondents perceived leadership commitment as a positive driver of sustainable practices. Challenges such as resistance to change, budget constraints, and training needs were also identified, highlighting the importance of governance, interdisciplinary collaboration, and continuous education.

Conclusions: Leadership supported by sustainability ambassadors is a key enabler of environmentally sustainable hospital management. A structured ambassador-based governance model fosters staff engagement, embeds sustainability into daily operations, and delivers measurable environmental and economic benefits. Hospitals adopting leadership-driven sustainability strategies can reduce their carbon footprint while improving efficiency, positioning healthcare organisations as active contributors to climate action.

An integrated, person-centred care model for frailty across healthcare settings (ID 316)

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Background: Frailty is a chronic condition characterised by increased vulnerability to stressors, leading to functional decline, dependency, and higher morbidity and mortality. Inactivity, malnutrition, balance disorders, and recurrent hospitalisations significantly increase the risk of falls and loss of autonomy. Frailty affects physical, cognitive, emotional, and social dimensions, particularly in older adults with multiple comorbidities. This project addresses frailty through an ethical, sustainable, and proactive approach, aiming to anticipate patient needs and prevent functional deterioration through coordinated care across different healthcare settings.

Objectives: The primary objective is to improve the frailty index of individuals cared for in the Fundació Sanitària Mollet (FSM) catchment area by strengthening intrinsic and extrinsic capacities. Specific objectives include improving strength, mobility, balance, and functionality; maintaining basic activities of daily living; stimulating cognitive and emotional well-being; optimising nutrition and dysphagia management; reducing pain and inappropriate medication use; adapting the environment to promote autonomy; and reducing the risk of institutionalisation.

Methods: A comprehensive, interdisciplinary, and person-centred care model was implemented across acute care hospitals, intermediate care, and nursing homes. Frailty assessment was conducted using validated tools, including the Short Physical Performance Battery (SPPB), gait speed, Timed Up and Go (TUG), Barthel Index, and dysphagia scales (FOIS, IDDSI).

Interventions included individualised exercise programs, cognitive and emotional stimulation, optimisation of medical and nutritional treatments (including STOPP/START criteria), environmental adaptations, and complementary therapies such as music therapy and animal-assisted interventions. Digital tools were used to enhance engagement and continuity of care.

Results: Preliminary results demonstrate significant improvements in patient outcomes. Functional capacity increased by 30%, and fall incidence decreased by 25% among participants. Cognitive stimulation programs resulted in a 40% improvement in attention and memory. Dysphagia-related complications were reduced by 20%, and 35% of patients experienced a reduction in potentially inappropriate medications. Overall, the model improved functionality, autonomy, and quality of life in frail patients.

Conclusions: An integrated, interdisciplinary, and person-centred frailty care model significantly improves functional outcomes and quality of life while reducing complications. Coordinated care across healthcare settings, early detection, and tailored interventions are essential to address frailty effectively. This approach supports sustainable healthcare delivery and contributes to the humanisation of care for an aging population.

Transferring emerging roles and skills in healthcare innovation procurement: a capacity-building framework from InnoHSupport executive education (ID 317)

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Context: Innovation in healthcare procurement demands new roles and skills to address rising costs, ageing populations, and sustainability challenges. Our previous research identified these emerging competencies, but their transfer into practice remains a critical gap. The InnoHSupport project, funded by the EU, bridges this gap by mapping learning needs and delivering tailored executive education, masterclasses, training programs, and a 'train the facilitator' (TTF) course to healthcare procurement stakeholders. This abstract explores how our capacity-building initiatives translate theoretical insights into actionable skills, fostering resilience, creativity, and strategic thinking in procurement professionals.

Methods: We employ a demand-driven approach to identify and address learning needs across public and private healthcare sectors. We mapped competencies through stakeholder consultations, surveys, and workshops, involving procurers, SMEs, and research institutions. The resulting Innovation Procurement Toolkit and masterclasses were co-created with participants, ensuring relevance and practical applicability. Training programs were delivered online and in-person, with assessments to evaluate skill acquisition. The TTF course further empowered facilitators to sustain knowledge transfer within their organisations. Data from participant feedback, case studies, and performance metrics were analysed to assess the effectiveness of these interventions in building procurement innovation capacity.

Results: The results show an outline of the constructive alignment of the formulated learning objectives, the chosen didactical forms and assessments, including participants' improvement plans for their own organisations, for which they applied strategic thinking, ambidexterity, resilience, and the ability to implement innovative procurement practices through sensing, seizing, and transforming. Moreover, the participants initiated knowledge networking hubs for future inter-organisational collaboration. These outcomes underscore the value of executive education in equipping professionals with the competencies needed to build future-proof healthcare systems within an ecosystem.

Discussion: This study demonstrates the critical role of executive education in transferring emerging roles and skills to healthcare procurement practitioners. By aligning training with real-world challenges, the executive education not only enhances individual competencies but also fosters systemic change, promoting sustainability and innovation. The findings offer a scalable framework for educators, policymakers, and practitioners seeking to embed procurement innovation in their organisations. Future work will explore the long-term impact of these interventions on organisational resilience and the broader healthcare ecosystem. This abstract contributes to the EHMA 2026 theme *Future-proofing health systems for a changing world: from strategy to action* by showcasing a practical, actionable approach to "future-proofing" health systems through targeted capacity-building.

Testing models for independent prescribing in community pharmacy: learning about what works, how, for whom and why based on analysis of Work As Imagined (WAI) compared with Work As Done (WAD) (ID 318)

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Context: With the aim of improving access to health care though collaboration and integration across the primary healthcare system, the Community Pharmacy Independent Prescribing Pathfinder Programme was launched by NHS England in 2024. The intention of the programme was to test models for providing clinical services involving pharmacist independent prescribers (IPs), where IPs can independently assess, diagnose and manage patients as well as prescribe medicines. In this paper we apply a realist evaluation approach to identify what service models work and identify lessons for scaling up IP to meet policy intentions.

Methods: We analysed Expressions of Interest (EoIs) submitted by community pharmacies to test models for providing clinical services and conducted key informant interviews to identify proposed clinical model, implementation plans, anticipated challenges, and IT requirements. We then developed initial programme theories capturing work as imagined (WAI) in IP service models. To understand how these models worked in practice, we interviewed participants recruited from relevant interest groups (IP pharmacists, employers, other relevant groups) (n=141) and completed observations at 10 case studies to understand work as done (WAD). Analysis presented here compares initial programme theories for how IP services were expected to work with implementation of IP services in practice, noting contexts and mechanisms that promoted or inhibited this as well as sticking points and work arounds in implementation. We consider what divergence between WAI and WAD tells us about how, why, and to what extent IP in community pharmacy works.

Results: Initial programmes theories identified seven context-dependent mechanisms for IP services to work in practice. On investigating implementation, we found that when a proposed service (WAI) built upon existing clinical models targeting acute minor illnesses, WAD tended to be aligned with expectations for how interventions were imagined to reach their objectives. However, some proposed mechanisms for action related to collaboration were not needed if a service could be implemented without needing a referral from other primary care providers (general practices). IP related to long-term conditions took longer to implement, with greater complexity and more sticking points requiring workarounds. IP pharmacists encountered organisational and other challenges at system-level related to digital interoperability and the need to establish new ways of WAD to collaborate with other primary care providers. What worked in practice for all models depended on clinical governance, supervision and support, skill mix, digital infrastructure, and funding.

Discussion: Community pharmacies in England operate within a complex health system, with closer integration within primary care a clear health policy intention. Testing new models of clinical services in this context requires considerable work to coordinate in practice – work that the EoIs and key informant interviews were able to provide some direction for based on WAI; however, when the realities of WAD varied from what was imagined, such as issues with the interoperability of IT infrastructure, implementation was more complex, requiring workarounds and negotiation across providers and new ways of collaborating. In order to scale up IP services in England, it is important to address structural as relational challenges in integrating community pharmacy IP within primary care.

What retains health professionals? Large-scale evidence on workforce outflow and prevention (ID 319)

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Context: Health systems worldwide face mounting pressure from workforce shortages, rising care demand, and increasing complexity of services. In the Dutch health and welfare sector, persistent staff outflow threatens accessibility, affordability, and system resilience. To remain effective and ready for the challenges and opportunities of tomorrow, health management must move beyond reactive workforce policies. Future-proofing health systems requires translating strategic ambitions on human capital into timely, evidence-based action. This study contributes to that goal by providing novel, large-scale insights into why health professionals leave and which targeted interventions can effectively support retention across diverse workforce groups.

Methods: This study analysed free-text responses from the national staff outflow survey among voluntarily departing professionals in the health and welfare sector. Data from 22,164 respondents in client-facing roles were included. Two open-ended questions were examined: reasons for leaving the organisation and perceived preventability of outflow. A systematic text-analytic method was developed to identify frequently occurring words and word combinations, resulting in 35 outflow themes and 28 prevention themes. Themes were algorithmically linked to individual respondents based on their text responses. Analyses explored relationships between outflow and prevention themes and examined differences across groups defined by age, work experience, contract hours, tenure, profession, sector, region, and type of outflow (organisation-, sector-, or labour-market exit).

Results: The most frequent outflow themes were lack of development opportunities (11.1%), travel time (10.2%), leadership (7.4%), and lack of recognition and appreciation (6.3%). The most cited prevention opportunities were recognition and appreciation (17.8%), development (15.2%), communication (10.9%), and employment conditions (8.0%). Notably, recognition and appreciation emerged as a cross-cutting factor, significantly associated with 17 of the 35 outflow themes, indicating broad preventive potential. Clear differences were observed between workforce groups: younger professionals more often cited work–life balance and development, while older professionals more frequently mentioned health-related reasons. Experienced staff and long-tenured employees more often left due to workload, organisational change, or insufficient appreciation. Sector- and region-specific patterns further underscored the need for differentiated workforce strategies.

Discussion: The findings show that workforce needs are not uniform, requiring agile, targeted interventions rather than one-size-fits-all solutions. While outflow reasons vary by age, experience, contract duration, and sector, recognition and appreciation, alongside access to development opportunities, consistently emerge as the strongest levers for retention. These factors address specific exit reasons while mitigating broader pressures such as workload, organisational change, and limited autonomy. Continuous dialogue with professionals enables early detection of emerging risks and alignment of interventions with evolving workforce needs. By investing in recognition, professional development, transparent communication, and supportive leadership, health managers can foster upskilling, reskilling, collaboration, and engagement. By embedding such evidence-informed practices into workforce strategies, health systems can move from reactive retention efforts to sustainable, future-oriented workforce planning, contributing to global knowledge on building resilient health systems.

From data to decisions: a GIS-based framework to navigate perinatal service transformation under workforce and resilience constraints (ID 320)

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Background: Health systems across high-income countries are undergoing profound transformation driven by declining birth rates, persistent workforce shortages, fiscal constraints, and increasing demands for system resilience. Perinatal and neonatal intensive care services are particularly affected, as they are resource-intensive, geographically sensitive, and highly dependent on specialised staff. Hospital CEOs, regional health boards, and workforce planners are therefore required to make difficult decisions regarding service consolidation, redistribution of personnel, and investment in resilience, often under conditions of uncertainty and competing stakeholder priorities. Practical decision-support tools that facilitate transparent, evidence-informed consensus-building remain limited.

Objective: To develop an actionable, policy-oriented decision-support framework that enables hospital executives, regional health authorities, and workforce planners to prioritise perinatal service reorganisation, workforce allocation, and resilience investments.

Method: Using a Japanese prefecture as a case study reflecting challenges common to many high-income health systems, we applied a GIS-based analytical approach to regional perinatal care data. Three composite indices were constructed: (1) geographic accessibility based on travel time to delivery and referral facilities; (2) workforce sustainability, capturing physician workload balance and service capacity with attention to sustainable working conditions; and (3) disaster resilience, reflecting structural and functional preparedness of perinatal facilities. After standardisation, regions were classified into explicitly policy-relevant typologies. This approach provides a common language for stakeholders to negotiate strategic options, such as service consolidation versus decentralised investment, under shared evidence.

Result: The integrated framework revealed marked heterogeneity across regions, with distinct patterns of vulnerability. Some regions demonstrated acceptable access but unsustainable workforce burdens, raising concerns regarding burnout and staff retention, while others showed adequate staffing but poor geographic coverage or limited resilience. By integrating the three dimensions, the typology translated complex system-level data into clear strategic choices, identifying where consolidation of services, redistribution of workforce, or targeted investment in resilience would be most impactful. Importantly, the framework enabled comparison of alternative policy scenarios without privileging a single solution, thereby facilitating transparent dialogue and agreement among decision-makers.

Conclusions: This GIS-based framework provides hospital leaders, regional health boards, and policymakers with an actionable management tool to prioritise competing strategic options under demographic, workforce, and fiscal constraints. By relying exclusively on existing administrative data, the approach is highly feasible to implement at low cost and can support continuous monitoring of system performance over time. The framework therefore contributes to transparent, evidence-informed governance of perinatal service transformation, promoting sustainable, equitable, and high-value perinatal care systems. It is readily transferable to other high-income health systems facing similar pressures.

Disclosure: This poster presents a new analysis focused on health system management and governance, based on a dataset previously utilised in a Japanese-language clinical publication.

Integrated care through digital transformation: Neurona project, a holistic approach for complex chronic conditions (ID 321)

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Context: People with complex chronic conditions, including cerebral palsy and severe neurodevelopmental disorders, require highly coordinated responses across health, social and educational systems. Fragmentation between services often results in inefficiencies, caregiver burden and suboptimal outcomes. The Neurona Project was developed by Fundació Aspace Catalunya to address these challenges through a digital, person-centred integrated care model. The platform responds to the growing need for continuity of care, real-time information sharing and proactive decision-making, aligned with public system requirements. By leveraging digital health tools, mobile solutions and data-driven approaches, Neurona aims to improve accessibility, coordination and sustainability of care for people with high-complexity needs and their families.

Method: Neurona was developed using an Agile methodology based on the Scrum framework to ensure adaptability, user involvement and continuous improvement. The project was organised into iterative sprints of 2–4 weeks, with active participation from healthcare professionals, social professionals, educators, people with disabilities and caregivers. Key phases included needs assessment and system design, development of a minimum viable product tailored to severe communication and mobility impairments, and continuous testing through real-world use. Pilot implementations were conducted across residential, outpatient and home-based care settings. Data collection included user feedback, usability testing and service process indicators. The platform was designed to ensure interoperability with public health and social care systems, with progressive integration of remote monitoring tools and future AI-based analytics to support clinical and social decision-making.

Results: The pilot implementation of Neurona demonstrated meaningful improvements in integrated care delivery for people with high-complexity conditions. Professionals reported improved care coordination and reduced administrative workload through centralised and automated data management. Users and caregivers showed increased engagement due to accessible and personalised digital interfaces. The use of home-based digital tools contributed to a reduction in unnecessary in-person visits, supporting more efficient use of resources. Multidisciplinary collaboration improved through shared real-time information across services. Early experiences with data-driven monitoring indicated potential for earlier identification of clinical or functional deterioration. The platform proved scalable across different care settings and compatible with existing public systems, confirming its feasibility as a sustainable digital solution for integrated care models.

Discussion: The Neurona Project illustrates how digital transformation can effectively support integrated care for people with complex chronic conditions. By combining a user-centred design with Agile development, the platform addresses fragmentation between health, social and educational services while enhancing accessibility and efficiency. The results suggest that digital integrated care solutions can reduce professional burden, empower caregivers and improve continuity of care, particularly in home and community settings. Neurona also provides a practical framework for scaling integrated digital care within public systems, contributing to policy and practice in complex care management. Its data-driven approach opens new opportunities for research, quality improvement and future AI-supported decision-making. Overall, Neurona represents a replicable and sustainable model aligned with international priorities for person-centred, technology-enabled integrated care.

Transforming early neurodevelopment care: Petit Aspace, the first high-complexity day hospital for children aged 0-3 in Spain (ID 322)

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Context: Early childhood represents a critical window for neurodevelopment, where timely and intensive intervention can significantly influence long-term outcomes, particularly for children with complex neurodevelopmental conditions. However, early intervention services are often fragmented, limited in intensity, and poorly integrated across health, social, and educational systems. Petit Aspace was developed by Fundació Aspace Catalunya as the first high-complexity day hospital in Spain dedicated to children aged 0–3 with severe neurodevelopmental needs. The model addresses the need for coordinated, multidisciplinary, and family-centred care during the period of highest neuroplasticity, while optimising access, continuity, and sustainability within the public healthcare system.

Methods: This study evaluates the Petit Aspace day hospital model, which provides intensive, multidisciplinary early intervention for children aged 0–3 with high-complexity neurodevelopmental conditions. Participants include children enrolled in the program and their families. Care is delivered by a coordinated team of pediatric neurologists, physiotherapists, occupational therapists, speech therapists, psychologists, and social professionals. Individualised intervention plans integrate medical, rehabilitative, and psychosocial approaches. Outcomes are assessed using standardised developmental scales, clinical observations, and parent-reported measures. The WHO International Classification of Functioning, Disability and Health (ICF) framework guides data collection, focusing on body functions, activities, participation, and contextual factors. Pre- and post-intervention measures are used to evaluate neurodevelopmental progress and family well-being. Data analysis follows a mixed-methods approach, combining quantitative developmental outcomes with qualitative feedback from caregivers to capture both clinical and experiential impacts of the model.

Results: Preliminary findings indicate significant improvements in children's neurodevelopmental outcomes, particularly in motor function, cognitive engagement, communication, and emotional regulation. These gains align with the intensive and early nature of the intervention during peak neuroplasticity periods. Standardised assessments show positive trends in adaptive behaviour, social interaction, and functional participation. Families report reduced stress levels, increased confidence in caregiving, and improved understanding of their child's developmental needs. The consolidation of specialised services within a day hospital reduced care fragmentation and improved accessibility to high-intensity interventions. Professionals highlighted improved coordination, clearer clinical pathways, and more effective multidisciplinary decision-making. Overall, the model demonstrated feasibility, scalability, and acceptability within a public healthcare context, supporting its potential for broader implementation.

Discussion: The Petit Aspace model demonstrates how early, high-complexity, multidisciplinary intervention can be effectively organised within a day hospital setting to improve outcomes for children with severe neurodevelopmental conditions and their families. By integrating medical, rehabilitative, and psychosocial care in a single structure, the model addresses fragmentation and enhances continuity, efficiency, and family engagement. The results suggest that consolidating expertise and intensifying intervention during early childhood can yield meaningful developmental and social benefits while optimising resource use. From a management and practice perspective, Petit Aspace offers a scalable and sustainable framework aligned with integrated care principles. The model also has implications for policy, supporting the development of specialised early intervention services within public systems. Future research will focus on long-term outcomes and cost-effectiveness to further inform system-level decision-making.

The effectiveness of an Artificial Intelligence-based gamified intervention for improving maternal health outcomes among refugees and underserved women (ID 323)

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Background: In Lebanon, disadvantaged pregnant women show poor maternal outcomes due to limited access to antenatal care (ANC) and a strained health care system, compounded by ongoing conflicts and a significant refugee population. Despite substantial efforts to improve maternal health, the provision of maternal health services in primary health care centres (PHCs) still faces significant challenges. Mobile health (mHealth) interventions, particularly those using artificial intelligence (AI) and gamification, are proving effective in addressing gaps in maternal health services by offering scalable and accessible care.

Objective: This study aimed to evaluate the effects of an AI-based gamified intervention, Gamification and Artificial Intelligence and mHealth Network for Maternal Health Improvement (GAIN MHI), on maternal health outcomes and uptake of ANC services among disadvantaged populations in Lebanon.

Methods: The study was a community interventional trial with historical controls, conducted across 19 randomly allocated PHCs in 5 Lebanese governorates. Participants included pregnant women in their first trimester visiting PHCs. The intervention used mHealth tools, including educational mobile-based messages, appointment reminders, and the GAIN MHI app, which provided AI-driven and gamified learning for health care providers (HCPs). Data collected covered demographics, medical history, and maternal and neonatal health outcomes. Key outcome measures included uptake of health care services (eg, ANC visits, supplement intake, ultrasound completion, lab tests) and maternal and neonatal outcomes (eg, term delivery, normal delivery, abortion rate, neonatal morbidity, maternal complications).

Results: This study included 3989 participants, divided between a control group (n=1993, 50%) and an intervention group (n=1996, 50%). Regression models adjusting for demographics, health, and obstetric characteristics showed significantly higher odds in the intervention group for completing 4 or more ANC visits (odds ratio [OR] 1.569, 95% CI 1.329-1.852, P<.05), completing lab tests (OR 1.821, 95% CI 1.514-2.191, P<.05), 2 or more ultrasound screenings (OR 7.984, 95% CI 6.687-9.523, P<.05), urine analysis (OR 4.399, 95% CI 3.631-5.330, P<.05), and supplement intake (OR 3.508, 95% CI 2.982-4.128, P<.05). Regarding outcomes, the intervention group had 29.5% increased odds of a term delivery (OR 1.295, 95% CI 1.095-1.532, P=.002) and 58% increased odds of avoiding neonatal morbidity (OR 1.580, 95% CI 1.185-2.108, P=.002). However, both groups showed decreased odds of normal delivery (intervention: OR 0.774, 95% CI 0.657-0.911; control: OR 0.823, 95% CI 0.701-0.964) and increased odds of maternal complications (intervention: OR 0.535, 95% CI 0.449-0.637; control: OR 0.586, 95% CI 0.474-0.723; P<.05).

Conclusions: The GAIN MHI intervention effectively improves uptake of ANC and maternal and neonatal outcomes. Our findings highlight the potential of mHealth interventions to enhance health care delivery. To sustain these improvements, future research should focus on integrating mHealth with other interventions that address socioeconomic and contextual factors. This approach will further optimise maternal and neonatal health outcomes among disadvantaged populations.

Utilising gamification, artificial intelligence, and mHealth for the professional development of maternal care providers: exploratory pilot cross-sectional study assessing providers' satisfaction in primary health care centres (ID 324)

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Background: High maternal morbidity and mortality rates globally, especially in low-income and lower-middle-income countries, highlight the critical role of skilled health care providers (HCPs) in preventing pregnancy-related complications among disadvantaged populations. Lebanon, hosting over 1.5 million refugees, is no exception. HCPs face significant challenges, including resource constraints and limited professional development opportunities, underscoring the need for continuous learning and innovative educational interventions. Artificial intelligence (AI) and gamification show promise in enhancing clinical performance and evidence-based practice.

Objective: Considering the limited evidence on the effectiveness of integrating gamification and AI in a mobile app for professional development of HCPs providing maternal health services, this pilot study aims to assess the satisfaction and acceptability of HCPs with a novel mLearning tool, titled the "GAIN MHI" app (gamification, artificial intelligence, and mHealth network for maternal health improvement), at selected primary health care centers in Lebanon.

Methods: This is a cross-sectional study that presents data collected from 12 participating HCPs, primarily obstetricians and midwives who have been using the GAIN MHI mobile app for professional development and learning. The survey used included Likert scale questions to assess HCPs' satisfaction, engagement, and evaluation of the gamification and AI components of the app. Open-ended questions gathered qualitative feedback on app preferences and potential improvements. Statistical analysis was performed to derive insights from the quantitative data collected. Subsequently, a descriptive analysis was performed, presenting the frequencies and percentages of various participant characteristics, as well as responses to the survey across all sections.

Results: A total of 85% (n=10) of the HCPs, including midwives and doctors, were satisfied with the GAIN MHI mobile app, the user interface, and various content features. Engagement levels were robust (64.6%, SD 6.2%), notably impacting clinical routines and theoretical knowledge. The gamification and AI components garnered strong positive feedback, enhancing learning enjoyment (11/12, 92%). From a qualitative perspective, users expressed appreciation for the app's diverse content, user-friendliness, and motivation for continuous learning. Suggestions for expanding the content included a wide range of health topics, highlighting the app's potential applicability in various health care fields.

Conclusions: HCPs, especially those practicing in underserved areas, face challenges in accessing professional development opportunities, highlighting the need for innovative pedagogical approaches using mobile technologies. This pilot study underlines the potential of using AI-based digital solutions for professional development with the aim of improving the quality of health services-in this case, maternal health services-through continuous learning and updates on the most recent evidence-based clinical guidelines. Future research should investigate the feasibility of applying similar solutions on a larger scale to reach a wider range of HCPs and cover other health topics. The applicability of such solutions in different contexts and low-resource settings should also be explored.

Co-designing integrated social, education and healthcare services: leveraging design thinking to reshape care for people with complex neurological conditions (ID 325)

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Context: Integrated care for people with complex neurological conditions requires coordination across health, social, and educational sectors. However, many integrated care initiatives struggle to move beyond structural alignment, failing to address workflows, professional cultures, and user experience. Fundació Aspace Catalunya, a public non-profit organisation with over 65 years of experience in complex disability care, identified the need to redesign services from within the system. To address fragmentation and misalignment between services and real-life needs, a Design Thinking–based co-creation approach was implemented. This initiative aimed to shift from designing services *for* people to designing services *with* people, directly involving patients, caregivers, and frontline professionals to reshape integrated care delivery.

Methods: A structured Design Thinking methodology was applied following five iterative stages: empathise, define, ideate, prototype, and test. Data collection methods included in-depth interviews, ethnographic observations, and journey mapping with people with complex neurological conditions, caregivers, and professionals from health, social, and educational services. Shared pain points and system bottlenecks were identified across sectors. Multidisciplinary co-creation workshops were facilitated to generate and prioritise solutions, focusing on service pathways, professional roles, and communication processes. Low- and high-fidelity prototypes of redesigned workflows and digital support tools were developed and piloted in real-world settings. Continuous feedback loops allowed iterative refinement. The approach emphasised human-centred design, cross-sector collaboration, and practical feasibility, ensuring that redesigned solutions were grounded in everyday practice and aligned with organisational and system constraints.

Results: The co-design process led to measurable improvements in service delivery and professional collaboration. Personalised care pathways enhanced user satisfaction, usability, and engagement among patients and caregivers. Cross-sector coordination improved through clearer role definition, shared responsibility, and faster decision-making. Co-designed digital tools, including an app-based planning interface and integrated communication log, supported continuity of care and information sharing. Professionals reported increased empowerment, ownership, and alignment with person-centred values; 91% of participants indicated a stronger sense of agency in service delivery. The redesigned workflows reduced fragmentation and increased operational coherence across services. Importantly, the model was documented and codified, enabling replication and scalability within the organisation and beyond, demonstrating its potential as a transferable framework for integrated care transformation.

Discussion: This project demonstrates that transforming integrated care requires transforming how services are designed. Applying Design Thinking as a core governance and operational principle enabled meaningful participation, strengthened professional collaboration, and aligned service structures with real-world needs. Beyond improving user experience and care outcomes, the approach supported organisational learning, adaptability, and sustainability. From a management and practice perspective, co-design proved to be a powerful lever to address complexity, break down silos, and operationalise person-centred care across sectors. The findings suggest that co-design should not be treated as a one-off innovation phase but embedded as a continuous principle in integrated care systems. This framework offers practical insights for healthcare leaders and policymakers seeking scalable, resilient, and people-centred models of integrated service delivery.

Understanding digital transformation in complex disability care: addressing challenges and unlocking opportunities for high-cost, high-need populations (ID 326)

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Context: Digital transformation is increasingly positioned as a key lever to improve efficiency, access, and quality in health and social care systems. However, people with complex disabilities—characterised by high support needs, multimorbidity, and social vulnerability—are often marginalised in digital health strategies. This creates a paradox: populations with the highest care needs are those least prioritised in digital innovation. Fundació Aspace Catalunya, a public non-profit organisation with over 65 years of experience in integrated care for complex neurological disabilities, frames this population as a "stress test" for health, educational and social systems. This study explores how digital transformation can either exacerbate inequities or become a responsibility-driven tool to promote equity, inclusion, and system resilience.

Methods: A mixed-methods approach was applied combining quantitative system-level data and qualitative stakeholder perspectives. Quantitative data were obtained from the Catalonia Public Health Department and included indicators related to emergency admissions, medication use, mental health service utilisation, and healthcare costs among individuals with cerebral palsy and multiple neurological disabilities. Qualitative data were collected through 31 in-depth interviews with professionals, caregivers, and people with disabilities. Thematic analysis was conducted to identify barriers to digital adoption, equity gaps, and systemic failures affecting digital care pathways. Data triangulation enabled the identification of structural patterns linking digital readiness, service fragmentation, and socioeconomic factors. This approach allowed for an integrated analysis of digital transformation not only as a technological process but as a governance, equity, and system-design challenge.

Results: Findings reveal a disproportionate burden of healthcare use and costs among people with complex disabilities. Over 65% face a high risk of health complications, emergency service use is twice as frequent, mental health services are used three times more often, and healthcare costs are 2.5 times higher per person compared to the general population. Despite this, digital transformation initiatives frequently fail to prioritise this group. Key barriers identified include lack of data interoperability, low digital readiness among professionals, absence of inclusive design, limited caregiver support, and socioeconomic inequities in access. These failures result in care discontinuity, duplicated interventions, low adoption of digital tools, and increased digital exclusion, particularly among low-income users. Conversely, participants highlighted the potential of integrated electronic records, AI-supported decision tools, and digitally enabled home-based care when co-designed and supported appropriately.

Discussion: This study reframes digital transformation from a technological opportunity to a public responsibility. The findings demonstrate that excluding people with complex disabilities from digital strategies reinforces inequities and weakens overall system performance. Designing digital health solutions from the margins—where complexity is greatest—can improve equity, resilience, and effectiveness for the entire system. From a governance and policy perspective, inclusive digital transformation requires investment in interoperability, digital literacy, caregiver empowerment, and co-design with professionals and users. Success should not be defined by simplicity or speed of deployment, but by equity achieved at scale. This perspective offers critical insights for policymakers and system leaders seeking to align digital transformation with social responsibility, sustainable health systems, and people-centred care.

Empowering people with complex neurological conditions: co-designed assistive technology as a catalyst for participation, inclusion and quality of life (ID 327)

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Context: People with complex neurological conditions often face significant barriers to mobility, communication, participation, and autonomy. Assistive technology (AT) has the potential to address these challenges, but many solutions fail due to poor usability, limited personalisation, and provider-led decision-making. Increasingly, there is recognition that AT is effective only when it is designed around people's real goals, contexts, and choices. Fundació Aspace Catalunya has developed a user-led, co-designed assistive technology model embedded within integrated health, social, and community services. This approach reframes AT not as a device, but as a pathway to agency, participation, inclusion, and quality of life, particularly for people with high and complex support needs.

Methods: A person-centred participatory methodology was applied, with co-creation embedded at every stage of the assistive technology process. Users with complex neurological conditions, caregivers, clinicians, and engineers collaborated through an iterative cycle including functional, environmental, and goal-setting assessment, development, prototyping, testing, and monitoring. Users defined their own goals and technology choices, while professionals adopted a facilitative rather than prescriptive role. Rapid testing was conducted in real-life contexts such as homes, workshops, and community activities. Continuous feedback loops informed iterative refinement of tools and supports. Real-time data analytics were used to monitor usability, engagement, and autonomy outcomes. The model extended beyond healthcare settings, integrating educational, social, and community domains, and was designed to be adaptable, scalable, and transferable to other contexts.

Results: The co-designed assistive technology model led to significant improvements across multiple domains. Users demonstrated increased independent use of tools for movement, communication, and self-care, alongside a marked reduction in reliance on caregivers for daily tasks (-50%). Engagement in meaningful activities such as cooking, art, and leisure increased by over 65%, while participation indicators rose by approximately 70%. Users reported higher satisfaction, sense of control, and perceived well-being (+60%). Professionals reported improved collaboration and role clarity, acting as autonomy facilitators rather than decision-makers. Feasibility and acceptability were high, with adoption rates exceeding 90%. The model proved adaptable beyond healthcare environments, supporting participation across educational, social, and community settings, and demonstrating strong potential for scalability.

Discussion: This study demonstrates that assistive technology is most effective when it follows the person, rather than requiring the person to adapt to the technology. Shifting from a provider-led to a user-led, co-designed model resulted in meaningful gains in autonomy, participation, and quality of life for people with complex neurological conditions. From a management and practice perspective, the approach challenges traditional AT service delivery by redefining professional roles, strengthening cross-sector collaboration, and embedding continuous feedback and adaptation. The findings suggest that co-designed assistive technology can act as a catalyst for inclusion and dignity, while remaining scalable and sustainable. This model offers practical insights for organisations and systems seeking to implement people-centred, technology-enabled solutions that deliver real-world impact for individuals with high support needs.

Assessing evidence-based policy interventions in the living environment and their impact on health: a scoping review and reflection on practice (ID 328)

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Context: The living environment directly influences health. While the relationship between human health and environment has been studied since at least 1953, the impact of policy initiatives and government programmes on health through addressing environmental stressors remains underexplored. Given the rising burden of non-communicable diseases and ageing populations, there is a pressing need for low-cost and labour extensive preventive strategies with proven beneficial health outcomes, such as improving our living environment through government enacted policy.

Methods: We conduct a qualitative study following a two-step approach. Step 1 is a qualitative scoping review which was conducted using the appropriate PRISMA guidelines. The search strategy for the review followed the Arksey & O'Malley framework, consulted databases were Web of Science, Scopus, PubMed, GreenFILE, and SocINDEX. Here, we focused on studies from the past five years that examined the impact of environmental policy interventions on health outcomes. Studies included had to be published in an academic journal, the intervention had to be policy, outcomes had to include health or health-related outcomes and the policy had to address environmental stressors. Studies were screened in multiple stages by two authors independently. The results were then charted and assessed for quality through a GRADE evidence framework. In Step 2, an expert panel of policy advisors will reflect upon these findings and discuss practical implications. Results of this step are expected early April.

Results: After screening, 38 studies met the inclusion criteria. Most addressed environmental stressors are air pollution (n=17), physical inactivity (n=11), food environment (n=5), and other population health outcomes (n=5). Within these studies several types of policy interventions were researched. Low emission zones (n=9), which generally demonstrated positive health effects—though one study noted decreased life satisfaction following implementation of low emission zones. Nutrition-related policies (n=4) varied in effectiveness; comprehensive measures such as marketing bans were effective, whereas simple bans were less so. Physical activity promotion (n=6) in schools or through governmental actions was mostly effective, also yielding additional health benefits. Overarching 'healthy city'-style policies (n=12) showed generally positive, albeit mixed, results. Clean air acts (n=5) resulted in improvement of a wide variety of population health outcomes. Finally, the evidence on green finance (n=2) was limited but suggested beneficial effects on population health.

Discussion: Environmental policy interventions can be effective in improving health outcomes, particularly low emission zones, which are well-researched. A notable finding is the geographic spread and types of policy approaches: Western countries often favour decentralised policies, while Eastern countries are more likely to employ centralised policies. Notable gaps exist: including limited research in low-income countries, and on stressors like noise pollution, waste, lack of green space, heat stress and safety. Study quality and focus varied greatly. A key limitation of this review is its restriction to studies from the past five years, despite no earlier reviews on this exact topic. Future research should prioritise robust epidemiological evaluations of diverse policy interventions across low-, middle-, and high-income countries and contexts.

Towards circular healthcare: a qualitative exploration of approaches and implementation factors in Dutch hospitals (ID 329)

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Context: Healthcare is a major contributor to environmental pollution, mainly due to high resource use and a linear supply-chain. In the Netherlands, healthcare consumes 13% of all abiotic raw materials and produces 4.2% of national waste. By 2022, all Dutch hospitals had signed the 'Green Deal 3.0', committing to halving primary raw material use by 2030 and achieving "maximum circular healthcare by 2050". Despite this commitment, little is known about how hospitals operationalise circularity in complex organisational settings, where decision-making processes, professional norms, supply-chain constraints and regulatory requirements interact. This study (1) explores how hospitals in the wider Amsterdam region approach circularity, and (2) identifies factors influencing circularity implementation.

Methods: Participants were recruited using a purposive sampling approach, and was expanded via snowball sampling. Semi-structured interviews were conducted with hospital staff in roles relevant to circularity implementation, such as sustainability coordinators/advisors, medical specialists, infection prevention specialists, and support services staff. The interview guide was informed by the updated Consolidated Framework for Implementation Research (CFIR), and interviews continued until data saturation. Verbatim transcripts were deductively coded to identify barriers and facilitators of circularity implementation, using the updated CFIR. Open coding was employed to capture hospitals' approaches to circular healthcare. The codebook was updated iteratively throughout the analysis. Interactions and dynamics between the identified barriers and facilitators were explored. This thematic analysis entailed examining patterns, connections and influences across CFIR domains, to generate themes that extended beyond the original CFIR structure.

Results: Nineteen staff from twelve hospitals were interviewed. Green teams and sustainability committees, coordinators and advisors were frequently present, dedicating time to implement initiatives and increase sustainability awareness and knowledge. Additionally, all hospitals entered into external collaborations and/or networks, However, institutionalisation of circularity varied widely, from structured approaches with strategies, coordination, monitoring and budgets to more fragmented, project-based efforts driven by individual champions.

Eight themes were generated to map both barriers and facilitators in the implementation of circularity initiatives: (1) resource availability, (2) implementation process, (3) circularity initiative characteristics, (4) staff and leadership motivation, engagement and attitudes, (5) tension between infection prevention and sustainability, (6) organisational complexity, (7) regulations, certification and policy, and (8) external stakeholders and suppliers. Thematic analysis lead to the following key implementation factors: bottom-up motivation, top-down support, infection prevention, internal and external collaboration, supply-chain dependency, policies, and regulations.

Discussion: Dutch hospitals are increasingly active in the circular transition, largely through bottom-up initiatives led by motivated staff and green teams. However, these efforts are typically fragmented and operate without consistent organisational support, budgets, or monitoring. Circularity differs fundamentally from conventional hospital change: its environmental benefits accumulate mainly at the societal level, while hospitals themselves bear the operational, financial, workflow-related and infection-prevention risks. Addressing this misalignment is important for progress. Strengthening top-down engagement through leadership commitment, clear priorities, and dedicated resources are important to move beyond pilots. Embedding circularity into organisational processes, governance structures, policies, clinical procedures, and performance-monitoring systems can provide the stability and accountability needed for long-term implementation. Additionally, regulations and policies need to address the absence of affordable circular alternatives, dependence on incumbent linear-economy suppliers, and showcase co-benefits of sustainability to hospital management, regulatory bodies and health insurers.

Advancing the digital transformation of the Catalan Central Balance Sheet Office (ID 331)

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Context: Public health systems across Europe face the dual challenge of financial sustainability and rising demand. In Catalonia, the "Central de Balanços" (established in 1991) has historically addressed this by centralising and standardising economic data from the Public Health System network to ensure comparability across providers. It gathers information primarily at the Annual Accounts level, while also incorporating higher granularity for specific economic, finance, healthcare activity and personnel variables. Despite this robust data foundation, decision-making has traditionally relied on fragmented, static reporting. We present the digital evolution of this initiative into a dynamic Visual Analytics Platform to bridge the gap between technical accounting data and strategic management.

Methods: We developed a scalable, interactive web application using Shiny (R) to visualise financial data collected directly from SISCAT centres for the period 2019-2024. The dataset integrates over 8 million records across Acute Care, Mental Health and Addictions, and Intermediate Care. To ensure data quality, we perform a systematic review to guarantee full comparability across diverse providers. The tool features:

Performance: A thorough evaluation of a centre's aggregate results, integrating economic, financial, activity, personnel, efficiency, and productivity metrics to assess comprehensive organisational performance.

Benchmarking: Ensuring robust comparability between centres to contextualise results and identify outliers within peer groups.

Temporal Evolution: Longitudinal analysis of historical series to monitor trends and evaluate structural sustainability over time. This platform replaces static reports, enabling stakeholders to filter and export complex datasets based on definitive annual accounts.

Results: The platform successfully processed the 2019-2024 historical series. Key findings include:

Operating Margins: Analysis of EBITDA margins highlights how rising costs have impacted the financial equilibrium of providers across the network.

Productivity Trends: By crossing activity volumes with personnel data, the tool exposes significant variability in workforce productivity among centres of similar complexity.

Investment & Asset Health: The tool visualises the effectiveness of specific funding lines in renewing medical equipment, while simultaneously identifying critical areas of structural depreciation where assets remain fully amortised. These results demonstrate the platform's capacity to monitor system sustainability based on closed-year data, providing a robust evidence base for structural analysis.

Discussion: The deployment of this Visual Analytics Platform drives a paradigm shift, transitioning public health management from traditional financial monitoring to evidence-based strategic decision making. Crucially, the tool drastically facilitates benchmarking, allowing stakeholders to instantly compare performance across peer groups and identify outliers efficiently. By transforming static records into interactive intelligence, the platform democratises access to complex financial data, breaking down silos between technical accountants and strategic decision-makers. This transparency enables policymakers to monitor equity and correlate financial inputs with operational reality. Ultimately, the tool provides the necessary lever to optimise resource allocation, ensuring financial decisions directly support high-value care.

Strengthening digital competence sharing in healthcare: exploring differences in managers' and professionals' perceptions (ID 332)

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Context: As digital technologies increasingly shape healthcare practice, strengthening healthcare professionals' digital competence has become essential. Promoting professionals' digital competence requires a deeper understanding of how digital competence sharing is managed and experienced. Digital competence sharing extends beyond individual skills; it relies on collective practices, organisational structures, and managerial approaches that enable the sharing and utilisation of competence across the workforce. However, managers and professionals may hold differing perceptions of how digital competence sharing is managed and supported. A better understanding of these perspectives can inform management strategies that promote digital competence sharing and reduce variability across professionals.

Methods: A mixed-methods design was employed to explore managers' and healthcare professionals' perceptions of how digital competence sharing is managed. Participants were recruited from one private and five public healthcare organisations in Finland, representing both primary and specialised healthcare services. Organisations and their units were selected using convenience sampling. In the qualitative phase, purposive sampling was used to recruit managers (n = 22) and professionals (n = 12) for semi-structured interviews conducted between February and May 2022. Qualitative data were analysed using inductive content analysis. The quantitative phase comprised cross-sectional surveys of managers (n = 156) and professionals (n = 227). Data were collected between August and December 2024 using two validated instruments: the Self-assessed Management of Digital Competence Sharing (Sa-MDCS) for managers and the Management of Digital Competence Sharing (MDCS) for professionals. Quantitative data were analysed using descriptive statistical methods.

Results: The qualitative results showed that managers' and professionals' perceptions of the management of digital competence sharing encompassed six areas: allocating adequate resources and opportunities; establishing methods and practices for competence sharing; developing and utilising professionals' digital competence; enhancing intergenerational learning; fostering a safe and digitally positive organisational atmosphere; and promoting digital competence sharing through leadership. Managers and professionals reported largely similar views, although differences in emphasis existed. Professionals highlighted everyday workload constraints and the need for practical support, whereas managers stressed organisational coordination, the mapping and utilisation of digital competence, and the development of their own digital capabilities. Quantitative results confirmed the qualitative results. Managers assessed all areas of the management of digital competence sharing more positively than professionals. Despite these discrepancies, both groups identified a safe and supportive digital atmosphere as the strongest area and resourcing for digital competence sharing as the weakest.

Discussion: The results of this study indicate that managers and professionals perceive the management of digital competence sharing differently, with professionals assessing managerial support as weaker than managers themselves. Although a safe and digitally positive atmosphere appears to be well established, persistent challenges, particularly limited time and insufficient human resources, continue to impede digital competence sharing. The results highlight the need to increase and better target resources for digital competence activities, as well as to communicate clearly the organisational importance of digital competence. They also underscore the necessity of organisational structures that actively create opportunities for digital competence sharing. The validated instruments developed in this study provide healthcare organisations with a robust means of detecting such inconsistencies and establishing targeted improvement priorities. The results can be applied to management and leadership development, to strengthening the digital competence of healthcare professionals, and to informing educational programmes.

Optimising drug supply workflow through interprofessional collaboration: a quality improvement initiative (ID 333)

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Context: Fundació Hospitalàries Barcelona, a 200-bed general hospital integrated within the Catalan Public Health System (SISCAT), faced recurrent medication management challenges affecting approximately 150 patients daily across 6 hospitalisation units. Problems included excessive medication in unit dose trolleys during weekends, overstocking in hospitalisation units, high return rates to pharmacy, delayed prescribing resulting in late trolley arrivals, and missed administration times. These issues compromised patient safety, resource optimisation, and workflow efficiency. Therefore, the objective of the working group was to redesign the drug supply workflow through interprofessional collaboration, applying principles of patient safety, resource optimisation, sustainability, and continuous quality improvement.

Methods: A working group comprising two pharmacists, three nursing coordinators, and the nursing director met weekly from December 2024 to September 2025. The project began with benchmarking visits to two similar hospitals (Fundació Esperit Sant and Clínica Diagonal) to identify best practices. The team systematically reviewed the entire unit dose workflow: prescription, pharmacist validation, drug dispensation, administration, trolley management, timeframes, and unit stock levels. Six hospitalisation units (3 internal medicine units, 2 psychiatric units, and 1 post-operated unit) were reviewed. Weak points were identified, and solutions were thought trough as well as consensually developed. A realistic and sustainable implementation schedule was established using continuous quality improvement methodology. Finally, a presentation of the renewed drug supply workflow was performed to the management Committee first, and secondly to the medical staff and department coordinators.

Results:

Process Optimisation

- Timetable standardisation: prescription deadline set at 12pm, pharmacist validation from 12pm-2pm, trolley closing at 2pm, distribution from 2:30pm-3pm.
- Emergency protocols: only urgent prescription changes dispensed after 2pm; non-urgent changes deferred to next trolley cycle.
- Discharge coordination: medical discharges scheduled before 12pm.
- Shift change consideration: medication prescribing discouraged during nursing shift changes (7am, 2 & 9 pm).

Patient Safety Improvements

- 24-hour dispensation cycle: reduced from multi-day dispensing, requiring pharmacy technician schedule redistribution.
- On-time medication administration improved by 80%.
- Stock reduction: 50% reduction in hospitalisation unit drug stock achieved.
- Returns to pharmacy reduced by 70%.
- "If necessary" medication protocol: automatic discontinuation after 72 hours without use.
- Medication reconciliation: expansion planned across all hospitalisation units.

Infrastructure Investment

- New unit dose trolleys acquired and deployed.
- Automated dispensing systems proposed for psychiatric area and surgical theatre.

Discussion: The initiative directly benefits 150 patients daily across 6 hospitalisation units. Key measures have been successfully implemented on schedule, including new trolley deployment, 24-hour dispensation cycles, and 50% stock reduction. Returns to pharmacy decreased by 70%, while on-time medication administration improved by 80%. Automated dispensing systems, timetable optimisation, and expanded pharmaceutical reconciliation are currently being rolled out. The interprofessional approach proved essential, as both pharmacy and nursing teams possess complementary expertise in the medication supply chain. Structured interprofessional collaboration between pharmacy and nursing can effectively address complex medication workflow challenges, as demonstrated by measurable improvements in a 200-bed integrated public hospital. Success factors include: selecting collaborative team members, conducting external benchmarking, achieving consensus on solutions, and implementing gradual change management to ensure staff acceptance. This systematic approach resulted in significant improvements in patient safety (50% on-time administration), resource utilisation (70% reduction in returns, 50% stock reduction), and operational efficiency, providing a replicable model for similar healthcare institutions.

Decision support tool for estimating the clinical and economic impact of childhood overweight/obesity prevention and management programmes (ID 334)

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Context: Childhood obesity poses a growing challenge for health systems, generating clinical, social, and economic consequences. BIO-STREAMS is a European-funded project (European Union's HORIZON 2022 research and innovation program; GA No: 101080718) to support the optimal use of health data to generate metadata and new knowledge, methodologies and tools for creating and deploying a scientific platform for research in childhood overweight-obesity and better diagnostic and therapeutic approaches. Within the project, we aimed at implementing a cost estimator tool to support policymakers in estimating the economic impact of implementing childhood overweight-obesity prevention-management programmes at national and local level considering international contexts.

Methods: A systematic literature review based on standard PICOTS framework (Population: Paediatric and Overweight or Obese population; Intervention: Any; Comparator: Any; Outcome: direct and indirect costs; Timing: last 10 years; Setting: Europe, USA, Canada, Australia, New Zealand) and PRISMA guidelines was conducted to identify cost components related to childhood overweight-obesity including published reviews, case studies, prospective and retrospective observational studies, any health economic analysis, and managerial reports in all languages retrieved from PubMed. Moreover, a narrative review was conducted to identify published health economic models to estimate the cost-effectiveness and cost-utility of childhood overweight-obesity prevention-management programmes. The aforementioned reviews were aimed at informing model development providing illustrative examples of parameters and economic modelling approaches. Furthermore, a workflow service was designed guided by Swimlane Activity Diagrams (i.e. Cross-Functional Flowcharts) to map out and understand the complex processes involved, considering various roles and responsibilities.

Results: The narrative synthesis included 106 articles, published starting from 2013 to 2023, with a majority of documents referred to the American context. From the systematic review 9 types of economic and organisational data and 10 medical and behavioural data emerged. The narrative review identified 12 published economic models. A two-stage cost-utility model with yearly cycles was implemented considering short-term effectiveness of programmes in terms of overweight and obesity prevalence among the target population at baseline, 1 year and 2 years from the start of the programme. The second stage projects the incidence of chronic diseases associated with obesity (type 2 diabetes mellitus, colorectal cancer, stroke and coronary heart disease) and mortality in adulthood. An online workflow service to be integrated into the BIO-STREAMS digital infrastructure was then implemented to support communities' health prevention programme managers in the assessment of overweight-obesity preventive/management programmes' cost-utility and sustainability in the short and long-term.

Discussion: This work translates economic evidence into a practical decision-support tool tailored to the needs of health-managers and policymakers towards childhood overweight-obesity prevention-management. The workflow consists of a dashboard with user interface for visualising data and results, built upon a standardised CDISC-based data model that integrates continuously updated clinical and economic data produced through BIO-STREAMS pilot studies to support comprehensive analysis. By developing a user-oriented simulation model, the approach strengthens the economic dimension of preventive health planning, supports transparent prioritisation of interventions and efficient resource allocation, and contributes to sustainable/resilient health systems. Its scalability makes it relevant for local/regional authorities across international contexts. The approach is consistent with WHO guidance, including the ECHO framework and the Acceleration Plan to Stop Obesity, which stress the use of integrated data systems and decision-support tools for evidence-based action. It aligns with key EU initiatives reinforcing coordinated, data-driven, and equitable prevention strategies across Member States.

Exploring the relationship between clinical leadership and patient care quality in the NHS (ID 337)

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Context: Leadership is often identified as a solution to the challenges associated with the provision of quality care in the NHS. Clinicians are expected to engage in leadership to improve the quality of care provided to patients. This expectation is reflected in various government policies and reports, the establishment of the NHS Leadership Academy to develop clinicians' leadership skills and the competency standards set by healthcare professional regulatory bodies in the United Kingdom. This study aims to explore how clinical leadership is enacted at the frontline of care to improve patient care quality.

Method: The study employed an exploratory, two-stage, modified qualitative Delphi methodology. Twenty clinicians (doctors, nurses, physiotherapists, and pharmacists) working in the NHS were recruited for the study. To guide the interview process, three scenarios were utilised, describing different contexts in which clinical leadership could be demonstrated at the frontline. These scenarios explored what clinicians would do when: observing incidents of poor patient care, disagreeing with colleagues on care approaches, or discovering a lack of patient-centred culture in their units or departments. Thematic analysis was conducted to identify patterns and relevant themes from the analysis of the interview transcripts. Based on these findings, Delphi statements were developed and shared with panellists during a survey round to achieve consensus on clinical leadership behaviours.

Results: The study identified ten clinical leadership behaviours employed by clinicians to enhance the quality of care provided to patients when they encounter challenges. These behaviours include improving, collaborating, sharing, advocating, challenging, supporting, mentoring, inspiring, learning and evidence-based decision-making. Drawing from the Socioecological model (SEM) as an analytical framework, contextual factors that enhance or impede effective clinical leadership at the frontline were identified. These include knowledge, skills and self-efficacy at the individual level, social support, team climate and modelling at the team level, structure, policies, procedures and culture at the organisational level, and staff shortages, leadership education and performance targets at the systems level.

Discussion: The leadership behaviours identified in this study aligned with the Clinical Leadership Competency Framework (CLCF), an aspirational tool developed by the NHS to reflect the leadership behaviours and competencies that clinicians should demonstrate in their daily work to promote patient care quality. However, two of these behaviours (shared decision-making and advocating for patients) were not specifically identified within the domains of the CLCF, which presents implications for effective leadership development interventions for frontline clinicians. This is particularly crucial as these two behaviours were also seen as having a direct impact on patients when demonstrated during the caregiving process. The study provides evidence for the crucial role of leadership in addressing various challenges at the frontline of care in the NHS. To ensure effective clinical leadership for enhanced patient care quality, clinicians must be supported and empowered at the individual, team, organisational, and system levels to improve the care they provide and to engage in leadership development.

Is value-based procurement an overoptimistic vision to date? Five reasons why innovative products take the cumbersome way into practice (ID 340)

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Context: Cost pressure and financing restrictions in the healthcare system in conjunction with supply disruptions and shortages of medical products and pharmaceuticals are prompting hospitals to reorganise supply structures. The new "Value-Based Procurement" (VBP) evaluation system is addressed to revolutionise purchasing management. VBP combines the medical and business perspective of the hospital with the perspective of the healthcare system and its requirements for quality of care and refinancing. VBP compares the costs of a medical product with the effects that can be achieved with this product in terms of patient well-being, staff relief, process effectiveness, community benefits and sustainability.

Method: An online poll under 191 hospitals was performed based on a structured questionnaire with focus on the meaning of VBP criteria in the procurement decision-making process. Additionally, value-driven cost-benefit-analyses of selected medical products (e.g. gloves, prostheses) and infection control procedures were carried out to identify the “product value” in terms of effects on patient safety, staff relief, process costs and community health and to examine the positive clinical and epidemiological effects of a value-based procurement philosophy. Also, via Total-Cost-of-Ownership approach (TOC) the hidden costs and benefits were made transparent to investigate decision-relevant information usable in the product selection process. Based on a cohort of 501 orthopaedic patients the costs and benefits of implementing a pre-operative infection screening regime to avoid nosocomial infections were detected and compared with the costs and disadvantages of infection episodes. This comparison was based on risk-weighted epidemiological data pertaining nosocomial infections in German hospitals.

Results: Using selected high-quality products instead of cheaper second-best devices leads to better patient outcome and lower process costs. In case of a thoracic aortic aneurism the intervention time was between 90 and 120 minutes longer under using a low-cost second-best vessel prosthesis compared to the high-quality product. Based on a cohort of 501 orthopaedic patients it could be shown that the costs p.y. of a pre-operative screening regime are significantly lower (€ 5,116) compared to the costs caused by infection episodes (€ 23,978). Despite these convincing results, hospital managers tend to procure low-price products and avoid investing in infection prevention. Five reasons explain this decision-making behaviour:

- Price trumps value
- Counterproductive incentives caused by the reimbursement system
- Qualified equipment is not recognised as a sign of staff appreciation
- Hidden costs were ignored
- Externals and community effects do not play any role as criteria in decision-making processes

Discussion: Procurement is a major driver of Value-Based Health Care, because it impacts patient outcome, process costs and community health. It could be demonstrated that the use of high-quality products instead of cheaper second-best devices leads to better patient outcome, to less revision interventions and to lower total costs of ownership. Furthermore, the costs of preventing measures are significantly lower compared to the negative consequences of undetected nosocomial infections and allergic reactions in patients and staff.

VBP points the way to a procurement philosophy that is no longer focussed on product prices and costs, but instead bases every procurement decision on the value effects of a product for patients, employees, hospitals, the environment and the community. But the implementation of the VBP concept prejudices a new "value-based" payment system that remunerates medical services in evidence-based treatment pathways, taking into account economic opportunity costs. Otherwise, VBP remains a vision to date.

From reactive bed allocation to standardised, data-enabled bed management: hospital-scale implementation and outcomes in acute care (ID 341)

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Context: Inpatient bed management is frequently reactive and reliant on manual decisions, resulting in avoidable patient moves between wards, variable placement decisions and high coordination workload. We implemented a standardised bed management operating model in a 210-bed acute hospital, supported by a decision-support tool (BEHT). The initiative was driven by the hospital's strategic plan, which prioritised improving acute bed-flow performance and monitoring progress through strategic KPIs. The intervention aimed to apply Lean healthcare principles to standardise placement decisions, improve shared real-time coordination, and better match demand and capacity.

Methods: We conducted a pragmatic before–after implementation study in the acute hospital. Outcomes were monitored continuously; a baseline period (2023–2024) was compared with post-implementation performance (2025). First, the operating model was redesigned: placement criteria were standardised, operational bed management was moved to Admissions, and daily multidisciplinary bed huddles coordinated beds for emergency admissions and scheduled (surgical and medical) patients. Second, BEHT was co-developed to embed the standard criteria into algorithm-supported matching and forecasting. The tool recommends bed/ward allocation by combining routinely available patient needs and structural constraints (e.g., isolation requirements, monitoring needs, sex, priority and expected length of stay) with ward capacity to support rapid, consistent assignment and proactive planning. Outcomes from routine data included mean length of stay (LOS), discharge before noon, discharge forecasting completion (discharges planned in advance), and inter-ward transfers.

Results: After full implementation, mean LOS decreased from 4.76 days (2023) to 4.36 days (2025). The proportion of discharges completed before 12:00 increased from 67% to 80%, and discharge forecasting completion increased from 50% to 59%. Inter-ward transfers decreased by 11% (defined as any change of ward/bed during the stay), avoiding more than 400 patient moves. In 2024, there were 3,800 inter-ward transfers across 12,911 discharges (29.4 transfers per 100 discharges); in 2025, discharges increased to 13,105 while transfers decreased to approximately 3,382 (25.8 per 100 discharges). Reducing transfers supports safety and continuity of care and substantially decreases the operational burden of daily bed coordination for administrative and clinical teams.

Discussion: These findings suggest that bed-flow performance can improve when a standardised operating model is established and then reinforced through digital decision support. Results should be interpreted as the effect of the combined organisational redesign and BEHT; the tool's contribution is to operationalise agreed criteria, reduce unwarranted variation between decision-makers, and sustain improvements through transparent, real-time information and forecasting. BEHT digitises a bed management approach previously standardised through multiple hospital improvement efforts; this report describes the first hospital-scale digital deployment with an outcomes evaluation in acute care. Patient safety outcomes were not directly measured; however, fewer transfers and optimal allocation plausibly reduce disruptions, handover burden and risk of incidents. Next steps include replication in other hospitals, extension to intermediate care, and assessment of patient safety and staff experience outcomes.

Developing and promoting effective treatment practices for memory disorders in Europe: Joint Action addressing Dementia and Health (JADE Health) (ID 344)

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Context: The Finnish Institute for Health and Welfare (THL) is participating in the Joint Action addressing Dementia and Health (JADE Health). The aim is to reduce the burden of dementia and other neurological disorders worldwide. Experts from Finland are participating in two work packages (WP), of which WP8 develops care pathways for people with dementia with the help of 16 European Union (EU) countries and provides support for people with dementia, their relatives, professionals and stakeholders. The main output of the WP8 will be an international literature review of effective care practices and experiences from pilot projects implemented in participating countries.

Methods: THL and the Geriatric Outpatient Clinic of the City of Helsinki are jointly organising training for doctors and nurses at Helsinki City Health Care Centres on the care pathway for elderly people with dementia diagnosis during Spring 2026. The purpose of the training is to improve continuity of care, recording policies, and monitoring of effects. The first training day will be an in-person event at THL, and the second will be organised via remote connections. The goal is to have at least 30 participants. Before and after the training, small-scale Webropol surveys will be sent to doctors and nurses at Helsinki City Health Centres.

Results: WP8 has so far produced an international literature review on the treatment practices of dementias in EU countries. Dozens of training pilots in participating countries will collect information and develop practices on the follow-up care of people diagnosed with memory disorders to support EU level recommendation plans. In the final phase of the project, JADE Health will focus on the widespread adoption and implementation of effective practices, utilising diverse national and international communication and advocacy channels, such as the World Health Organisation (WHO).

Discussion: The JADE Health project funding period covers the years 2025–2027. During this period, WP8 will produce written material and training to support the work of social and health care professionals working with people with dementia and other neurodegenerative diseases. WP8 will implement effective treatment practices for dementia and aim to increase understanding of dementia and its wide-ranging impacts on society.

A modular digital platform supporting hospital management decision-making - From strategy to action (ID 345)

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Background: Hospitals generate large volumes of administrative and clinical data; however, hospital managers frequently face difficulties in translating these data into timely and actionable decisions. Fragmented information systems, limited interoperability, and static reporting tools hinder effective monitoring of performance, quality, costs, and access to care. In a context of increasing operational and financial pressure, hospitals require digital solutions that support managerial decision-making rather than data accumulation alone.

Objectives: To present a modular digital decision-support platform for hospital management and to describe a prospective implementation and evaluation protocol assessing its contribution to managerial decision-making and operational performance.

Methods: This study describes a prospective implementation and evaluation protocol for a modular digital decision-support platform for hospital management. The platform will be implemented at the end of Q1 2026 for one or more hospitals, followed by a two-month prospective evaluation period.

The platform integrates:

- centralised aggregation of hospital administrative and performance data,
- a business intelligence layer enabling user-defined indicators and alert thresholds, and
- geospatial analysis for assessing service accessibility and hospital catchment areas.

A pre–post evaluation design will be applied, comparing baseline data collected prior to implementation with data collected during the two-month post-implementation period. Primary outcomes include time-to-report, data completeness, number of threshold breaches detected, and time-to-action following alerts. Secondary outcomes include managerial adoption and perceived usefulness, assessed through a short structured survey. The evaluation is guided by the RE-AIM implementation framework, focusing on adoption and implementation feasibility.

Results: The platform architecture, indicator framework, and governance model have been finalised. Baseline data extraction and indicator definition have been completed in collaboration with hospital management teams to ensure alignment with operational priorities. Standardised dashboards have been configured for hospital performance monitoring, healthcare-associated infection indicators, and geographic access to hospital services. Platform implementation is scheduled for the end of Q1 2026, with prospective outcome evaluation planned over the subsequent two months.

Discussion: This poster presents a structured implementation and evaluation protocol for a hospital-level digital decision-support platform. By focusing on customisable indicators, alert-based monitoring, and prospective evaluation, the platform aims to support hospital managers in translating strategic objectives into operational actions, strengthening hospital governance and managerial readiness in increasingly complex health system environments.

Governing variability in elective surgery: an analysis of deviations between scheduling and clinical activity (ID 346)

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Context: Standardising workflows in elective surgery is a major challenge for healthcare operations management. Deviations from scheduling impact economic efficiency, organisational stability, and clinical risk. Managing "artificial" variability—caused by organisational factors—is crucial for optimising resources. This study focuses on the "Centro Ortopedico di Quadrante" (COQ) in Omegna, Italy, a high-volume orthopaedic centre performing over 1,000 major prosthetic surgeries annually. The research aims to map, measure, and analyse deviations between planned and actual surgical activity during the first half of 2025, distinguishing between natural (clinical) and artificial (management-related) causes to improve clinical governance and resource allocation.

Methods: A mixed-method approach was employed to analyse elective surgery deviations. The "As-Is" process was mapped using standardised flowcharting (ISO 5807:1985) to identify critical information flow gaps. Quantitative data from 794 major interventions were analysed using specific Key Performance Indicators (KPIs), including scheduling adherence and cancellation rates. An Ishikawa diagram was utilised to categorise root causes of inefficiencies in monitoring systems. The study also integrated data from the hospital's management software (Sys-Clinique) and internal tracking files. To evaluate staff engagement and tool usability, a structured questionnaire was developed for clinical and administrative personnel involved in scheduling. This methodology allowed for a systematic comparison between scheduled volumes and effective output, highlighting the impact of non-standardised tracking behaviours on data quality and management decisions.

Results: Analysis of 794 interventions revealed a 93.7% adherence to the weekly master surgical schedule. However, 69 surgical cancellations were identified, of which only 39.13% were strictly clinical (natural variability). Organisational factors (artificial variability) accounted for 23.19% of cancellations, while 14.49% were due to a mix of clinical and management issues. A significant finding was the lack of data granularity: 15.94% of cancellations lacked a defined reason. The Ishikawa analysis highlighted critical bottlenecks: the simultaneous use of redundant tracking tools (Excel and software) led to inconsistent data entry and communication gaps. These results demonstrate that while overall volume adherence is high, underlying organisational variability remains largely unmonitored, limiting the facility's ability to proactively manage operating room capacity.

Discussion: The study confirms that elective surgery, though scheduled, remains susceptible to significant artificial variability. Reducing these non-clinical deviations is essential for enhancing health system resilience and economic sustainability. The findings suggest that current monitoring systems are insufficient for robust clinical governance. To address this, we propose a "To-Be" scenario involving the standardisation of tracking procedures (POA 01) and the adoption of smart digital tools with predefined taxonomies to minimise human error. Furthermore, introducing specific KPIs—such as the "Non-clinical suspension rate" and "Post-admission cancellation rate"—is recommended to provide a more accurate dashboard for management. By transforming surgical planning from a simple volume-tracking exercise into a strategic governance lever, organisations can better manage waiting lists and improve patient experience. This approach aligns with the conference theme of "future-proofing health systems" by translating operational analysis into actionable management strategies.

Extreme workforce overload in hospitals: sentinel signals from medical on-call work (ID 349)

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Context: Health systems face mounting pressures from workforce shortages, excessive working hours and intensified on-call duties, threatening both workforce sustainability and service delivery. While burnout and fatigue are recognised workforce issues, extreme outcomes such as physician deaths occurring during or immediately after on-call duty have not been systematically integrated into health management policy or governance frameworks. These events may represent early warnings of broader organisational failure, especially concerning workforce risk governance and working time implementation in hospitals.

Methods: A qualitative scoping approach was applied to explore extreme workforce strain signals associated with physician on-call duties, integrating three components. First, systematic identification of publicly reported cases was conducted using structured keyword searches across medical press, professional communications and reputable media sources to map sentinel signals without asserting medical causality. Second, a targeted literature review examined evidence on excessive working hours, occupational health risks and workforce sustainability. Third, a comparative analysis of European regulatory and organisational frameworks assessed alignment between working time regulations and hospital practice. Data were extracted, coded and thematically analysed to identify recurrent organisational patterns, regulatory gaps and management implications.

Results: The analysis revealed convergent patterns across the three components. Publicly reported cases described physicians collapsing or dying in the context of prolonged or intensive on-call duties, yet these events are rarely classified or integrated as occupational incidents within hospital risk management. Literature review demonstrated consistent associations between long working hours, insufficient recovery and elevated health risks, including cardiovascular strain and mortality plausibility. Comparative policy analysis identified a persistent disconnect between European working time regulations and real-world hospital practice, with informal extensions of duty and limited enforcement, undermining effective workforce risk governance. Together, these findings highlight systemic oversights in recognising and mitigating extreme workload outcomes.

Discussion: Physician deaths temporally associated with on-call duty should be considered sentinel indicators of extreme workforce strain, signalling organisational and governance vulnerabilities rather than isolated tragedies. Integrating such sentinel events into hospital risk frameworks could enhance the early detection of systemic pressure points, improve occupational health protection and inform more sustainable workforce planning. Addressing the gap between regulatory intent and practice has implications for workforce resilience, patient safety and service continuity. This work contributes to the conference theme by emphasising the importance of proactive management, cross-system learning and alignment of policies with operational realities in future-proofing health systems. Strategic improvements in workforce governance and enforcement of working time standards are essential to mitigate extreme workforce risk.

Analysis of digital reputation in primary care in Catalonia (2016-2026) (ID 350)

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Context: Online reputation has become a critical indicator of healthcare quality. In Catalonia, primary care faces a duality: a social perception of "crisis" contrasted with high-resolution technical clinical reality. This study analyses the evolution of Google Reviews as a strategic sensor for health governance, comparing general system satisfaction with the specific case of CAP Can Bou (Castelldefels). It investigates how digitalisation, new demand management models, and personalised care influence citizen perception and the construction of trust in public institutions.

Methods: A mixed longitudinal methodology was employed. First, a quantitative analysis of 51,996 digital reviews in Catalonia was conducted, evaluating variables such as "recommendability," care received, facilities, and punctuality through sentiment metrics and standard deviation. Second, a case study of CAP Can Bou (2016-2026) was performed, cross-referencing Google Reviews with official technical indicators from the CatSalut Results Center and PLAENSA satisfaction surveys. Qualitative analysis categorised comments by length and theme (technical vs. human), evaluating key milestones such as the post-pandemic digital transition, the autonomous nursing model for minor ailments, and the 2025 "Créixer en salut" pediatric protocol.

Results: Data reveal that the evaluation of individual medical acts is excellent, with a recommendation index of 4.89/5, although the average rating for centres is penalised by logistical factors. At CAP Can Bou, reputation fluctuated from 3.4 during the pandemic to levels of 2.3–2.6 due to accessibility issues. A determining finding is the reputational resilience of nursing: by leading the monitoring of chronic pathologies, this group builds a bulwark of trust that protects it from the frustration users project onto family medicine. This digital "shielding" arises from the continuous therapeutic bond, allowing nursing to maintain positive satisfaction levels despite the systemic wear and tear of the healthcare structure.

Discussion: The study demonstrates that Google Reviews serve as a "strategic radar" detecting organisational friction invisible to traditional clinical indicators. The Can Bou case reveals that management innovations, even if they improve technical resolution, risk being interpreted as bureaucratic obstacles if not accompanied by a communicative strategy that legitimises them to the user. Thus, the nursing model for minor pathologies was erroneously perceived as a restriction on access to physicians due to a lack of institutional pedagogy. It is concluded that integrating digital feedback allows the system to humanise technology and transform citizen opinion into a tool for continuous improvement in public health.

Burnout, resilience and retention among healthcare workers: a comparative analysis of evidence from Europe and Romania (ID 351)

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Context: Burnout among the health workforce represents a major structural challenge for European health systems, with direct implications for staff well-being, quality of care, patient safety and organisational performance. Although individual resilience is recognised as a protective factor, it cannot offset persistent workforce shortages, high job demands, administrative burden and insufficient organisational support. Consequently, workforce retention has become a strategic priority in national and European health workforce policies. Romania faces additional vulnerabilities related to health worker migration, unequal workforce distribution and long-standing system capacity constraints. Understanding the relationship between burnout, resilience and retention is essential for developing sustainable, people-centred and resilient health systems.

Methods: A narrative review of the literature was conducted to synthesise evidence relevant to health workforce policies on burnout, resilience, job satisfaction and retention across Europe, with a specific focus on Romania. Bibliographic searches included publicly available scientific articles and institutional sources (e.g. WHO/Europe, professional bodies and policy documents). Studies published between 2014 and 2025 in English or Romanian were eligible. Included studies involved healthcare professionals and applied validated instruments to assess burnout, resilience, job satisfaction and turnover or migration intention. Extracted data covered professional groups, care settings, measurement tools, prevalence estimates or mean scores and reported associations. Due to substantial methodological heterogeneity, findings were synthesised narratively, using a comparative structure between European and Romanian evidence.

Results: Across Europe, burnout remains widespread among healthcare professionals, with emotional exhaustion and depersonalisation frequently reported, particularly among nurses. Multi-country studies indicate that a proportion of healthcare professionals intend to leave their organisation or profession, with higher intentions to leave the profession observed among nurses compared to physicians. Job dissatisfaction and depersonalisation consistently emerge as the strongest determinants of turnover intention, while organisational resources—such as leadership quality, participation in decision-making and supportive work environments—act as protective factors.

In Romania, evidence from emergency care, chronic care and clinical and surgical specialties indicates high levels of emotional exhaustion, with high proportions in several settings, alongside moderate depersonalisation. Younger physicians and residents are particularly vulnerable. Low job satisfaction is strongly associated with burnout and frequent intentions to change workplace, specialty or migrate, contributing to workforce instability.

Discussion: Evidence from both European and Romanian studies indicate that burnout and workforce retention are primarily shaped by organisational and system-level determinants, rather than individual characteristics alone. While individual resilience contributes to coping capacity, reviewed studies consistently show that it does not offset the impact of high job demands, staffing shortages and limited organisational support. In Romania, high levels of emotional exhaustion—particularly among early-career physicians and frontline staff—combined with persistent migration pressures highlight the limits of individual-level approaches in high-strain systems. In contrast, European multi-country evidence identifies leadership quality, human resource management practices and supportive work environments as key levers associated with lower turnover intentions. These findings suggest that workforce policies focusing predominantly on individual resilience or stress management are insufficient. Effective and sustainable retention strategies require integrated health workforce policies that prioritise organisational resources, leadership development, improved working conditions and system-level reforms to strengthen workforce well-being and long-term health system resilience.

Improving capacity for health services and human resources management in the Romanian health system (ID 353)

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Context: Romania beneficiated under the National Recovery and Resilience Plan of technical assistance from WHO Regional Office for Europe and a consortium including EHMA, the National Public Health School of the Nova University in Lisbon, IESE Business School in Barcelona and the University of Milan to improve its capacity for health services and human resources management. The external experts performed an evaluation of the existing training programmes and based on the results, provided six Training of Trainers modules for over 116 lecturers, facilitated five documentation visits for over 30 lecturers in the partner universities, and provided 60 modules to be adapted and inserted in the Romanian training programmes.

Methods: Qualitative and quantitative assessments were performed against the expected outputs of this project, respectively: the development of three new training programmes, respectively Health Services Management (HSM), Human Resources Management (HRM), Ethics and Integrity in the Healthcare System (E&I), to be delivered by the National Institute of Health Services Management for a total of 5000 health managers and healthcare workers (1000 for HSM, 1000 for HRM and 3000 for E&I), from all levels of care and all health institutions.

The qualitative analysis compared the content and the teaching methods of the new training programmes with the former programmes delivered by the National Institute of Health Services Management.

The quantitative analysis of the database of students who registered and graduated the newly developed and delivered programmes, consisted in evaluation of attendance and completion rates, in total, on geographical distribution and on human resources categories, and students' performance and satisfaction with the attended programmes.

Results: The newly developed training programmes comply with the national criteria for quality assurance. HSM and HRM programmes include mainly new subjects, while E&I programme is entirely new. New subjects such as innovation and digital transformation, health policy, crisis management, integrated care, environmental sustainability and green hospitals offer participants the necessary skills to navigate the complexities of modern healthcare systems, driven by technological advancements, evolving patient needs, and climate changes. A novelty was also the delivery of these courses in asynchronous e-learning mode, with self-learning and interactive (quizzes, feedback, multimedia) materials. This made the programmes very attractive, exceeding the targets for registered participants with 226% for E&I (6786), 135% for HSM (1351) and 124% for HRM (1236). All target institutions and geographical regions were represented. Participants satisfaction revealed that the programmes were considered good and very good by 83% of respondents for HSM and HRM programmes and 81% for E&I programme.

Discussion: The results show an improved capacity for health services and human resources management in the Romanian health system in terms of teaching outputs. The technical assistance offered by the external experts has improved both teaching content and format. Besides the great number of trained human resources, qualitative feedback from the participants consistently highlighted the relevance of the curricula and the clarity of content. Further improvement should be considered in developing even more interactive materials, reorganising and resizing the training programmes content in accordance with different target groups and developing practice-oriented learning through additional case studies, simulations, and applied exercises tailored to different institutional contexts. Nevertheless, the real improved capacity for health services and human resources management will further be evaluated in terms of outcomes, through specific indicators to measure health services performance improvement.

Governing the health workforce through data: how Spain built a national planning system in a decentralised Europe (ID 354)

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Context: Across Europe, decentralised health systems struggle to plan their health workforce because data, responsibilities and decision-making are institutionally fragmented. While shortages, ageing and skill-mix pressures are pan-European, few countries have managed to align regional autonomy with national strategic workforce governance. Spain, with 17 Autonomous Communities holding full control over workforce management, represents one of Europe's most complex planning environments. Before HEROES, workforce decisions were based on disconnected datasets and reactive modelling. This paper analyses how Spain used the HEROES Joint Action to build, for the first time, a nationally governed and regionally owned health workforce planning system.

Methods: Spain implemented a governance-driven data reform centred on a national Minimum Data Set (MDS) for health workforce planning. Through a structured Delphi process involving all Autonomous Communities, the Ministry of Health, training authorities and technical experts, workforce variables were evaluated against four criteria: policy relevance, feasibility, interoperability and data quality. This produced a formally endorsed, operational set of indicators that now governs data exchange between regional and national levels. In parallel, the Ministry of Health upgraded the national health professionals register with automated regional data flows and validation loops. The MDS was embedded into national forecasting models used to regulate medical specialty training and inform medium-term sustainability scenarios.

Results: For the first time in Spain's history, all regional health authorities adopted a common workforce data framework. Fragmented regional definitions were replaced by nationally agreed indicators covering profession, age, specialisation, geographic location, training pipelines, retirements and mobility. This enabled reliable cross-regional comparison and evidence-based national projections. The upgraded digital register now supports real-time workforce intelligence rather than static reporting. National forecasts used to regulate medical residency positions are now based on harmonised and validated data, increasing their credibility and policy impact. Importantly, regional planners shifted from being passive data suppliers to co-owners of the national planning system, strengthening both data quality and political legitimacy.

Discussion: This case demonstrates that data standards are instruments of governance, not merely technical tools. Spain has shown that even in highly decentralised systems, national workforce planning is possible without centralisation if regions co-design the rules of evidence. The MDS created a new social contract around workforce data, enabling trust, comparability and joint responsibility for future shortages. This model is highly transferable to other European countries facing regional autonomy, fragmented registries and increasing workforce instability. By linking digital registers, shared indicators and forecasting models, Spain has moved from fragmented data to strategic workforce governance. This represents a significant European contribution to the science and practice of health workforce planning.

Redesigning laboratory demand to reduce low-value care: a digital and behavioural governance intervention in a large primary care organisation (ID 357)

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Background: Over testing and low-value diagnostic activity are major drivers of waste and patient burden in European health systems. Serum vitamin D measurement is a paradigmatic example, with wide clinical overuse despite clear evidence-based indications. Between 2020 and 2023, requests for vitamin D testing in a large public primary care organisation in Catalonia increased by 42%, with almost 10% of tests classified as clinically inappropriate.

Objectives: To reduce low-value laboratory testing and improve the appropriateness of vitamin D requests through a system-level redesign of clinical demand management in primary care.

Methods: We implemented a multifaceted governance intervention in all primary care centres of Badalona Serveis Assistencials (BSA), combining three levers of change: knowledge, digital architecture and behavioural feedback. The intervention included:

- a baseline audit of vitamin D requests and an organisation-wide survey of physicians' knowledge;
- development and dissemination of updated evidence-based clinical protocols;
- redesign of the electronic ordering system (ECAP) by removing the option of requesting vitamin D as a stand-alone test and introducing two contextualised laboratory profiles ("Osteoporosis" and "Bone Metabolism Disorders");
- targeted communication and training, including a dedicated clinical podcast; and
- continuous monitoring with individual and group feedback using structure, process and outcome indicators.

Results: One year after implementation, the intervention led to a substantial and sustained reduction in vitamin D testing volume and inappropriate requests across the whole primary care population. The number of inappropriate determinations fell by more than 50%, accompanied by a marked decrease in laboratory expenditure. In parallel, a reduction in vitamin D prescribing (both in defined daily doses and total pharmaceutical expenditure) was observed, suggesting a system-wide effect on low-value care.

Discussion: Rather than relying on guidelines alone, the project achieved behaviour change by redesigning the digital and organisational environment in which clinical decisions are made. By embedding evidence-based rules directly into the electronic ordering system and reinforcing them through feedback loops, the organisation shifted clinical practice at scale without restricting professional autonomy.

Conclusions: A digitally enabled, governance-based approach to laboratory demand management can significantly reduce low-value care, generate financial savings and improve patient experience. This model is highly transferable to other European health systems using electronic test ordering and represents a scalable strategy to improve value-based care and sustainability.

From contractual governance to organisational transformation: strategic performance monitoring in academic healthcare in Austria (ID 360)

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Context: Healthcare systems are undergoing profound transformation driven by workforce shortages, financial constraints, increasing complexity and rising expectations regarding accountability and transparency. In organisations governed by multiple public stakeholders, transformation is often constrained by fragmented responsibilities and weak strategic alignment. In Austria, the joint operation of the Vienna General Hospital and the Medical University of Vienna is regulated through a Financial and Target Steering Agreement since 2016. The agreement aimed to initiate a long-term transformation of governance structures, management practices and organisational culture. This study investigates how a strategic performance monitoring system was designed and used for transformation in academic healthcare.

Methods: A longitudinal monitoring system was developed and applied over the full duration of the agreement (2016–2024). The monitoring system integrates normative, strategic and operational objectives across governance levels and translates them into a coherent transformation framework. A four-step measurement circle was applied to each strategic objective: interpretation of agreed goals, operational planning of measures and processes, assessment of implementation, and evaluation of results. Goal achievement was assessed using a four-step process, enabling consistent tracking of transformation progress over time. Annual priority themes were defined to reflect changing system conditions, including workforce transformation, service restructuring, cooperation models and implementation of the medical master plan. Indicators were intentionally chosen to ensure strategic focus and usability for decision-makers.

Results: The monitoring system supported a shift from static compliance control towards dynamic transformation management. It enabled transparent assessment of progress, identification of structural bottlenecks and clarification of unresolved strategic decisions. Over time, increasing coherence between governance bodies, management and clinical leadership was observed. The system contributed to a cultural shift towards shared responsibility, strategic dialogue and evidence-based prioritisation. Particularly in areas such as workforce development, cross-organisational cooperation and service redesign, the monitoring framework helped translate strategic targets into operational action, even under conditions of crisis such as the COVID-19 pandemic.

Discussion: Results demonstrate that this strategic performance monitoring can function as a key transformation instrument in complex healthcare systems. By linking contractual governance with organisational learning and cultural change, the monitoring system enabled sustained long-term transformation rather than short-term control. The approach highlights how governance arrangements can be operationalised to support resilience, adaptability and long-term system development. The monitoring system offers transferable insights for health system leaders seeking to move from strategy formulation to effective transformation in similarly complex institutional settings.

Implementing patient and family experience across healthcare organisations in Catalonia (ID 363)

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Context: Patient and family experience has become a strategic priority for healthcare systems seeking to improve quality, trust, and value-based care. However, many organisations struggle to translate policy frameworks and experience measurement into concrete organisational and clinical changes. In Catalonia, despite the existence of public strategies promoting participation, PREMs, PROMs, and shared decision-making, implementation remains uneven and fragmented. This paper presents a system-level initiative led by La Unió that aims to bridge the gap between macro-level health policies, meso-level organisational governance, and micro-level care practices by supporting healthcare and social care organisations in embedding patient and family experience into everyday management and decision-making.

Methods: The initiative adopts a mixed, practice-oriented approach combining participatory governance, measurement, and organisational learning. Key components include:

1. Consolidation of Patient and Family Councils as structured participation spaces linked to organisational decision-making.
2. Integration of PREMs and PROMs into management processes to inform service improvement
3. Promotion of shared decision-making through training and peer exchange.

The project is implemented through mentoring between organisations at different levels of maturity, facilitated workshops, and the development of practical tools and guides. A multi-level evaluation framework combines process indicators (participation, implementation milestones) and outcome indicators (use of experience data, organisational changes, perceived impact).

Results: Preliminary results indicate increased organisational capacity to operationalise patient and family experience beyond isolated or symbolic initiatives. The programme has generated measurable impact across multiple levels of the healthcare system. Within the mentoring programme on Patient and Family Councils, 15 healthcare and social care organisations actively participated, resulting in the creation or consolidation of structured participation bodies linked to management and quality committees. Participating organisations reported clearer roles, stronger leadership engagement, and improved continuity of patient and family involvement. In parallel, 20 organisations engaged in the PREMs and PROMs implementation stream, improving the selection and practical use of experience and outcome measures aligned with organisational priorities. Several entities reported using these data to redesign care pathways, enhance communication processes, and support management decisions beyond compliance requirements. The shared decision-making component reached over 50 organisations and more than 150 professionals and managers, increasing awareness of shared decision-making as a strategic practice and supporting its early integration into clinical protocols and training programmes. Overall, the initiative strengthened cross-organisational learning, reduced fragmentation, and accelerated the translation of patient and family experience into actionable improvements.

Discussion: This initiative demonstrates that embedding patient and family experience requires coordinated action across system, organisational, and clinical levels. The findings show that participation, measurement, and shared decision-making generate impact only when supported by governance structures, leadership commitment, and practical implementation support. The model presented moves beyond tools, offering an integrated and scalable approach that aligns policy priorities with organisational management and everyday clinical practice. By combining mentoring, peer learning, and structured evaluation, the initiative provides a transferable framework for healthcare systems seeking to operationalise patient-centred care at scale. For healthcare managers and policy-makers, the results underline that patient and family experience is not an ancillary activity, but a core management function that strengthens accountability, improves service design, and aligns organisational strategy with what matters most to people.

+FUTUR: from strategic foresight to organisational transformation in health and social care in Catalonia (ID 364)

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Context: The health and social care systems are undergoing deep transformations driven by demographic, technological, economic and environmental challenges. In Catalonia, La Unió launched the +FUTUR project in 2017 to anticipate future trends and support the strategic evolution of healthcare and social organisations. Combining strategic foresight and collective intelligence, +FUTUR aims to turn complexity into action through a participatory and structured approach. In 2025, an evaluation was carried out to assess the real implementation of the project and its impact across 28 organisations.

Methods: The evaluation followed a mixed methodology integrating literature review, trend analysis, survey data, and strategic interpretation. The assessment covered eight transformation areas, translated into 44 concrete actions. A structured questionnaire with a 1–5 Likert scale was sent to 28 member organisations representing diverse types, sizes and care levels. Each response was scored to quantify the implementation level per action, per line and per organisation. Results were segmented by organisational profile to detect structural patterns and implementation gaps. Complementarily, +FUTUR also offers top-down tools (maturity models, guides, impact indicators) and a Good Practices Community to support implementation. The evaluation aimed to move from describing "what is being done" to understanding "what changes" and "what value is generated".

Results: The analysis confirmed that size and service diversity are critical factors for transformation. Results showed a high and transversal commitment: all eight strategic areas had implementation scores ranging from 63% to 76%. Stronger performance was observed in governance, quality, efficiency and leadership; lower maturity appeared in participation, environmental sustainability and intergenerational management. Entities with integrated care models and over 2,000 professionals achieved the highest implementation levels, thanks to stronger governance, technical capacity and cultural readiness. Smaller and monographic organisations showed limited structural resources to deploy systemic changes. +FUTUR now acts as a sector-wide strategic framework in Catalonia, bridging macro policies with meso-level implementation.

Discussion: +FUTUR represents a novel approach that combines foresight, collective participation and structured implementation to guide the strategic transformation of healthcare and social organisations. It offers a scalable and transferable model rooted in meso-level leadership and action.

The evaluation demonstrates that even complex strategic frameworks can be operationalised and monitored if the right tools and support systems are in place. The findings also underline the need to adapt implementation strategies according to organisational size and capacity, reinforcing the role of mesogovernance.

For international audiences, +FUTUR offers valuable insights into how to align vision, policy and action across heterogeneous systems. Its bottom-up design, focus on value generation, and commitment to sustainability (economic, social, environmental) provide a replicable pathway for health systems facing similar transitions.

Future efforts will focus on consolidating impact measurement, enhancing participation mechanisms and supporting the most vulnerable organisation.

Reconfiguring physicians' advice networks during process-based hospital reorganisation: evidence from a longitudinal network study (ID 365)

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Context: The transition toward person-centred and integrated care has led hospitals to adopt process-based organisational models aimed at reducing fragmentation and improving coordination. However, the effectiveness of these reforms depends not only on formal structural redesign but also on how everyday professional interactions adapt in practice. This study examines how physicians' advice networks reconfigure following a major process-based reorganisation in a large Italian teaching hospital. By conceptualising advice-seeking relationships as a key operational infrastructure supporting coordination and implementation, the study investigates how organisational design choices translate into changes in clinicians' relational practices.

Methods: We conducted a longitudinal social network study of physicians' advice-seeking relationships before and after a hospital-wide reorganisation designed to strengthen multidisciplinary coordination and operational integration. Network data were collected through a sociometric survey administered to 173 physicians across six newly established clinical areas. Advice networks were observed at two time points, allowing us to distinguish between the formation of new advice ties and the persistence of existing ones. To analyse network evolution while accounting for interdependence among ties, we estimated temporal exponential random graph models (TERGMs). The models include organisational and professional attributes (gender, clinical specialisation, organisational tenure), organisational proximity, endogenous network mechanisms (reciprocity, triadic closure, degree-related effects), and physicians' resistance to change, operationalised through cognitive, affective, and behavioural dimensions.

Results: Results reveal strong operational inertia in physicians' advice networks: pre-existing advice ties are highly likely to persist, whereas the formation of new ties is intrinsically limited. Against this baseline stability, network adaptation occurs selectively. Organisational proximity created by the new clinical areas significantly facilitates the formation of new advice relationships, indicating the importance of structural opportunities for interaction in supporting implementation. New ties are also more likely to emerge in gender-heterophilous relationships, while shared clinical specialisation primarily supports the persistence of advice ties. Endogenous network mechanisms play a central role in operational adaptation: reciprocity and triadic closure significantly increase the likelihood of new tie formation, suggesting that physicians expand their advice networks through locally embedded, trust-based processes. Importantly, cognitive resistance to change strongly inhibits physicians' initiation of new advice ties, whereas affective and behavioural resistance show no independent effects.

Discussion: The findings highlight that process-based hospital reorganisation does not automatically lead to integrated operational practices but reshapes professional networks through selective and relationally embedded mechanisms. Formal redesign creates opportunities for interaction, yet effective implementation depends on trust-based relational dynamics and clinicians' cognitive openness to change. For health system managers, the results suggest that successful operational integration requires complementing structural redesign with interventions that support sensemaking and reduce cognitive resistance among professionals. Monitoring relational infrastructures such as advice networks can provide valuable insights into whether organisational reforms are being enacted in practice. Methodologically, the study demonstrates how longitudinal network analysis can support evidence-based management by linking organisational design choices to observable changes in professional interaction patterns.

Implementing patient-reported experience measures in dialysis: organisational insights from nurse-led care settings (ID 366)

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Context: The shift toward people-centred care underscores the need for tools capable of capturing patients' experiences and translating them into actionable service improvements. Patient-Reported Experience Measures (PREMs) provide a means to assess healthcare services from the patients' perspective, yet clear guidance for their implementation in clinical practice remains limited, particularly regarding administration methods. In dialysis care, these challenges are especially evident in limited-assistance centres, where medical assistance is entrusted to nurses and physicians are rarely present. It is therefore critical to address this gap by examining how PREMs can be embedded within dialysis pathways to support quality improvement.

Methods: This study investigates how dialysis PREMs can support quality improvement and how their design, administration, and management should be implemented in practice. A multi-method and multi-country approach was adopted. Phase 1 consisted of a desk review of published literature and secondary sources to map the current state of PREMs in dialysis, including available questionnaires and administration strategies across countries. Phase 2 comprised an exploratory qualitative analysis of nurses' perspectives and experiences with PREMs and their administration. This phase was conducted through approximately 30-minute individual semi-structured interviews with 15 nurses from four hospitals, two in Northern Italy and two in Switzerland, across their respective limited-assistance dialysis centres. A validation step was then carried out, in which the results of the interviews were returned to participants. Interviewees confirmed and reinforced the themes identified.

Results: Phase 1 findings indicate that, despite broad recognition of the relevance of PREMs and the availability of multiple questionnaires, their systematic use in dialysis remains limited. Barriers include inadequate administration strategies, poor organisational integration, and persistent scepticism among professionals regarding the validity of these tools. Results from phase 2 showed strong convergence among nurses across sites. Participants agreed that PREMs should be administered during dialysis sessions, ideally at the start of the treatment. Paper-based formats were favoured, with nurse-assisted completion considered essential for older or frail patients. Digital tools were viewed as useful primarily for back-end data management. Nurses reported limited previous exposure to PREMs but acknowledge their potential to improve care. Perceived barriers included patients' difficulties in understanding questionnaires and increased nurses' workload, while facilitators involved short and plain language questionnaires, nurse support, and regular feedback loops directed to both patients and staff.

Discussion: This study confirms a persistent implementation gap between the recognised value of PREMs in dialysis and their limited use in practice. Rather than conceptual resistance, practical and organisational constraints impede adoption, particularly in nurse-led limited-assistance centres, where operational burden is already high and physicians are seldom present. Across cases, respondents converged on key organisational features that would enable meaningful use of PREMs: clearly defined roles, appropriate timing, balanced use of paper and digital tools, and structured feedback mechanisms. Nurses emerged as central actors, serving as the main point of contact for patients, trusted communicators, and the professionals most likely to ensure PREMs are completed, especially for older or frail individuals. Their involvement is therefore essential both to facilitate PREMs administration and to mediate between patients and physicians. These insights inform future steps aimed at co-designing practical administration models and integrating PREMs sustainably into dialysis pathways, thereby supporting continuous quality improvement.

Beyond staffing levels: work environment determinants of person-centred care in nursing homes (ID 368)

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Context: Person-centred care is increasingly recognised as the gold standard within nursing homes, emphasising residents' autonomy, personhood, and respect. Personalising care and pursuing meaningful interactions are vital for promoting residents' psychosocial well-being, quality of life and care, and their long-term relationships with care workers. Additionally, person-centred care has been associated with increased job satisfaction and retention of care workers. However, nursing homes face significant barriers to implementing person-centred care, including inadequate staffing, time constraints, and organisational challenges. This paper aims to examine the nursing homework environment and the delivery of person-centred care, exploring both linear and non-linear associations.

Methods: A cross-sectional, multicenter survey study was conducted among care workers in 56 Belgian nursing homes. Nursing homework environment was assessed using the Practice Environment Scale of the Nursing Work Index (PES-NWI; five subscales), and the delivery of person-centred care using the Person-centred Care Assessment Tool (P-CAT; three subscales). Nursing homes were recruited using stratified random sampling based on organisational characteristics, and all care workers providing direct resident care were invited to participate. Data were analysed using linear mixed models to account for the nested data structure, with care workers clustered within their respective nursing homes. All subscale scores were analysed as continuous variables and were mean-centred prior to analysis to facilitate interpretation and reduce multicollinearity. In addition to linear associations, non-linear effects were explored between the nursing homework environment measures and person-centred care outcomes by including quadratic terms for predictors.

Results: Our sample included 1,054 care workers, comprising 283 registered nurses, 557 care assistants, and 214 allied health professionals. Collegial relationships in the ward (87.7%), foundations for quality care (84.3%), and manager ability, leadership and support (68.1%) were assessed positively by the majority of care workers. However, only 34.1% of care workers found staffing and resources to be adequate, and a rather small majority favourably evaluated their participation in nursing home affairs (57.6%). Linear mixed models showed significant and positive associations between all work environment dimensions and dimensions of person-centred care. Exploration of non-linear effects indicated that most relationships were adequately described by linear models. One significant non-linear association was identified between staffing and resource adequacy and the amount of organisational support for person-centred care, indicating that the strength of this association varied across levels of perceived staffing adequacy.

Discussion: These findings confirm that supportive work environments are fundamental to person-centred care delivery, with all examined dimensions showing consistent positive associations. In our sample, the majority of care workers assessed staffing levels and resources as inadequate. Furthermore, the observed curvilinear pattern suggests that nursing homes with inadequate staffing face substantial barriers, including insufficient time or support for individualised care and difficulty meeting residents' needs. However, beyond a certain level of staffing adequacy, other organisational factors may become more influential than staff numbers alone. The consistent linear associations for other work environment dimensions suggest that these may continuously enhance person-centred care. Accordingly, nursing home managers should complement staffing improvements with broader work environment interventions, such as participatory decision-making, leadership development, and strengthening collegial relationships. Future longitudinal research should examine underlying mechanisms, evaluate targeted interventions, and identify optimal staffing thresholds for the delivery of person-centred care in nursing homes.

Managing chronic diseases to prevent safety-critical failures: rethinking occupational health policies in high-risk workforces (ID 370)

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Context: Non-communicable chronic diseases (NCDs), including diabetes, cardiovascular diseases, chronic respiratory conditions and mental health disorders, are increasingly prevalent among the working-age population. In industrial environments characterised by high operational complexity—such as work at height, confined spaces, emergency response and heavy equipment operation—clinical instability related to chronic conditions may significantly increase the risk of safety-critical failures. However, occupational health systems often rely on standardised, legally driven fitness-for-work assessments that insufficiently account for the interaction between chronic disease, functional capacity and task-specific risk. This mismatch poses growing challenges for workforce safety, operational continuity and system resilience.

Methods: This policy-oriented analysis synthesises evidence from occupational health, safety science and health management literature to examine how chronic diseases contribute to accident risk in safety-critical work. A narrative review of international studies was combined with a critical appraisal of prevailing occupational health policies and practices. The analysis focused on identifying clinical and organisational mechanisms that increase risk and on assessing policy-relevant alternatives to improve workforce risk management in high-risk operational settings.

Results: The reviewed evidence consistently shows that workers with chronic diseases have a higher likelihood of occupational accidents, even in organisations with established safety management systems. Contributing factors include fatigue, hypoglycaemia, cardiovascular instability, respiratory limitation, cognitive impairment and adverse medication effects, all of which may lead to sudden performance degradation during critical tasks. Three key policy gaps were identified: (1) limited use of differentiated medical assessments for safety-critical activities; (2) absence of systematic clinical risk stratification aligned with task demands; and (3) fragmentation between occupational health services and clinical care. Policy alternatives such as task-specific medical protocols, structured clinical risk stratification and integrated occupational–clinical management emerge as feasible and scalable strategies to mitigate safety risks.

Discussion: Strengthening occupational health policies through risk-adjusted medical assessment and integrated care models can play a central role in preventing safety-critical failures and enhancing workforce resilience. From a health management perspective, these approaches support sustainable workforce management by aligning individual health status with operational demands, reducing preventable incidents and reinforcing organisational reliability. As health systems and organisations face demographic ageing, rising chronic disease prevalence and increasing operational complexity, rethinking occupational health policies becomes a strategic priority for future-proofing high-risk workforces.

Redesigning Type 1 Diabetes care pathways using lean healthcare: a capacity–demand alignment approach (ID 371)

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Context: A tertiary referral hospital aims to improve the organisation and performance of its Diabetes Unit to deliver more patient-centred and efficient care. The objective of this project was to design a set of improvement proposals for the care pathway of patients with type 1 diabetes followed at this unit, using Lean Healthcare methodology. The main focus was to improve the alignment between care capacity and patient demand. The widespread adoption of continuous and remote glucose monitoring technologies creates an opportunity to redesign care processes, reduce non-value-added activities, and improve clinical follow-up efficiency without compromising quality of care.

Methods: Value Stream Mapping (VSM) was applied to analyse the current care pathway of patients with type 1 diabetes, from diagnosis to routine chronic follow-up. The patient flow, activities, resources, and waiting times were systematically mapped to distinguish value-added from non-value-added steps. Process inefficiencies and waste were identified using Lean tools such as the 5 Whys and A3 problem-solving methodology. Based on this analysis, specific improvement actions were proposed and prioritised using an effort–impact matrix. The selected actions focused on addressing the mismatch between demand and available care capacity. Quantitative data on visit types, patient age groups, and follow-up standards were used to support decision-making and to design alternative organisational scenarios for the unit.

Results: The prioritised improvement action targeted the imbalance between patient demand and care capacity. Implementation led to improved resource allocation and more efficient organisation of the Diabetes Unit. After analysing the current unit sizing and identifying structural constraints, two complementary reorganisation strategies were developed: (1) redistribution of weekly consultation hours according to visit type, addressing areas of surplus and deficit, and (2) revision of follow-up standards by age group, supported by clinical expertise and current evidence. Several virtual scenarios were simulated by modifying either follow-up standards or weekly time allocation. The most favourable configuration was identified without increasing the total number of working hours. Additionally, a five-year projection was performed to assess the long-term sustainability of the proposed organisational model under expected demand growth.

Discussion: Successful implementation of the proposed solution requires a shift in the unit's way of working, supported by strong organisational leadership and a Lean transformation mindset. Process standardisation proved essential to accurately estimate current capacity and to model future demand scenarios. Stratifying demand by patient subgroups enabled the design of differentiated care processes aligned with clinical needs and technological capabilities, particularly remote glucose monitoring. This approach supports a more efficient use of specialised resources while maintaining quality and continuity of care. Lean Healthcare methodologies can therefore provide a robust framework for adapting diabetes care models to evolving technologies and increasing demand, contributing to sustainable, patient-centred chronic disease management.

Exploring workforce preparedness for digital health and AI through technostress and digital competencies (ID 372)

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Context: Digital Health and Artificial Intelligence (AI) are increasingly embedded in health system planning and decision-making (Graili & Farhoudi, 2025). However, health systems differ in how workforce-related conditions are addressed in their operationalisation (World Health Organisation [WHO], 2019, 2022), with existing research and policy frameworks primarily emphasising digital tools and professional competencies. While prior research has examined technostress mainly as an individual or organisational consequence of digital work (Tarafdar et al., 2007; Tarafdar et al., 2015; Agogo & Hess, 2018; Brice & Almond, 2020), this study frames workforce preparedness as a structural condition for successful digital transformation, with a particular focus on technostress.

Methods: The study draws on survey data from physicians, nurses, and allied health professionals in the Italian public healthcare system, using correlation analysis combined with Necessary Condition Analysis (NCA). NCA identifies conditions that are necessary, although not sufficient, for an outcome and provides a basis for future qualitative and mixed-methods research (Dul, 2016; Dul et al., 2023). The questionnaire was designed to capture both enabling and constraining conditions associated with digital work. Multi-item Likert scales were used to measure digital competencies, openness to innovation, and technostress.

Results: Preliminary results indicate that digital competencies are not linearly associated with openness to innovation, suggesting higher skill levels alone do not translate into greater readiness for digital transformation. In contrast, digital competencies show a positive association with perceived technostress, indicating that higher competence levels coexist with increased digital demands. Moreover, technostress emerges as a multidimensional construct where demand and performance-related dimensions are positively associated with openness to innovation, whereas facilitators of technology use show no significant relationships.

Discussion: Overall, the findings provide preliminary evidence that workforce preparedness functions not only as an enabling factor, but also as a structural condition that both supports engagement with Digital Health technologies and generates organisational and work-related constraints. Integrating technostress into a workforce preparedness framework highlights the need for health planning strategies that explicitly account for workforce-related constraints when scaling Digital Health and AI initiatives, thereby supporting more sustainable and equitable health systems. By reframing technostress as a structural condition rather than solely an individual outcome, this study contributes to theoretical debates on workforce preparedness in digital health.

Health workforce distribution and ageing trends in Romania (ID 373)

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Context: Major challenges are affecting Romania's healthcare workforce, particularly the unequal distribution of medical professionals between urban and rural areas, demanding working conditions, and the aging profile of healthcare staff. Even though the total number of healthcare professionals has grown over time, Romania continues to face a shortage of physicians relative to other European Union countries, and the migration of medical personnel has intensified the gap in healthcare provision across regions. All these factors put pressure on healthcare, limiting access to medical services for the population. This study aims to examine the long-term evolution of healthcare professionals in Romania.

Methods: We analysed secondary data from the Annual Report on the Activity of Healthcare Facilities of the National Institute of Statistics for the period 1980–2024, complemented by information from relevant policy documents and national health system reports.

Results: Between 1980 and 2024, the number of physicians in Romania increased from 32762 to 74402, indicating a long-term upward trend in medical workforce capacity. The most pronounced growth occurred during the 1980s, followed by a period of stagnation in the early and mid-1990s, when the number of physicians remained around 40000. From the late 1990s, physician numbers increased steadily, around 50000 in 2008 and around 60000 in 2018. Between 2020 and 2024, the number of physicians grew by 13.2%, from 65740 to 74402. Over the same period, the number of inhabitants per physician declined consistently, from 678 in 1980 to 293 in 2020 and 256 in 2024. In 2024, physicians were unevenly distributed across counties, with 18387 in Bucharest and 328 in Giurgiu County. Additionally, Romania reflects the wider European trend of an ageing medical workforce, with 40% aged 55 or older, indicating substantial retirements in the coming decade.

Discussion: The number of physicians in Romania has been steadily rising, yet there are still major structural issues with the healthcare workforce. Furthermore, there are still significant geographic differences that restrict fair access to healthcare services, with a high physician density in urban areas. These results emphasise the necessity of focused workforce policies aimed at enhancing retention, addressing regional disparities, and preparing the healthcare system with a strong workforce for the future.

Evidence to policy in health systems: Interview insights from a European policymaking perspective (ID 374)

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Context: Bridging evidence to policy represents the cornerstone of public health, often neglected. It tackles persistent gaps between research and policy, where evidence is often produced, but not translated into timely, usable decisions. It supports knowledge sharing and mutual learning to accelerate the uptake of research and innovation into fit-for-purpose strategies and policies, responsive to current needs and future crises, while strengthening cooperation across policy levels. WP5 of the Transforming Health and Care Systems (THCS) European Partnership, a Horizon Europe co-funded action, aims to strengthen political decision-making by making health and care reforms more rational, evidence-informed, and grounded in stakeholder experience.

Methods: Within Work Package 5 of the THCS project, 24 semi-directive qualitative interviews were carried out, averaging 3 interviews per country, with policymakers across the participating countries, including Finland, France, Italy, Slovenia, Romania, Israel, Scotland, and Spanish regions. Participants included high-level decision-makers and civil servants with advisory roles involved in policy development. A standardised interview guide ensured consistency across countries and addressed topics such as access to evidence, stakeholder engagement, evaluation practices, and barriers and facilitators to evidence-informed policymaking. Interviews lasted up to 60 minutes, were audio-recorded with informed consent, and transcribed verbatim. Data were anonymised, centrally stored, and analysed using thematic analysis combining deductive coding based on predefined themes and inductive coding emerging from participants' responses. Preliminary findings were discussed among WP5 partners to validate interpretations.
**All data used for this abstract were collected within the THCS project among partners.*

Results: Several general trends emerged across the countries involved, showing that evidence use in policymaking is systematic but fragmented. Countries rely on scientific publications, grey literature and administrative datasets, yet integration into policy remains uneven and often depends on individual expertise rather than institutionalised mechanisms. In Romania, for example, evidence is used when available, but systemic gaps persist, including the absence of central policy development structures, limited transparency, and inconsistent evaluation processes. Key barriers include limited access to data and publications, particularly in Romania, France, and Finland, while misalignment between research production and political cycles is particularly evident in Italy and France. In addition, insufficient evaluation culture and weak feedback loops are common in Romania, Finland, and Israel. Fragmentation across institutions and regions impacts Italy, France, and Romania, and finally, resistance to change and the influence of political or ideological agendas are notable in Slovenia and France.

Discussion: The findings highlight persistent challenges and opportunities for strengthening evidence-informed policymaking across THCS countries. Although policymakers recognise the value of evidence, institutional fragmentation and political pressures often limit its systematic uptake. Facilitators identified in specific contexts suggest promising pathways: dedicated agencies and professional councils help structure the integration of evidence, while participatory approaches enhance stakeholder engagement and decision-making legitimacy. The use of international benchmarks supports cross-country learning and adaptation, and independent evaluation structures provide accountability and enable feedback. Collectively, these examples indicate that centralised, open-access knowledge platforms, bridging functions such as knowledge brokers, and targeted capacity-building for policymakers could significantly improve evidence uptake. Promoting a culture of evaluation with systematic, real-time feedback and fostering European-level dissemination of research are key strategies to ensure that evidence informs policy effectively, sustainably, and across diverse health system settings.

Reuse of reject water from dialysis osmosis processes for toilet flushing (ID 376)

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Context: European health systems face increasing pressure to reduce their environmental footprint while maintaining high standards of care. Water scarcity, exacerbated by climate change, poses a growing threat to the sustainability and resilience of healthcare organisations. Haemodialysis is a highly water-intensive service, where a substantial proportion of high-quality water is traditionally discarded during reverse osmosis processes. This abstract presents a governance-driven sustainability initiative implemented at Hospital Sant Joan de Déu de Manresa (Fundació Althaia, Spain), aiming to reduce potable water consumption through the reuse of haemodialysis reject water, while ensuring patient safety and quality of care.

Methods: A system was designed to capture and reuse reverse osmosis reject water generated by the haemodialysis service and redirect it to toilet flushing systems within the hospital. The initiative was embedded within the organisation's strategic framework ("Talaia Strategic Plan") and the Althaia Sustainable Programme, ensuring alignment with institutional governance, leadership, and social responsibility objectives. A multidisciplinary governance structure was established, involving medical and nursing leadership, infrastructure and environmental sustainability teams, infection control, occupational risk prevention, and financial management. Clinical safety and quality standards were maintained through appropriate filtration processes, continuous monitoring, and periodic audits. Performance was assessed using environmental, operational, and economic indicators.

Results: Since implementation, approximately 9.5 million litres of water have been reused, equivalent to nearly four Olympic swimming pools. This corresponds to a 34% reuse rate of water previously discarded during haemodialysis reverse osmosis processes and a total reduction of 9,500 m^3 in potable water consumption. Based on regional emission factors for the integral water cycle, the initiative avoided an estimated 3.66 tonnes of CO_2 emissions. From an economic perspective, the project generated an estimated cumulative saving of €20,000 in water-related costs. No negative impact on haemodialysis safety, infection control indicators, or quality of patient care was identified during follow-up.

Discussion: This case study illustrates how responsible governance and distributed leadership can translate sustainability strategies into measurable operational outcomes within healthcare organisations. By transforming a previously wasted resource into a strategic asset, the initiative enhances organisational resilience in a context of recurrent droughts and climate uncertainty. Beyond environmental and economic benefits, the project reinforces social responsibility by safeguarding a critical natural resource and fostering awareness among professionals, patients, and the wider community. The model is highly transferable to other hospitals and facilities using reverse osmosis systems, requiring limited infrastructural adaptation and offering a rapid return on investment. Integrating sustainability into governance frameworks can therefore play a key role in future-proofing European health systems.

International experience and implications of the development and utilisation of health data (ID 377)

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China is the first country to establish data as a production factor, and data has become the fifth major factor of production. To accelerate the development and utilisation of public data resources, China has established a "1+3" policy system framework. However, there remains considerable room for exploration in aspects such as data authorisation pricing and authorisation models. In particular, health data possesses both personal privacy attributes and public data attributes, requiring multi-factor trade-offs between security protection and development benefits. The United Kingdom, the United States, and Hong Kong have accumulated certain prior experiences in the development and utilisation of health data. This article systematically studies and sorts out the institutional design of the construction, organisational structure, and operation mechanism of health data open platforms in these three countries/regions. It summarises the application fee model of UK Biobank (UKB), the open model of Health Data NY website in New York, and the Data Collaboration Lab model in Hong Kong. Specific opinions are proposed on the construction of health data platforms, data resource registration, ethical review, security management and pricing models, in order to provide reference for the formulation of relevant policies and systems in the European Union and provide prior reference for the development and utilisation of health data internationally. Through summarising the experience of three models, it was found that both UKB and Data Collaboration Lab have ethics and data security related committees in their organisational structure. In terms of operation and charging models, UKB sets graded and classified charging standards based on data volume, data specifications, usage duration, and usage targets. Currently, its operation model is relatively mature. Data Collaboration Lab has two charging options based on data specifications and complexity. In terms of usage period, UKB is 3 years, and any extension will incur additional charges; Data Collaboration Lab takes 5 days, and applications must be submitted after the deadline, Health Data NY has no restrictions. In terms of data scale, the three platforms have different data volumes, data properties, and coverage areas. UKB is a prospective large-scale cohort study and biomedical database containing identified information from 500000 volunteers. Health Data NY and the Data Collaboration Lab collected retrospective data. In terms of data security, UKB and Health Data NY have respectively anonymised and desensitised health data, while the Data Collaboration Laboratory ensures data security through physical isolation. In addition, this study proposes specific suggestions on the construction of health data platforms, registration of data resources, ethical review, data security management, and pricing models, in order to provide reference for the formulation of relevant policies and systems in the European Union and provide prior reference for the development and utilisation of health data internationally.

The C17 Network: a strategic alliance for quality, equitable and sustainable care across Catalonia (ID 379)

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Health systems are currently facing significant challenges, including increase healthcare demand driven by population ageing and rising prevalence of chronic diseases, rapid technological advancement, and shortages of qualified professionals. These challenges are particularly pronounced in public health systems, given their responsibility to ensure quality, equitable and sustainable healthcare for the entire population.

The Catalan Health System is a regionally managed, tax-funded universal healthcare model characterised by a distinctive public-private provider collaboration, guaranteeing free access to care at the point of use. To address the above-described challenges, a specialised healthcare network was established among six hospitals serving a population of more than 1.2 million people. This initiative, known as the C17 Network (C17Net) –named after the road connecting these centres– was endorsed by the Catalan Government in April 2024.

C17Net governance is structured around three distinct bodies. The Alliance Council, composed of representatives from the Catalan Health System and hospitals' CEO, serves as the main strategic authority. The Executive Committee, formed by the hospitals' CEO, is responsible for implementing and monitoring the strategic plan. The Healthcare Commission, composed of medical and nursing directors of each hospital, oversees the development and deployment of healthcare initiatives.

Within this governance framework, a needs-based and capacity analysis was conducted to set priorities and define shared care pathways. Moreover, it was agreed that medium- and high-complexity procedures would be managed in a coordinated manner within the C17Net, with care allocated to the most appropriate centres according to clinical expertise, capacity and sustainability criteria.

During the initial phase, efforts have been focused on addressing healthcare needs through coordinated service organisation. Based on the baseline analysis, dedicated pathways were developed to ensure continuity of emergency care in selected specialties (i.e. urology, otorhinolaryngology and ophthalmology). In addition, professionals have been shared among hospitals through various employment arrangements, and in some cases a high level of organisational integration has been achieved through the creation of joint territorial departments. This cooperation is also being scaled up to develop an integrated comprehensive cancer network including all stakeholders involved in cancer care. Finally, efforts have been made to improve interoperability among IT systems to facilitate professional interaction and enable appropriate patient navigation across the network. All these initiatives have contributed to enhanced catchment share and patient attraction rates among hospitals.

Overall, the C17Net illustrates how strategic collaboration across hospitals can enhance the quality, equity and sustainability of healthcare delivery at a territorial level. By leveraging shared resources and expertise, the network is well positioned to address present and future challenges, with an improved population access to the most appropriate healthcare resource regardless of geographical location. This approach not only supports optimal care delivery but also contributes to professional satisfaction, an essential factor for attracting and retaining skilled personnel within public health systems.

Transition towards a proactive cardiovascular care model enabled by the Comprehensive Care Platform for Familial Hypercholesterolaemia (PAI-HF) (ID 380)

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Context: Familial hypercholesterolaemia (FH) is a common inherited cardiovascular disorder (prevalence ~1:200–250), affecting approximately 3 million people in Europe, around 20% of whom are under 18 years of age. It is the leading cause of premature and aggressive atherosclerotic cardiovascular disease. Despite the availability of effective lipid-lowering therapies and clear clinical guidelines, FH remains largely underdiagnosed and undertreated, resulting in preventable morbidity and mortality. Addressing this gap is a public health priority, and digital health solutions offer an opportunity to enable proactive, population-level identification, risk stratification, and personalised management of high-risk individuals.

Methods: A digitally enabled, proactive cardiovascular care model was implemented using advanced data analytics and artificial intelligence (AI), fully integrated into an interoperable platform connected to electronic health record systems (PAI-HF). Population-level clustering was conducted through systematic screening of healthcare information systems to identify electronic red flags associated with very high vascular risk. Prognostic stratification was enhanced using predictive AI models incorporating sex- and gender-specific variables to improve accuracy and equity. Personalised treatment planning was supported by an agentic AI-based clinical decision support system (CDSS) using retrieval-augmented generation (RAG), integrating clinical guidelines, real-world evidence, and individual patient data, while explicitly applying criteria of safety, effectiveness, and cost-efficiency.

Results: The detection rate increased fourfold, reaching approximately 50%, which corresponds to advancing diagnosis by around 30 years compared with conventional strategies. The proportion of patients achieving therapeutic targets also increased fourfold. In simulated projections, coronary event rates were reduced by 3–5% over a 5-year horizon. In a healthcare area covering 200,000 citizens, this would translate into the prevention of approximately 60 coronary events and an estimated healthcare cost saving of around 1 million euros. The use of AI improved the performance of currently applied risk stratification scales, particularly among younger women. Treatment personalisation was enhanced through the use of a clinical decision support system (Virtual Lipidologist-CDSS). In simulation studies, the annual cost per quality-adjusted life year (QALY) gained was below €5,000, indicating that the intervention is cost-effective.

Discussion: Digital health technologies can act as key enablers of the transition from reactive to proactive cardiovascular care. The combination of population-level data screening, discriminative AI for refined risk stratification, and agentic AI-based decision support demonstrates how digital solutions can support earlier diagnosis, personalised and value-based interventions, and more sustainable use of healthcare resources. A critical success factor is the integration of digital tools into clinical workflows within existing healthcare systems. This methodology is scalable and transferable to other chronic conditions, illustrating the potential of digital health to drive system-level transformation in chronic disease management.

Digital optimisation of operating rooms: a data-driven model for efficiency, safety, and transparency (ID 382)

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Context: In 2023, the hospital network faced suboptimal utilisation of operating rooms, generating inefficiencies, higher operational costs, and delays in patient care. The strategic objective was to increase the annual average occupancy rate of operating rooms while preserving high standards of safety, transparency, and quality. Additional goals included reducing manual data entry, improving accuracy, decreasing administrative workload, minimising paper use, and providing a clear, real time visual overview of daily operating room activity in line with lean management principles.

Method

1. Deployment of an Integrated Digital System

A Business Intelligence (BI) platform was incorporated into the programming of operating rooms. This required a structured collaboration with each surgeon to define their "ideal operating room," including number and type of procedures, procedural mix, anaesthesia method, and eligible surgical teams. This created a personalised, data driven foundation for planning.

2. Adoption of Wearable Technology

Bluetooth patient bracelets were introduced to track the patient's entire perioperative journey. These devices automatically captured real surgical times for each surgeon, replacing the reliance on generic average durations and enabling tailored room scheduling.

3. Automated Scheduling and Decision Support

Using the personalised configurations and real-time data, the BI system autonomously selected the most suitable patients from the waiting list based on surgical priorities and available time. If a patient became unsuitable, the system proposed an equivalent replacement, preventing downtime or inefficiency in the schedule.

4. Standardisation and Visual Management

Scheduling nurses gained access to dashboards that classify room efficiency using colour codes:

- Green for >80% occupancy
- Yellow for 60–80%
- Red for >100%

The system also eliminated the need for nurses to manually record surgical times and introduced standardised KPIs to enable benchmarking across teams and countries.

5. Enhancement of Patient and Family Experience

A dedicated app linked to the bracelet technology allowed relatives to monitor, in real time, the patient's progress through the surgical process, making the pathway more transparent and human-centred.

Results: The digital transformation led to significant improvements:

1. A 6% increase in the annual average operating room occupancy rate compared with 2023;
2. Error reduction thanks to automatic capture of surgical times, eliminating manual transcription;
3. Administrative time savings and a substantial reduction in paper-based processes;
4. Introduction of standardised KPIs, enabling consistent performance comparisons (benchmarking possible);
5. Greater transparency and operational safety, supported by objective data and clear criteria;
6. Improved communication with families, who received timely updates on the surgical pathway.

Discussion: This experience demonstrates how digital tools, when embedded in an organisational strategy, can deliver measurable efficiency gains while enhancing quality of care. The shift from generic averages to surgeon specific, automatically tracked surgical times represents a crucial evolution toward predictive, personalised scheduling. Key managerial success factors included strong engagement with clinical professionals, reduction of administrative burden, and adoption of visual management aligned with lean methodologies. Notably, digitalisation also contributed to humanising the surgical experience by improving information flows for families. Overall, this initiative highlights how data driven decision making can transform operating room management, ensuring better resource utilisation, improved patient experience, and a more sustainable healthcare system. In conclusion, optimising operating room occupancy rates is not just about numbers—it's about delivering better care, supporting our staff, and take decisions "data-driven". Digital tools, when thoughtfully implemented, can drive meaningful change.

The demographic profile of a healthcare system: education, gender, and the ageing challenge in the Federation of Bosnia and Herzegovina (ID 383)

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Context: Continuing Professional Education (CPE) in healthcare management is a prerequisite for appointment to management positions in healthcare institutions in the Federation of Bosnia and Herzegovina (FBiH). The Institute for Public Health (IPH) of the FBiH is an authorised provider of CPE in healthcare management according to the program of Federal Ministry of Health. CPE is organised in two annual cycles of education at basic (SHCE 1), intermediate (SHCE 2) and advance levels (SHCE 3). We present an analysis of participants in the CPE in healthcare management from the public healthcare institutions in the period 2012 - 2025.

Methodes: This mapping study utilised administrative data on participants in the CPE program in healthcare management, collected over fourteen years. Analysis focused on 1158 individuals employed in public healthcare institutions who concluded trainings at basic, inter-mediate, and advanced level. Exclusion criteria were managers from private healthcare sector. Data were analysed descriptively for purposes of profiling healthcare management force. Key variables were the level of CPE education, career stage (defined by age groups) and gender.

Results: A total of 883, 657, and 534 healthcare managers from public institutions in the Federation of Bosnia and Herzegovina (FB&H) completed the basic, intermediate, and advanced levels of Continuing Professional Education (CPE) in healthcare management, respectively. Analysis of the 534 advanced-level managers reveals a managerial workforce concentrated in mid-to-late career stages. The largest group is mid-career managers (36–50 years, 34.1%), followed by senior managers (51–60 years, 29.8%). A significant proportion (32.6%) are near-retirement (61–65 years) or already retired (66+). The gender distribution is balanced (54% male, 46% female), and the average age is 54.2 years. This demographic pattern—characterised by an aging workforce and a balanced gender ratio is consistently observed across all three CPE levels (basic, intermediate, and advanced), confirming a systemic trend within the FB&H healthcare management pool.

Discussion: The results provide a clear demographic profile of the healthcare management workforce in FB&H. The pronounced concentration of managers in older age groups underscores a critical challenge for the system: an urgent need for succession planning and the development of younger managerial talent. While the balanced gender representation is a positive finding, the overarching demographic trend points to a looming risk of knowledge drain and leadership gaps due to retirements, which aligns with previous IPH studies regarding healthcare system analysis (Healthcare Employees in the Federation of BiH, 2023.). These findings highlight the necessity for strategic, data-driven human resource planning in the public healthcare sector. Policies must be implemented to ensure knowledge transfer, incentivise the professional development of younger professionals, and build a sustainable healthcare management system for the future.

Assessing population resilience to health misinformation in the Republic of Moldova: insights from a national survey (ID 386)

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Context: Health misinformation can undermine individual and public health decision-making. Understanding population-level exposure, resilience, and verification behaviours is essential for designing effective communication and policy interventions. This study provides the first nationally representative assessment of adult population resilience to health misinformation in the Republic of Moldova, offering a benchmark for monitoring trends and for cross-country comparisons.

Methods: A nationally representative survey was conducted among 1,164 adults using paper-assisted personal interviewing (PAPI). Stratified sampling ensured representativeness by age, sex, and region, and 19 trained interviewers collected data to maximise response accuracy. Nine Likert-scale items were grouped into three subscales: (I) exposure to misinformation, (II) perceived resilience to misinformation, and (III) verification behaviours. These items were included alongside the HLS24 instrument for measuring health literacy developed by M-POHL, forming a unique national module on health misinformation; while HLS24 is implemented in other countries, this section is unique to Moldova. The items related to population resilience to health misinformation were informed by international literature and inspired by the validated KAPIM tool developed for health professionals (Dehghani, 2023). Internal consistency was evaluated using Cronbach's alpha (α = 0.71–0.83), supporting the use of composite scores. Spearman rank correlations (ρ) were calculated to explore associations between subscale scores and socio-demographic variables, with values of 999 excluded.

Results: Mean subscale scores indicated moderate exposure to health misinformation (M = 1.95, SD = 0.67), moderate perceived resilience (M = 2.19, SD = 0.73), and slightly higher engagement in verification behaviours (M = 2.37, SD = 0.73). Distributions were relatively homogeneous across sex, region, and urban–rural residence. Boxplots revealed limited variability, with weak positive correlations between age and perceived resilience (ρ = 0.21), while correlations with education, sex, and urbanisation were negligible. Respondents reported engaging more frequently in verification and correction behaviours than in proactively identifying misinformation. Regionally, roughly a quarter of respondents in the North and Chisinau recorded minimum verification scores (first quartile, Q1 = 2), while the Center and South were slightly more active; in Gagauzia, there was a concentration toward lower scores (third quartile, Q3 = 2.75). Rural areas showed a quarter of respondents at the minimum score, whereas urban areas exhibited higher verification activity. Education level did not present major differences, although a quarter of participants with low education (Q1 = 2) showed somewhat higher verification activity. Regarding age, young adults (18–29) were more active in checking information (Q1 = 2), as were adults aged 60–69 (Q1 = 1.5), with other age groups recording minimum scores.

Discussion: Adults in the Republic of Moldova demonstrate moderate resilience to health misinformation, with limited variation across socio-demographic groups. These findings highlight the need for population-wide interventions to enhance identification of misinformation and proactive verification behaviours. Tailored communication strategies could strengthen engagement and trust in health information, while longitudinal monitoring provides a benchmark for evaluating public health campaigns. By adapting a tool based on the validated KAPIM instrument for health professionals and integrating it into the HLS24 national questionnaire, this study enables future comparative analyses of population resilience, health literacy, and verification behaviours, both within the general population and in comparison with health professionals, offering actionable insights for evidence-based public health policy.

Strategic innovation procurement as a catalyst for systemic transformation: an iterative PPI policy lab's systematic journey (ID 388)

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Context: Public Procurement of Innovation (PPI) is increasingly recognised as a strategic instrument to enable demand-driven innovation and influence markets towards addressing unmet health system needs that are not met by off-the-shelf solutions. This is particularly relevant as health systems face complex, systemic challenges related to sustainability, resilience, workforce pressures, and the integration of transformative technologies. These challenges often require substantial change management efforts on the demand side, which are frequently underestimated. While PPI can support risk-sharing and experimentation, its potential as a lever for system-level transformation remains unevenly realised across European health systems.

Methods: HIPSS (Health Innovation Procurement Support Services) is an EU-funded Coordination and Support Action developed to provide procurers, innovators and health systems support services to mainstream the adoption of PPI. The scope of this research focuses on health systems. Desk research analysed health system governance, innovation adoption, and policy design using WHO frameworks and evidence from the European Observatory on Health Systems and Policies. Eight European health systems representing different governance models, contexts, and levels of PPI maturity were examined. Expert interviews informed the development of the HIPSS Systemic Policy Framework, structured along two dimensions: demand-driven versus researcher/technology-driven innovation, and project-level versus policy-level interventions. A scoping review identified value-based projects and policies relevant to transformational change. These inputs informed a systemic gap analysis and the design of a PPI Health System Policy Lab, supported by co-created workshops and practical handbooks.

Results: The main outcome is the HIPSS Systemic Policy Framework and its operationalisation through the PPI Health System Policy Lab—a dedicated space for collaborative policy design and improvement adaptable to local contexts. The framework proposes a journey; (1) alignment of the right set of stakeholders, (2) navigating the systemic policy framework, (3) sharing tools for deployment, (4) addressing the systemic gaps and (5) embedding PPI into local strategy and transformation vision. The collaborative engagement of the lab consists of three workshops: (i) scaling up PPIs (ii) WHO's innovation groups and addressing systemic adoption of transformative technologies enablers (technological, skills, structural, political and cultural); and (iii) strategic alignment and theory-of-change to seed alternative futures. Contextual handbooks support each step, reviewing and improving the knowledge recombination and proposing improvements on the resources, cases and steps of the journey in every iteration.

Discussion: This work proposes how PPI can be repositioned from a procurement mechanism to a strategic policy lever for health system transformation. By combining a system-level framework with a structured policy lab, the HIPSS approach supports alignment among policymakers, health managers, and healthcare professionals while enabling contextual adaptation across diverse health systems. The integration of knowledge resources and collaborative spaces addresses key barriers to innovation adoption, including fragmented governance, limited capacity, and weak change management. The framework and Policy Lab contribute to future-proofing health systems by supporting the co-development of policies and value-based projects that enhance resilience, sustainability, and people-centred care, while fostering cross-border learning and the mainstreaming of PPI as a transformation instrument.

When professionals disagree: what surgeons, internists and primary care think about the hospital of the future (ID 389)

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Context: European health systems are under pressure to transform hospitals to respond to ageing, multimorbidity, workforce shortages and rising costs. Although strategic frameworks increasingly promote integration, value-based care and reorientation towards chronic and complex patients, implementation depends on professional acceptance. However, evidence on how different clinical communities perceive these transformations is limited. In Spain, a Delphi-based research programme was launched to identify what hospitals should change and what they should preserve, from the perspectives of primary care and hospital specialists. This study compares the priorities, consensus and tensions between primary care professionals, surgeons and internists regarding the "Hospital of the Future".

Methods: A multi-phase Delphi study was conducted between July 2023 and January 2025. First, experts from Primary Care and Community Health (APiC) generated proposals on what hospitals should change and what should be preserved. These proposals were transformed into structured items and subsequently evaluated by two hospital-based professional groups using identical questionnaires: general surgeons (Societat Catalana de Cirurgia General; n = 41) and internists (n = 74). Participants rated each proposal on 0–5 Likert scales for importance, feasibility and level of agreement. Priority was calculated as Importance × Feasibility. Consensus was measured using Net Promoter Scores (NPS/ANPS), defined as the percentage of promoters (score = 5) minus detractors (score ≤ 3). Quantitative descriptive and comparative analyses were performed.

Results: Primary care experts prioritised continuity, territorial reorganisation, value-based service portfolios and reduction of hospital-centric activities, providing the normative framework against which hospital professionals reacted. Across all three professional groups, very high consensus emerged on several core directions. Both surgeons and internists strongly supported improving continuity of care with primary care and community services (NPS 87.8% in internists; NPS 61.0 in surgeons), maintaining research and innovation, rapid diagnostic programmes, hospitalisation units, and investing in professional wellbeing and talent retention (NPS 81.1% in internists; NPS 85.4 in surgeons). Value-based care and ambulatory surgery were also highly prioritised by internists (priority 18.22 and 19.71, respectively) and positively rated by surgeons. However, marked divergences were observed regarding system reorientation. Surgeons expressed strong disagreement with shifting care to primary care or community settings, particularly hospital-at-home and transfer of care to APiC (NPS -51.2) and were sceptical about digital health and telemedicine (NPS -12.2) and reorientation towards chronicity and frailty (NPS -7.3). Internists showed more moderate but still significant resistance to transferring hospitalisation to primary care (ANPS -23%) while supporting digital health, chronic care reorientation and territorial integration.

Discussion: This study reveals that the transformation of hospitals is not primarily a technical challenge but a professional governance challenge. While broad consensus exists on maintaining the hospital's high-complexity, research and training roles, major tensions arise around shifting care towards community-based, digital and chronic care models. Internists appear more aligned with integrated, value-based and digital futures, whereas surgeons prioritise the preservation of traditional hospital functions. Understanding and managing these professional fault lines is essential for building resilient, people-centred and sustainable hospital systems in Europe. Delphi-based co-design offers a powerful tool to make these tensions explicit and to support negotiated, evidence-informed reform pathways.

Building an AI-ready health workforce: how structured clinical AI training develops and mobilises capability in the NHS (ID 390)

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Context: Rapid advancements in healthcare artificial intelligence (AI) demand a future-ready workforce capable of navigating complex socio-technical transitions. Misra et al. propose a tri-level framework: foundational AI understanding for all clinicians, product-specific training for most, and specialised "clinical champion" competencies for those leading AI transformation [1]. To cultivate the specialised technical literacy required of clinical champions, the United Kingdom introduced the NHS Fellowship in Clinical AI, a 12-month, part-time programme integrated with clinical practice. However, the professional impact of such upskilling remains under-researched. This study examines how fellowship alumni mobilise AI-related skills into professional practice, contributing to an AI-ready health workforce.

Methods: This mixed-methods study analyses the career trajectories of the first three cohorts of the NHS Clinical AI Fellowship (n=57). To evaluate skill mobilisation, we conducted extensive desk research and digital footprint analysis using publicly available data. Data were extracted from LinkedIn profiles, literature databases, and the web, tracking career progression, post-fellowship publications, and public-facing professional activities. Two individuals were excluded due to a lack of public professional data. Outcomes were categorised into three human capital pillars: career pathways (retention and sector shifts), academic contributions (AI-related publications), and ambassadorial functions (leadership, teaching, and professional services). These findings are now providing a baseline for qualitative interviews currently underway that explore how these AI leaders integrate their AI expertise into evolving professional roles within and beyond the NHS.

Results: Results demonstrate strong workforce retention, with 55 of 57 alumni remaining in active clinical roles within the NHS. Several fellows have transitioned into hybrid career pathways with dual roles in MedTech (n=7) and academia (n=8). Alumni also pursued further AI-focused career development, including the Topol Digital Fellowship (n=4) and the Clinical Entrepreneurship Programme (n=3), both provided by the NHS, as well as individual AI research fellowships (n=11). Academic AI-related outputs spanned technical model development, AI ethics, and deployment reviews. Notably, many alumni assumed "ambassador" roles, extending their influence through professional leadership, peer education, speciality committees, and public engagement (e.g. hosting professional podcasts). Together, these activities suggest the fellowship supports the development of clinicians who bridge the gap between technical evolution and frontline clinical practice and support digital transformation across the healthcare system.

Discussion: The NHS Clinical AI Fellowship supports the development of clinicians who combine AI expertise, leadership, and clinical practice, addressing key human capital challenges in digitally responsive health services. Structured AI upskilling appears to strengthen workforce resilience and operational readiness, with implications for training, retention, and cross-sector collaboration. High public-sector retention suggests improved workforce sustainability alongside the emergence of dual clinical-academic and clinical-industry roles. Although this study lacks a pre-fellowship comparator, the leadership activity and scholarly contributions indicate active mobilisation of AI capabilities. These clinical champions act as connective tissue between technology, organisations, and frontline care, helping ensure digital transformation remains clinically led. Limitations include a small sample size and reliance on public data. Ongoing interviews with alumni will explore how organisational context influences AI implementation within the NHS. These findings underscore the importance of targeted workforce development strategies for sustainable, clinically led digital transformation.

Regional variations in pharmaceutical prescribing in the UK: implications for health system performance and equity (ID 391)

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Despite universal healthcare coverage, the UK experiences regional disparities in healthcare delivery and outcomes. Pharmaceutical prescribing represents a critical managerial and policy lever within the NHS, yet prescribing patterns remain uneven across regions, with implications for equity, efficiency, and governance.

This study examines sub-national variations in pharmaceutical prescribing across the UK and identifies key structural, socio-economic, and industry-related drivers influencing these differences. The analysis integrates large-scale administrative and public datasets, including the English Prescribing Dataset, Disclosure UK, and socio-economic indicators from the Office for National Statistics. A mixed analytical approach is applied, combining time-series trend analysis, unsupervised clustering, and multivariate regression modelling across selected high-impact therapy areas. The clustering analysis helped to uncover latent prescription and health outcome patterns by region and confirm the hypothesis of regional differences.

The results reveal statistically significant regional differences in prescribing volumes and health parameters, with southern regions outperforming on health indices. For instance, regions like *South West* and *South East* England showed an average of +12 points higher than northern counterparts on the Health Index Score by region, correlating improved health outcomes and higher socio-economic status. While population health needs and socio-economic differences explain part of the observed variation, the findings also demonstrate measurable associations between pharmaceutical industry engagement and prescribing behaviour at a regional level. These relationships persist after controlling for key system and demographic factors.

From a healthcare management perspective, the study highlights gaps in current governance and oversight mechanisms related to prescribing practices. The findings suggest that national policies alone are not sufficient to address regional variation and that more region-specific, targeted, data-enabled management interventions are required. The paper throws light on region-specific policy recommendations for the NHS, which, along with universal health coverage, must address these disparities in the future.

The study also opens the door for future research, particularly regarding the further application of advanced regression models to explore deeper relationships between healthcare system variables and prescribing practices. Further analyses will enhance understanding of the structural factors influencing prescribing variation and guide future policy development.

This research contributes to healthcare management scholarship by translating complex prescribing data into actionable system intelligence. It offers a robust analysis to support regionally tailored policy design, improved stewardship of industry interactions, and more equitable access to effective therapies within the UK health system. The research provides valuable insights that can be applied to other healthcare systems facing similar regional disparities in pharmaceutical prescribing.

Designing and building roles for the healthcare workforce of the future (ID 392)

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European health systems are facing increasing pressure due to population ageing, the growing burden of chronic diseases, persistent workforce shortages, and declining professional motivation. These dynamics threaten access to care, continuity, and organisational sustainability, undermining health system resilience. In Italy, such challenges intersect with a decentralised governance structure and with major reforms promoted by the National Recovery and Resilience Plan and Ministerial Decree 77/2022, which prioritise digital transformation, territorial care, and prevention. However, international evidence suggests that structural and technological investments alone are insufficient if not supported by coherent human resource strategies, redesigned professional roles, and strengthened leadership capacity.

The objective of this paper is to present the preliminary results of a research project aimed at addressing this gap by proposing workforce and organisational innovation as a strategic lever for resilience. More specifically we focus on the scientific rationale and development process of three new professional and managerial roles designed to address workforce related challenges such as; staff shortages, fragmented care pathways, long waiting lists, and reduced engagement while supporting sustainable transformation of publicly funded health systems.

The project adopts a multi-phase research design. First, an extensive analysis of national policy documents, regulatory frameworks, and international literature on healthcare management, digital health, and organisational resilience was conducted. This informed the development of detailed job descriptions for three complementary roles: the Chief Innovation Officer (CInO), the medical Director 4.0, and the Patient Journey Manager (PJM). Each profile integrates technical expertise with transversal competences, defining objectives, organisational positioning, decision-making autonomy, and contractual alignment within existing governance frameworks.

Second, the proposed roles were validated through a participatory process involving healthcare managers, clinicians, human resource experts, and medical directors. Structured questionnaires and facilitated workshops were used to refine role profiles and identify role-specific Key Performance Indicators (KPIs). A pilot implementation in selected Italian healthcare organisations is planned for 2026, followed by quantitative and qualitative evaluation.

The three roles address distinct yet interconnected dimensions of system resilience. The Chief Innovation Officer (CInO) strengthens governance and innovation capacity by aligning digital transformation with organisational change. The medical Director 4.0 redefines clinical leadership through data-driven decision-making, sustainability principles, and value-based care. The Patient Journey Manager (PJM) enhances continuity of care across hospital and community settings, supports prevention, and contributes to reducing inappropriate service use and waiting times. Together, these roles respond to workforce challenges not by increasing staff numbers alone, but by redesigning responsibilities, career pathways, and leadership models.

The results presented demonstrates how targeted workforce innovation can operationalise health reforms and enhance organisational resilience. The proposed model offers a transferable framework for European health systems seeking sustainable, people-centred, and future-proof solutions.

Patient-centred evaluation of mental health apps for anxiety and depression: a systematic literature review (ID 393)

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Introduction: Anxiety and depression are the most common mental health problems worldwide. The growing demand for mental health services has significantly increased the need for new care approaches that extend beyond traditional face-to-face methods. Mental health applications support the prevention, treatment, and management of mental health conditions. While previous studies have examined these apps' clinical effectiveness, usability, and acceptability, patient perspectives are often assessed separately. Integrating Patient-reported Outcome Measures (PROMs) and Patient-Reported Experience Measures (PREMs) is essential to enhance patient-centred mental health care. This systematic review aims to systematically review the tools used to measure patient outcomes and experiences with mental health applications for anxiety and depression.

Method: This systematic review adheres to the PRISMA guidelines. It searches for studies in PubMed, PsycINFO, and Scopus from 2016 to 2025, limited to publications in English. Additionally, reference lists of relevant studies are examined to ensure thorough coverage. The review includes peer-reviewed empirical research that reports on PROMs and/or PREMs related to mental health applications focused on anxiety and/or depression, incorporating quantitative, qualitative, randomised control trials, and mixed-methods approaches. Data collection involves details about study features, the population studied, app functionalities, and measurement tools. The quality of the methodology and risk of bias are evaluated using the Cochrane Risk of Bias 2.0 (RoB 2.0), Joanna Briggs Institute (JBI) tools, and the Mixed Methods Appraisal Tool (MMAT).

Results: Initial searches produced 5686 records, which were reduced to 3565 after removing duplicates. The review highlights the variety of PROMs and PREMs utilised in digital mental health, explores their application across various types of platforms, and highlights gaps in patient-centred assessment methods.

Conclusion: This review combines reported outcomes and experiences to present a value-based view on mental health apps. Its findings may serve as guidance for researchers, developers, and policymakers to improve evaluation methods and promote user-centred design and implementation of digital mental health solutions. PROSPERO registration number: CRD420251246131.

Towards a real interprofessional primary care strategy (ID 394)

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Context: Catalonia primary care services are based on interprofessional primary care teams (PCT) including not only family medicine and primary care nursing specialists but also health assistants, nurse aids, social workers and others. Patients may be attended by either nurses or doctors depending on internal guidelines. Our team developed for two decades specific nurse training to empower and make them responsible for both chronic disease follow-up and response to acute demands. Since Covid pandemic, though, workload has increased, related to ageing, social issues, mental health situations and professional shortages. Despite Government decision for including new roles in PCT (physiotherapist, psychologist, nutritionist, oral hygienist) situation didn't improve enough. We realised some professional groups were underdeveloped since their responsibilities were limited to support other professionals decisions. Because of this, we decided to empower them through a new strategy to further involve health assistants and nurse aids in daily activities considering this task shifting would help care professionals (doctors and nurses) increase accessibility.

Methods: During 2025 we've identified for every professional in our team expertise and skills, favoured training on new tasks and shifted responsibilities from doctors and nurses to other professional groups. Just like doctors and nurses, populations lists have been assigned to health assistants and now they're a reference for those patients with chronic illnesses, being also responsible for triage of patients demands, normal lab and diagnose tests phone feedback to patients or follow-up tests and visits scheduling. Nurse aids are responsible for non-midriatic retinography, blood pressure continuous monitoring, and ankle-arm index diagnostic tests and, also, for contacting with patients on long sick leave.

Results: During 2025, health assistants took care of about 600 results that otherwise were to be made by doctors, allowing them to dedicate more time to new issues. Nurse aids identified 330 diabetic patients with normal retinography, avoiding the need for doctor's visits. About 270 feed back calls to sick leave patients have been made also by nurse aids (by June, we'll be able to provide data on 2026).

Discussion: Current situation is taking a toll on PCT professionals, increasing burn out and diminishing accessibility. Training and empowerment for all professional groups allows a real interprofessional team work that increases accessibility to doctors and nurses. We're currently developing new strategies so nurse aids take responsibility for performing follow-up spirometries and electrocardiographs so nurses will be more accessible to chronic patients. Developing team work between nurses, social workers, physiotherapist and a occupational therapist may identify risks and prevent complications in patients with movement difficulties (post trauma or stroke). Current Primary Care services situation along Europe demands new perspective to organise these services. Interdisciplinary team working has shown to be efficient, when considering doctors and nurses. Nevertheless, including other professional roles in PCT may further facilitate accessibility, comprehensiveness and resolution in a Primary Care setting.

Telemedicine in paediatrics: driving organisational change and professional adoption (ID 395)

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The use of innovative tools such as telemedicine in everyday clinical practice should not be regarded merely as the introduction of digital support for healthcare professionals, but rather as a driver of broader organisational and professional transformation. The adoption of new technologies within healthcare organisations requires genuine structural, procedural, and cultural change, affecting governance models, clinical workflows, and professional roles.

This study, using a mixed-methods approach, explored the consequences of telemedicine adoption in five paediatric centres in Italy, a clinical setting characterised by the complex relational triangulation between physicians, children, and parents. Quantitative data were collected through a survey administered to 87 paediatricians, while qualitative insights were gathered through interviews with institutional representatives, general managers of local health authorities and hospitals, medical directors, and paediatricians, in order to contextualise and interpret the quantitative findings and explore strategic, managerial, and clinical perspectives.

Findings reveal that, despite a generally positive perception of telemedicine in terms of usefulness and ease of use, telemedicine is widely recognised as a valuable tool for supporting clinical communication, collegial consultation, follow-up activities, and the transmission of medical documentation. However, a significant gap emerges between favourable attitudes and the routine, systematic use of telemedicine in daily practice. In-person encounters remain predominant, while video-based services and structured remote care pathways are still used sporadically. These include organisational constraints, lack of standardised protocols, infrastructural gaps, and concerns about maintaining the relational and empathetic dimension of paediatric care. Additional barriers relate to limited interoperability of digital systems, insufficient training for both professionals and patients, and persistent concerns regarding medico-legal responsibility and data security.

To promote effective adoption, targeted interventions are required at multiple levels: reorganisation of healthcare systems, the establishment of clear and shared guidelines, investment in secure digital infrastructures, and the development of training programs directed at both healthcare professionals and patients. More broadly, telemedicine should be conceived not as a standalone technological solution, but as an integral component of clinical-care pathways and organisational models. When embedded within a coordinated, human-centred strategy, it holds the potential to enhance continuity, equity, and quality of paediatric care while supporting the long-term sustainability of healthcare systems.

Engaging emerging talent to shape the future of health and social care in Catalonia (ID 396)

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Context: European health and social care systems face increasing complexity, workforce shortages and rising demands for sustainability, innovation and people-centred care. At the same time, younger professionals often report limited autonomy, hierarchical leadership models and insufficient recognition, threatening long-term engagement and retention. In response, La Unió launched a large-scale *Emerging Talent Initiative* to reposition early- and mid-career professionals as co-designers of organisational and system-level change, aiming to generate actionable insights, strengthen professional engagement and accelerate cultural transformation within the Catalan health and social care ecosystem.

Methods: A structured participatory intervention was implemented involving over 120 emerging professionals from 50 health and social care organisations. Using facilitated co-creation methodologies (thematic working groups, collective intelligence sessions and qualitative inquiry), participants explored five strategic domains: leadership and recognition, wellbeing and sustainability, communication and trust, new ways of working, and future system models. More than 500 qualitative inputs were collected and analysed through thematic synthesis, producing an integrated framework of challenges, priorities and transformation principles. Results were translated into a strategic roadmap comprising 10 guiding principles and over 50 prioritised actions. To maximise organisational and system impact, outputs were embedded into La Unió's institutional strategy and used to establish a permanent Emerging Talent Community connected to governance structures and transformation projects.

Results: The initiative revealed key systemic tensions: hierarchical leadership, lack of professional autonomy, excessive bureaucracy and insufficient wellbeing policies. Despite these barriers, 75% of participants reported feeling listened to within their organisations. Leadership motivation was primarily driven by a desire to contribute to system transformation (68%) and to support team development (61%). A shared future vision emerged, centred on empowered professionals, human-centred and flexible organisations, and an integrated, sustainable system.

Quantitative findings showed that:

- 60% of participants placed humanisation and empathy at the core of care
- 40% identified professional wellbeing as a strategic priority,
- 75% called for more horizontal and courageous leadership.

The process generated 10 strategic principles and over 50 actionable proposals addressing leadership, participation, professional development and organisational innovation. The initiative also triggered the creation of a structured Emerging Talent Community to support ongoing engagement and implementation.

Discussion: This experience demonstrates that activating emerging talent through structured participation generates valuable insights and practical solutions for workforce sustainability and organisational transformation. The initiative contributes to the field by offering a replicable model that combines listening, co-creation and action, reinforcing people-centred management and future-oriented leadership. Beyond engagement, it reframes wellbeing, recognition and trust as strategic assets for system resilience. While results are context-specific, the methodology and governance framework are highly transferable to other health systems facing similar demographic, organisational and leadership challenges. Embedding outcomes into governance structures and creating a permanent talent community were critical to avoid one-off participation and ensure continuity. This approach supports future-proofing health systems by aligning professional values, organisational culture and strategic decision-making.

Scaling person-centred care through a community of best practices: a system-level experience from Catalonia (ID 397)

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Context: Health and social care systems face increasing pressure from population ageing, multimorbidity, workforce shortages and rising care complexity, particularly in long-term and residential care. These challenges demand management models that promote person-centred care, organisational learning and system integration. In this context, La Unió launched a Community of Best Practices to systematically identify, analyse and disseminate innovative management and care experiences developed by member organisations across Catalonia. The initiative aims to strengthen system performance by accelerating shared learning, supporting evidence-informed decision-making and facilitating the transfer and scaling of successful person-centred and integrated care models across diverse organisational settings.

Methods: The Community of Best Practices is based on a structured methodology combining peer learning, qualitative analysis and management-oriented evaluation. Member organisations voluntarily submit experiences aligned with strategic priorities including person-centred care, integrated care, patient safety, efficiency and sustainability. Each experience is assessed using a common analytical framework examining context, objectives, governance, implementation processes, enabling factors, barriers and lessons learned. Selected practices undergo expert validation and are discussed in collaborative learning sessions involving managers, clinicians and technical staff. Validated practices are disseminated through an open digital platform and targeted knowledge-transfer activities, including reports, workshops and sectoral meetings. This approach positions management as a strategic lever to scale innovation and embed improvement across the health and social care system.

Results: To date, the Community has collected and analysed 81 best practice experiences submitted by 35 health and social care organisations, including hospitals, primary care providers and long-term care facilities. The initiatives cover person-centred specialised care teams, integrated organisational models, digital transformation initiatives and coordination mechanisms between health and social services, reaching an estimated 130 service users. The Community operates through a structured governance and engagement model, including monthly learning sessions that foster peer exchange, critical reflection and knowledge transfer. In addition, annual Best Practices Awards gather over 300 participants and have become a reference event for dissemination and professional engagement in the Catalan sector. These mechanisms enhance visibility, promote replication and support the scalability of high-value care models.

Discussion: This experience demonstrates that Communities of Best Practices constitute an effective management instrument to advance person-centred and integrated care at system level. By transforming isolated initiatives into shared and scalable solutions, the model supports the translation of strategy into operational change and strengthens organisational learning. Participating organisations report improved decision-making, stronger interprofessional collaboration and enhanced capacity to adapt care models to complex patient needs. Beyond local impact, the governance framework and methodological approach are highly transferable to other health systems seeking to bridge policy, management and frontline practice. Embedding collective learning into formal management structures positions Communities of Best Practices as a strategic tool to improve care delivery, accelerate innovation and strengthen people-centred health systems.

Integrating psychosocial support into oncology care: a five-year humanisation programme and its impact on patient experience (ID 399)

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Contex: People living with cancer consistently report unmet psychosocial needs throughout the care process, particularly in terms of emotional support, access to information, and feeling supported during their illness. In 2019, cancer patients at our centre expressed a lack of structured spaces for emotional support and peer interaction. In response, the DOMUM programme was launched in 2021 with the support of the Nou Cims Foundation. DOMUM is a humanisation initiative aimed at improving the emotional well-being of people living with cancer. The programme has been progressively implemented over five years and integrated into routine cancer care.

Methods: Between 2021 and 2025, a longitudinal, person-centred project was developed using a participatory approach. The diagnostic phase included individual interviews, focus groups and validation processes with patients and healthcare professionals to identify unmet psychosocial needs. Based on this assessment, the DOMUM programme was jointly designed by a multidisciplinary steering group composed of healthcare professionals, patients, and partner organisations. The sustainability of the programme was ensured through external funding and in-kind contributions. Implementation was structured around monthly planning, coordination, and continuous evaluation meetings, combined with ongoing detection of emerging needs. Activities were organised around three main pillars: emotional well-being, information and guidance, and social and recreational activities. In addition, specific programmes were developed for particular patient groups, such as Esencia (gynaecological cancer) and XHAMM (Multiple Myeloma Friendly Hospital).

Results: During the five-year period, a total of 341 activities were carried out, with 3,201 attendances recorded. Most interventions focused on emotional well-being (86.8%), followed by information and guidance (11.6%) and social and recreational activities (1.6%). Programmes tailored to specific cancer populations facilitated patient participation and reinforced identification with the initiative. Overall satisfaction with the programme was very high, with an average score of 9.4 out of 10. Participants highlighted the positive emotional impact of the programme, the sense of camaraderie and the creation of peer support networks. The initiative also helped to strengthen patients' trust in the organisation and increase professional involvement in psychosocial support.

Discussion: The DOMUM programme demonstrates that a sustainable, person-centred model focused on psychosocial support can be successfully integrated into routine cancer care. The results indicate a positive impact on patients' emotional experience, perceived quality of life and social support networks. The participatory design and shared responsibility between patients, professionals and external partners have been key factors in consolidating the programme. Key challenges include the need to systematically measure health outcomes and quality of life using standardised tools, as well as to evaluate the long-term impact. The model shows great potential for replication and scalability and could be extended to other populations with chronic non-cancerous diseases. DOMUM represents a transferable good practice in the field of humanisation of healthcare and patient-centred management.

Unequal burdens: specialty-specific working conditions and satisfaction - Insights from the REST-JD Study (ID 400)

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Context: European health systems face persistent workforce shortages, yet little comparative evidence exists on how working conditions differ across medical specialties. These differences shape training quality, burnout risk, and long-term retention. The REST-JD study, covering 6,165 postgraduate training doctors across 26 countries, provides the first Europe-wide dataset enabling specialty-level analysis of working hours, rest, and satisfaction. Understanding these disparities is essential for designing targeted interventions that support sustainable workforce planning and equitable training environments.

Methods: A cross-sectional online survey was distributed through national junior doctor member associations and postgraduate training networks. Respondents reported weekly working hours, longest shift, overtime, rest days, annual leave, and satisfaction with work and work-life balance. Specialties were grouped into major clusters (internal medicine, surgery, emergency medicine, anaesthesiology/intensive care, paediatrics, psychiatry, and general practice). Quantitative analysis compared working-time patterns and satisfaction across specialties, while thematic analysis of open-text responses explored specialty-specific pressures and cultural norms.

Results: Significant disparities emerged across specialties. Surgical trainees reported the longest working weeks (median 63 hours) and the highest frequency of 24-hour shifts. Emergency medicine and anaesthesiology/intensive care trainees reported the highest rates of night work and unpredictable schedules, with 78% exceeding the 48-hour EWTD limit. In contrast, psychiatry and general practice trainees reported shorter hours (median 48–50 hours) and more predictable schedules, though still above contractual norms in many countries. Rest patterns also varied: surgical and emergency trainees reported the fewest rest days per month (5–6), while general practice trainees reported the most (7–8). Satisfaction levels mirrored these patterns. Only 19% of surgical trainees and 22% of emergency medicine trainees were satisfied with their work–life balance, compared with 41% in psychiatry and 38% in general practice. Across specialties, dissatisfaction strongly correlated with excessive hours and lack of protected rest. Qualitative responses highlighted cultural drivers: surgical trainees described “normalised overwork,” emergency trainees cited “constant understaffing,” and anaesthesiology trainees emphasised “fatigue from high-intensity shifts.” Psychiatry and general practice trainees noted better balance but expressed concerns about rising caseloads and administrative burden.

Discussion: The REST-JD findings reveal that Europe’s junior doctors do not experience a uniform training environment; instead, specialty-specific cultures and operational demands create unequal working conditions. High-intensity specialties such as surgery, emergency medicine, and anaesthesiology face structural overwork that threatens retention, training quality, and patient safety. Targeted policy responses are needed. These include specialty-specific staffing models, protected rest periods in high-intensity specialties, fatigue-risk management systems, and monitoring of working-time compliance at the specialty level rather than the institution level. By highlighting specialty-level disparities, this analysis provides a new lens for workforce planning and underscores the need for differentiated, evidence-based strategies to build a sustainable, resilient medical workforce across Europe.

Working time, rest, and satisfaction of junior doctors across Europe — Implications for workforce sustainability and patient safety (ID 401)

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Context: Across Europe, junior doctors face chronic overwork, insufficient rest, and deteriorating working conditions - factors strongly linked to burnout, attrition, and declining quality of care. Despite the European working time directive (EWTD), widespread breaches persist, with limited monitoring and weak enforcement. The REST-JD study represents the first Europe-wide assessment of junior doctors' working hours, rest, and satisfaction across 26 countries, providing urgently needed evidence to inform workforce planning and policy reform. This research is critical for addressing Europe's growing medical workforce shortages and ensuring sustainable, safe health systems.

Methods: The REST-JD study used a cross-sectional design based on a structured online questionnaire distributed to junior doctors in postgraduate training across 26 European countries. A total of 6,165 responses were collected, making this the largest study of its kind. The survey examined weekly working hours, shift length, rest days, annual leave, overtime, and satisfaction with work and work-life balance. Descriptive and comparative analyses were conducted to assess compliance with EWTD standards and identify associations between working time, rest, and satisfaction. Country-level patterns were analysed to highlight systemic issues and policy gaps.

Results: Junior doctors reported an average workload of 57 hours per week - 17 hours above contractual norms and 9 hours above the EWTD limit. A majority (71%) exceeded the 48-hour threshold, and 1 in 5 worked more than 70 hours weekly. Extended shifts were common, with a median longest shift of 24 hours. Overtime was nearly universal (88%), and most of it (69%) was unpaid.

Rest was insufficient: respondents reported an average of only 6 rest days per month, with some countries reporting as few as 4–5. Over one-third (35%) did not receive the minimum four weeks of annual leave in the previous year.

Satisfaction levels were low: 32% were dissatisfied and 23% ambivalent about their work. Work–life balance was the weakest dimension, with only 25% satisfied. Dissatisfaction strongly correlated with excessive hours: over 60% of those working more than 48 hours per week reported dissatisfaction. Countries with the longest hours - such as Greece, Malta, Portugal, Italy, and Switzerland - showed the lowest satisfaction.

These findings reveal systemic breaches of labour protections, insufficient rest, and widespread dissatisfaction, all of which undermine retention, training quality, and patient safety.

Discussion: The REST-JD results demonstrate that excessive working hours and inadequate rest are structural features of European postgraduate medical training, not isolated exceptions. These conditions contribute to burnout, attrition, and reduced quality of care, threatening the sustainability of Europe's health workforce. The findings highlight the urgent need for motivation-driven retention strategies, safe rota design, and robust enforcement of EWTD standards.

Policy recommendations include treating EWTD breaches as patient-safety violations, linking accreditation and funding to verified compliance, implementing fatigue-risk management systems, ensuring protected rest and annual leave, and integrating workforce well-being indicators into national and European monitoring frameworks.

By providing the first comprehensive, comparative dataset on junior doctors' working conditions across Europe, the REST-JD study offers a critical evidence base for policymakers seeking to build a sustainable, resilient workforce capable of meeting future healthcare demands.

EJD-WHO Academy 2025: Healthy minds, healthy systems. transforming care through workforce wellbeing (ID 402)

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Context: Across Europe, workforce shortages, rising service demand, administrative burden and deteriorating mental health among healthcare workers increasingly undermine quality of care, patient safety and system resilience. Although regulation and evidence are extensive, implementation gaps persist and front-line realities remain poorly integrated into policy and management decisions. The EJD-WHO Academy 2025 ("Healthy Minds, Healthy Systems") convened junior doctors and health-system actors from 15 European countries to examine why these problems endure in practice and to identify system-level, workforce-led approaches that support sustainable care delivery.

Methods: The Academy was held at UN City, Copenhagen (10–11 December 2025) and combined expert input with structured, interactive methods. Participants engaged with European-level evidence on workforce wellbeing and working conditions, alongside policy perspectives provided by WHO/Europe. Methods included facilitated plenary discussions, case-based group work on teamwork, hierarchy and psychological safety, and practical exercises focused on service organisation and workforce-led optimisation. Discussions deliberately integrated evidence, lived clinical experience and organisational constraints. Outputs were synthesised across sessions through thematic consolidation and participant feedback, generating an analytical account of shared mechanisms, operational barriers and actionable levers relevant to health system management and policy.

Results: Participants converged on a consistent finding: workforce wellbeing challenges persist primarily due to organisational, cultural and incentive structures rather than lack of knowledge or regulation. Mental health was framed as a system stress signal shaped by working conditions, ethical tension and organisational responses to early distress. Working-time non-compliance was sustained by informal norms, hierarchical dependency, unrecorded overtime and financial reliance on additional shifts. Patient safety and staff wellbeing were tightly linked through team functioning, with communication failures, rigid hierarchy and low psychological safety suppressing escalation and learning. Quality improvement depended on learning-oriented measurement, non-punitive incident reporting with feedback, and meaningful patient involvement. Workforce-led optimisation focused on reducing friction from administrative burden, fragmented IT and unclear interfaces.

Discussion: The Academy highlights practical implications for policymakers and health-system leaders seeking to strengthen performance under workforce constraint. Effective regulation requires enforceable accountability mechanisms, including transparent time tracking, escalation pathways and protection for those raising concerns. Improving safety and retention depends on organisational capabilities: psychologically safe teams, collective leadership and routine learning structures. Quality strategies should prioritise indicators that support improvement rather than reputational bench-marking. Workforce-led optimisation offers a credible pathway when framed around safety, usability and professional judgement, evaluated by reduced cognitive load and fewer workarounds rather than throughput alone. Integrating front-line insight into policy and management design emerges as essential for sustainable health systems.

From assessment to action: a systematic, integrated framework to inform hospital management decisions (ID 403)

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Hospitals are advanced systems in which clinical, managerial, logistical, regulatory, and financial processes must be effectively coordinated. Managers therefore make recurrent operational decisions, ranging from workforce and capacity planning to procurement, incident management, and pathway governance, in uncertain conditions and under pressure from variable demand and constrained resource availability. In such complex settings, the ability to make evidence-based decisions is a core competence. It enables the transparent and risk-sensitive allocation of resources, as well as the defensible prioritisation of interventions relating to safety, quality, access, and efficiency.

The Mapping framework for Quality and Patient Safety (MaQPS) was developed to translate dispersed requirements into a unified, auditable assessment and decision-support context for operational management. Based on European Standard for Quality Management systems in Healthcare (EN 15224) and international patient-safety requirements, MaQPS consolidates 290 evidence-based criteria into five domains: organisational requirements and governance; resources management; service delivery; patient safety protocols and clinical effectiveness; and evaluation and organisational learning (KPIs, patient experience, incident review and continuous improvement).

The broad range of tools used universally for quality or patient safety assessments often emphasises regulatory compliance or quality assurance dimensions, with limited coverage of clinical services' aspects. The Mapping framework for Quality and Patient Safety (MaQPS) offers a more holistic, unified approach by systematically combining clinical, procedural, organisational, and safety criteria into a cohesive framework.

The OECD and WHO framing implies that efficient, sustainable evidence-informed decision-making (EIDM) in health services depends on: (i) systematically combining multiple evidence sources (data, compliance status, evaluations, research); (ii) strengthening organisational enablers (resources, information systems, and the ultimate human factor); and (iii) institutionalising continuous learning and improvement.

Managerial Implications: MaQPS directly operationalises these needs into an implementable managerial workflow, making it a plausible, sustainable framework for operational decisions:

Evidence integration: MaQPS consolidates dispersed normative and scientific requirements, mapped to EN 15224 and adapted to the national regulatory context, covering a comprehensive spectrum of dimensions.

Actionable outputs: MaQPS functions analogously within the hospital; it converts evidence into traceable findings and prioritised corrective actions.

Capability and team building: OECD highlights that capability and organisational opportunity matter. MaQPS creates a learning environment for the professional teams across hospital services.

Methodological approach: WHO case studies show that evidence-to-action improves when decision-makers and stakeholders jointly interpret evidence and implementation barriers. MaQPS is explicitly designed for use by hospital teams and external experts, creating a shared language for governance, clarifying responsibilities, and enabling context-sensitive prioritisation.

MaQPS converts standards, regulatory requirements, and performance information into decision-ready intelligence for hospital leaders. By generating comparable outputs across facilities, it also enables benchmarking and evidence-informed governance at a health system level.

Information gaps and adverse events at critical care interfaces involving home care: a survey study in Finland (ID 404)

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Context: The number of older adults with multimorbidity using services from multiple providers is increasing. Providing safe and appropriate care therefore depends on effective information continuity across care settings over time. However, evidence on how information gaps arise across care networks remains limited, as research has largely focused on single care transitions. Home care, which in Finland provides regular care for approximately 13% of people aged 75 years and older, offers a valuable context for examining information gaps that affect care continuity and patient safety.

Methods: We conducted a cross-sectional survey among home care professionals in four public Finnish home care organisations, covering 22% of home care clients nationwide in 2024. Participants included registered nurses, practical nurses, physicians, nutritionists, physiotherapists, and other assisting personnel working in multidisciplinary home care teams. Based on a previous qualitative study, 11 care interfaces related to home care were defined. First, respondents reported how often they encountered information gaps at these interfaces using a five-point scale ranging from "Always" to "Never", where applicable to their role. Second, respondents reported whether they had experienced information gaps during the past three months at these interfaces. Third, they classified the severity of these situations as severe adverse events, moderate events, or near misses. The data were analysed descriptively. The occurrence of information gaps and the proportions of adverse events were calculated relative to the number of respondents working at each care interface.

Results: A total of 555 home care professionals responded to the survey, resulting in an average response rate of 15.4%. The number of respondents working at each care interface with home care varied from 326 to 441, with the lowest and highest figures observed for private health centres and emergency departments, respectively.

Information gaps were reported reoccurring always or often with all interfaces (2.9-21.5%, n=11-95) and occurred most frequently at emergency departments (21.5%, n=95), hospital discharge (19.1%, n=84), and private healthcare providers (16.9%, n=55).

Adverse events were reported across interfaces (8.5-44.1%, n=34-194) of which frequently at hospital discharge (59.9%, n=194), emergency departments (55.6%, n=178), public health centres (50.8%, n=123), and specialised healthcare (48.6%, n=208). Severe adverse events were most identified most commonly at emergency departments (4.3%, n=19), with relatives (3.7%, n=16) and hospital discharge (3.4%, n=15).

Discussion: Information gaps and associated adverse events concentrate at time-critical care transitions involving home care. While these challenges occurred across care interfaces, approximately one fifth of respondents reported frequent information gaps at time-critical transitions, particularly emergency care and hospital discharge. These transitions were also prominent in relation to adverse events, especially severe events. Relatives emerged as a key interface in severe adverse events, highlighting their central role in information continuity within the wider care network. Overall, the findings point to persistent system-level weaknesses in information sharing and coordination that undermine continuous care for older adults.

An integrated clinical network model for community-based chronic care in a rural, ageing area of Tuscany: rationale, methods and impact on avoidable utilisation (ID 405)

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Casentino is an inland Tuscan area with low density (48/km²), limited infrastructure, and rapid ageing (29% over 65). Its 33,502 residents are declining, partly offset by foreign families (17% of new births). Life expectancy is 80.7 years for men and 86 for women, broadly in line with regional and national levels despite adverse determinants. Epidemiologically, women show higher renal disease prevalence, while men have more cardio- and cerebrovascular disease, plus high rates of respiratory illness, gastric cancer, and hematologic disorders. These factors hinder access to care and increase multimorbidity and chronic conditions, requiring proactive, continuous, integrated management. Priority actions are to strengthen community-based services without added costs by reducing inappropriate ED use and admissions (2024: 120.3/1,000 vs 110.6 Tuscany; 117.5 Italy) and implementing structured pathways that coordinate GPs and multidisciplinary community teams with specialist services and dedicated reference specialists.

The method of the present study is it analyse the impact of a new organisational method. The methods propose a new proactive model for managing chronic conditions in response to population ageing and the growing burden of chronic diseases. It moves beyond episodic care by promoting continuous, personalised, and multidisciplinary care delivery within the community. The core of the model is represented by structured Territorial Functional Aggregations (AFTs) and multiprofessional teams, integrated with specialists, social services, and ICT tools. The project includes population stratification, individualised care plans, harmonised clinical pathways (PDTA), and systematic evaluation of clinical, organisational, and economic outcomes, with the aim of improving quality of care, appropriateness, and long-term sustainability of the healthcare system. Implemented in 2011–2016, the integrated clinical network was partly abandoned after 2016 organisational changes, worsening outcomes. Reintroduced and strengthened from 1 January 2026, aligned with Ministerial Decree 77/2002. The primary objective is to reduce repeated referrals between General Practitioners (GPs) and specialists, duplicate prescriptions, and unnecessary use of healthcare resources. This includes fewer visits, diagnostic tests, inappropriate Emergency Department attendances, hospital admissions and readmissions, and inpatient days. The model also aims to optimise pharmacological prescribing—reducing costs and environmental impact—while improving medication adherence.

Between 2011 and 2016, these principles, embedded in an integrated and structured clinical network model, were implemented in the Casentino area. According to the Tuscany Regional Health Agency, this resulted in a 22% reduction in hospital admissions and a 17% decrease in requests for specialist consultations and diagnostic tests. In the full paper, we will present updated evidence from the model's recent reintroduction, with a focus on improved quality of life for people with chronic conditions, better clinical outcomes and fewer complications, and lower costs associated with hospital admissions. In a rural, ageing setting with high multimorbidity, an integrated care model based on structured clinical networks can improve appropriateness and continuity by strengthening coordination between GPs, multidisciplinary community teams, and reference specialists. The earlier Casentino implementation (2011–2016) was associated with fewer hospital admissions and reduced demand for specialist visits and diagnostic testing, consistent with the expected effects of integrated pathways on duplication and avoidable utilisation. The subsequent deterioration after the model's partial discontinuation highlights a key implication from integrated care literature: outcomes are highly dependent on implementation fidelity, stable governance, and sustained collaboration across care levels. The 2026 relaunch provides an opportunity to consolidate integrated community-based care while containing costs, particularly by reducing inappropriate ED use and preventable admissions.

Understanding Decision-Making Processes Among ICU Nurses During Perceived Missed Nursing Care (MNC) Through Sensemaking Theory (ID 406)

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Context: As high-reliability organisations (HROs), intensive care units (ICU) are characterised by rapidly changing patient conditions and ambiguous clinical cues requiring continuous prioritisation under uncertainty (Kalisch et al., 2006). Thus, Missed Nursing Care (MNC) is particularly predominant there. Prior research has primarily addressed organisational and workload-related determinants, including staffing levels, resource constraints, and workflow interruptions (Falk et al., 2022; Cartaxo et al., 2023). While informative, these approaches insufficiently capture how ICU nurses cognitively and socially make complex, uncertain, and time-critical decisions in which MNC becomes imminent. Addressing this gap, the present study investigates these decision-making processes by applying Weick's sensemaking theory (Weick, 1993).

Methods: We employed a qualitative in-depth study design to examine how ICU nurses construct decisions in time-critical situations and how this sensemaking shapes prioritisation when Missed Nursing Care is perceived or anticipated. Primary data were generated through focus group discussions (n = 16) and semi-structured individual interviews (n = 14) with ICU nurses. Building on the patterns identified in this first phase, we subsequently developed a set of clinical vignettes depicting realistic, high-pressure ICU scenarios. The vignettes are designed to systematically probe sensemaking dynamics under controlled conditions of uncertainty, with a focus on cue recognition, plausibility-based action, implicit team norms, role expectations, and retrospective justification, including interprofessional coordination. The data were analysed using an inductive–deductive approach following the Gioia methodology (Gioia et al., 2013), iteratively moving between first-order concepts and aggregate dimensions anchored in sensemaking theory, resulting in a process model of prioritisations leading to perceived MNC.

Preliminary Results: Preliminary findings indicate that situations in which MNC occurs are predominantly triggered by patient-related events, including both expected developments (e.g., gradual deterioration) and unexpected critical incidents. In addition, interpersonal issues and miscommunication within the nursing and interprofessional team emerged as strong indicators for the occurrence of MNC. Nurses' decisions leading to MNC were strongly guided by four interrelated sensemaking mechanisms: (1) the extraction of salient cues under severe time pressure, whereby attention is selectively directed toward information perceived as immediately relevant (e.g. threatening conditions); (2) plausibility-driven prioritisation, in which "good enough" and defensible actions are favoured over ideal or comprehensive care solutions; (3) the collective negotiation of priorities shaped by implicit team norms and shared understandings of acceptable trade-offs (e.g. postpone documentation for next shift); and (4) identity-informed judgments reflecting nurses' professional self-concepts, moral obligations, and personal values. These patterns illustrate how ICU nurses actively construct meaning, enact their environments, and retrospectively rationalize decisions in order to manage uncertainty.

Discussion: By foregrounding sensemaking as a central mechanism in ICU nursing, this study contributes to a theory-informed understanding of Missed Nursing Care and highlights the importance of internal decision-making dynamics in high-reliability healthcare settings. The findings provide a foundation for interventions aimed at supporting adaptive, reflective, and transparent prioritisation practices under conditions of uncertainty.

Feasibility of portable ultrasound integration into midwifery-led antenatal care: a prospective observational study (ID 408)

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Context: The evolution of midwifery-led models of care increasingly requires the integration of digital competencies and point-of-care technologies. The 2025 WHO Implementation Guidance on Transitioning to Midwifery Models of Care highlights the strategic role of midwives as autonomous professionals and recognises portable ultrasound as a tool to enhance clinical assessment and continuity of care in low-risk pregnancies. In parallel, European and national digital health policies promote the adoption of scalable health technologies to support people-centred and digitally enabled care pathways. This study explores the feasibility of integrating a portable ultrasound device into routine midwifery-led antenatal consultations.

Methods: A prospective, non-interventional, single-centre observational feasibility study was conducted in a public family health service in Northern Italy. The study evaluates the use of a portable ultrasound device (Philips Lumify) during routine antenatal health visits across the three trimesters of pregnancy. Consecutive low-risk pregnant women (≥10 weeks' gestation) were enrolled following informed consent. Participating midwives received structured training prior to study initiation. Data were collected using two midwife-completed questionnaires: a post-visit form assessing perceived image quality, examination time and technical performance, and a final usability questionnaire including the System Usability Scale (SUS). Descriptive and comparative analyses (ANOVA or Kruskal–Wallis, as appropriate) are planned to explore differences across trimesters.

Results: Data collection is ongoing. Preliminary observations focus on perceived image adequacy for basic fetal assessment, usability in routine workflows, and organisational aspects such as portability, connectivity, and data handling. Early qualitative feedback suggests high acceptability of the device within midwifery-led consultations, particularly as a supportive, non-diagnostic tool. Final quantitative results will provide structured insights into feasibility, usability, and integration potential across gestational stages.

Discussion: This study contributes to the emerging evidence on the role of portable ultrasound in strengthening midwifery autonomy and digitally enabled models of care. By focusing on feasibility and usability rather than diagnostic performance, it aligns with current policy directions promoting appropriate, scalable health technologies in primary and community care settings. The Scientific Dialogue format provides an opportunity to discuss methodological choices, organisational implications, and workforce-related considerations with an international audience. Findings are expected to inform implementation frameworks, training requirements, and governance considerations for the integration of portable ultrasound into midwifery practice, supporting more resilient, people-centred antenatal care pathways.

Romanian patients' perception of wearable technology in healthcare: a satisfaction study (ID 409)

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Context: Digital transformation is increasingly reshaping healthcare delivery, with wearable technologies playing a key role in monitoring, prevention, and patient-centred care. In cardiovascular and rehabilitation settings, wearable devices enable real-time tracking of physiological parameters and support personalised health management. Despite their growing availability, evidence regarding patient perception, usability, and satisfaction with wearable technologies remains limited, particularly in Eastern European healthcare systems. Understanding user acceptance is essential for effective large-scale implementation and integration into health management strategies. This study explores Romanian patients' perceptions of wearable technology as part of a digital health intervention developed within the Interreg Danube DIGI4Care project.

Methods: A cross-sectional study was conducted involving 60 patients who used a Garmin Vivosmart 5 wearable device over a six-month period (August 2025–January 2026). The device enabled continuous monitoring of physical activity and heart rate. After three months of use, participants completed the System Usability Scale (SUS), a validated instrument for assessing perceived usability and user satisfaction. SUS consists of 10 items rated on a five-point Likert scale, with a reference benchmark score of 68 indicating average usability. Statistical analyses were performed using JASP software (version 0.18.0). Data distribution was assessed using the Shapiro–Wilk test. Descriptive statistics were applied to summarise user responses, while one-sample t-tests and Wilcoxon tests were used to compare observed SUS scores with the reference value.

Results: The mean SUS score obtained was 75.54, with a median value of 82.5, both exceeding the established reference threshold of 68. These results indicate a generally positive user perception of the wearable system, suggesting that participants found the technology useful and well implemented. The standard deviation (17.58) and interquartile range (23.13) revealed moderate variability in responses, reflecting heterogeneous user experiences. While most participants reported high satisfaction and ease of use, a smaller proportion expressed more cautious or reserved perceptions. Overall, the findings demonstrate a favourable level of acceptance of wearable technology among the studied population.

Discussion: The results highlight the strong potential of wearable technologies to support digital health transformation and patient-centred health management. High usability and satisfaction scores suggest that such devices can be successfully integrated into healthcare pathways, particularly when embedded within structured digital health projects such as DIGI4Care. Although some users experienced initial challenges during the learning phase, these did not significantly affect overall satisfaction or trust in the system. The observed variability underscores the importance of user training and personalised support to maximise adoption. From a health management perspective, these findings support the scalability of wearable-based interventions and their role in enhancing monitoring, engagement, and continuity of care within digitally enabled healthcare systems.

RADAR-PPI: Identifying best practices on public procurement of innovation to tackle antimicrobial resistance within a One Health approach in the European Union (ID 410)

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Context: Antimicrobial resistance (AMR) is a naturally occurring phenomenon by which microbes no longer respond to antimicrobials. Anthropogenic activities, such as the misuse and overuse of antimicrobials across human, animal and agri-food settings, have promoted the worldwide emergence and spread of resistant microorganisms. Furthermore, the current lack of sustainable antibiotic innovation pipelines and rapid AMR diagnostics preventing the use of broad-spectrum antibiotics have resulted in resistant infections becoming harder to treat and compromising food production and food safety worldwide. As a consequence, AMR is considered an international public health concern that needs to be tackled through a One Health approach.

Methods: In the framework of the EU-funded RADAR project on value-based cross-border innovation procurement of AMR diagnostics, and with a view to understand procurement strategies and identify best practices on public procurement of innovation (PPI) to tackle AMR within a One Health approach in the European Union (EU), a comprehensive review on procurement practices on AMR across human, animal and environmental sectors was performed in the EU with the available historic in TED portal using only English language. Additionally, a search was also performed in the RADAR participating countries (France, Spain, Italy) in their national and regional portals in their country languages.

Results: The review on PPI practices on AMR at EU level revealed that the most frequent procurement sector was the human, followed by animal, food and the environment. ECDC was the most frequent procurer, followed by EFSA and HADEA, with EFSA being the one with most procurements with a One Health approach. In the human sector, procurement expenses went mostly into diagnostics and therapeutics, with one recent innovation procurement on AMR diagnostics with over 80 million Euros, followed by personal protective equipment (PPE), preparedness and response and surveillance. Most frequent procurement areas were research consultancy services, followed by medical supplies, capacity building, research laboratory services, and dissemination. In France, innovative procurement practices were identified for diagnostics, therapeutics, information management technologies, dissemination and training (still under analysis). The review for Spain and Italy requires further analysis since procurement data is often regionalised and not readily available in open data platforms.

Discussion: During this review, it was observed that procurement practices on AMR with a One Health approach mainly emerged after the COVID-19 pandemic, which is mainly due to recent EU and international commitments to tackle the AMR health threat. However, only a small fraction of procurements could be considered PPI or precommercial procurement, which mostly came from EU level and not from national budgets. This highlights the urgent need to establish sustainable innovation procurement strategies for AMR and pandemic preparedness and response in order to adapt to future One Health challenges. Complementary to research and development investments, procurement innovation mechanisms and budgets should be enhanced to ensure the stability and competitiveness of European small and medium size enterprises, innovation benchmarking at EU and national level should be regularly performed and procurement data be harmonised and integrated across sectors and within national regions following EU transparency rules for the clarity of citizens and patients.

Managing digital work and wellbeing in healthcare: technostress and organisational support in human-centred digital transformation (ID 411)

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Context: Digital transformation is a strategic priority for health systems, aiming to improve the efficiency, quality, and integration of care (Agarwal et al., 2010; World Health Organisation, 2021). However, the rapid adoption of digital technologies has introduced new psychosocial risks for healthcare workers. Increased information load, continuous system updates, and the growing complexity of digital tools may contribute to technostress, adversely affecting workforce wellbeing and performance (Tarafdar et al., 2007; Ayyagari et al., 2011). Despite increasing policy attention to digital transformation at the system level, the organisational conditions shaping workforce experiences of digitalisation remain underexplored (OECD, 2020).

Methods: This study adopts a mixed-method design to investigate the relationship between technostress, perceived organisational support, and occupational stress among healthcare professionals in Italy. Quantitative data were collected through structured questionnaires administered to 94 professionals, including physicians, nurses, and administrative staff, working in different organisational roles. The survey explored technology-related demands associated with digital work and perceived organisational conditions. Qualitative data were gathered through semi-structured interviews exploring experiences of digital transformation, perceived challenges and coping strategies. Quantitative analyses included descriptive statistics and cluster analysis, while qualitative data were analysed thematically. The integration of methods enabled comparison across professional groups and identification of shared and differentiated patterns.

Results: The findings indicate that high digital complexity combined with low perceived organisational support is associated with increased occupational stress, in line with evidence of the relationship between technostress and role strain (Tarafdar et al., 2007; Ayyagari et al., 2011). Supportive leadership, teamwork, clear communication and access to training emerge as key protective factors against technostress. Cluster analyses reveal distinct professional profiles. Physicians mainly report stress related to information overload and limited system interoperability; nurses experience tension in balancing clinical care with increasing digital documentation requirements; administrative staff report greater difficulties in digital skill development and adaptation to technological change. Qualitative insights further highlight that professionals perceive digital transformation as inevitable while emphasising the need for organisational strategies that acknowledge human limits and professional specificities.

Discussion: The results underline the importance of embedding workforce wellbeing into digital transformation strategies, moving beyond a purely technology-driven approach. Health managers play a key role in shaping organisational environments that support digital competence, participation, and trust, thus reducing the risk of technostress. For health system managers, these findings provide actionable insights on how organisational support and participatory change management can be leveraged to align digital innovation with workforce sustainability (World Health Organisation, 2016; OECD, 2020). By adopting human-centred approaches to digitalisation, healthcare organisations can reduce technostress, enhance resilience and support future workforce (World Health Organisation, 2021).

Ethical challenges of artificial intelligence in the intensive care unit: preparing healthcare systems for responsible implementation (ID 412)

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Context: Artificial intelligence (AI) represents a transformative force in healthcare with ever increasing global investment. Recent advancements in machine learning have created unprecedented opportunities for intensive care unit (ICU) integration, promising improved patient monitoring, predictive analytics, and clinical decision support. ICU patients, however, represent a uniquely vulnerable population. They are often incapacitated and unable to provide informed consent. As healthcare systems prepare for widespread AI implementation, understanding the ethical challenges surrounding this patient cohort becomes paramount. This review examines these challenges through the lens of modern bioethical principles to inform healthcare management strategies for responsible AI integration.

Methods: A comprehensive literature review was conducted using systematic searches of medical databases including PubMed, Google Scholar, Medline, and Web of Science. The search focused on publications from the past decade using key terms: "artificial intelligence," "intensive care unit," "ethics," "ethical considerations," "autonomy," "bias," "data privacy," and "healthcare." Articles were screened based on relevance to ethical considerations of AI in ICU and broader healthcare settings. Inclusion criteria prioritised peer-reviewed academic literature examining ethical frameworks, bioethical principles, and patient rights in AI-augmented care. Opinion pieces and technical documents were incorporated where they provided expert perspectives on emerging ethical challenges. Data were analysed thematically using the four pillars of bioethics; autonomy, beneficence, non-maleficence, and justice as well as emerging data ethics considerations.

Results: Five critical ethical challenges were identified. First, AI threatens patient autonomy through potential "AI paternalism," undermining decades of progress in shared decision-making, particularly concerning for incapacitated ICU patients requiring surrogate consent. Second, while AI promises beneficence through improved diagnostics and personalised treatment, it risks depersonalising care and severing the patient-clinician relationship essential to ICU medicine. Third, algorithmic bias presents justice concerns, with existing healthcare disparities potentially embedded in training datasets, exacerbating inequalities. Fourth, data privacy emerges as a fifth bioethical pillar, given ICUs' voluminous continuous data generation and vulnerable patient profiles. Finally, informed consent becomes increasingly complex when clinicians cannot explain AI decision-making processes, challenging meaningful consent requirements.

Discussion: Healthcare leaders must prioritise ethical frameworks before technological adoption. The vulnerable nature of ICU patients amplifies standard ethical concerns. Healthcare systems must develop transparent AI governance structures that preserve patient autonomy and prevent paternalistic decision-making. Training datasets must be diverse and representative to eliminate algorithmic bias and promote healthcare justice. Robust data protection measures are needed that respect patient privacy beyond current electronic patient record systems. Clear protocols for AI-augmented informed consent processes must be established. Safeguards maintaining the human connection central to intensive care are essential. Future-proofing healthcare systems requires immediate strategic action fostering responsible AI development while upholding bioethical principles. Success demands balancing innovation with patient protection as AI must enhance rather than replace humanistic care for our most vulnerable patients.

Optimising lung cancer screening in Nordic health systems: a modified Delphi-method study (ID 413)

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Context: Lung cancer remains the leading cause of cancer mortality in Europe, with late-stage diagnosis contributing to poor outcomes and high health system costs. While evidence supports low-dose CT screening for high-risk populations, implementation across European health systems remains uneven and challenging. From a health management perspective, organised screening represents a complex system-level intervention. Thus, Nordic countries, characterised by strong registries and universal coverage, offer a unique setting to examine system readiness for organised lung cancer screening. This study aims to support cancer control strategies by identifying consensus-based priorities for sustainable, equitable, and policy-aligned lung cancer screening implementation.

Methods: Semi-structured interviews were conducted with twelve key clinicians and health economists from four Nordic countries (Finland, Sweden, Denmark, Norway) to explore barriers and enablers for lung cancer screening implementation. Interview data were analysed thematically and translated into recommendations across four domains: Eligibility & Clinical Care, Quality & Workforce, Equity & Engagement, and Policy & Systems. These recommendations informed a modified three-round Delphi study involving 31 multidisciplinary experts, including clinicians, public health specialists, researchers, and policy stakeholders. In Round 1, statements were rated for importance using a 7-point Likert scale. Round 2 assessed feasibility based on aggregated responses, and Round 3 aimed to refine and prioritise statements. Consensus was evaluated using predefined thresholds based on median scores and interquartile ranges, with statements reaching a median ≥6 and an interquartile range ≤1 considered to have achieved high consensus.

Results: Preliminary findings indicate strong consensus on the importance and feasibility of eight priority statements. Highest agreement was observed for integrating structured smoking cessation support within screening pathways. Experts also strongly supported formal governmental commitment to lung cancer screening within national cancer control strategies, including long-term legislation and funding. Strengthening national data and registry systems to enable monitoring of screening outcomes, such as uptake, stage shift, false positives, was another key priority. Additional areas of agreement included standardising follow-up of incidental findings and completing workforce and capacity planning prior to programme rollout. Greater variation remained around the use of artificial intelligence as a second reader in CT interpretation and implementing individual risk-based eligibility models in the screening programme.

Discussion: This consensus process highlights that effective lung cancer screening implementation depends on system preparedness, governance clarity, and sustainable resource planning. By integrating qualitative insights with structured consensus-building across Nordic health systems, the study provides actionable insights for policymakers and health system leaders navigating the transition from evidence to implementation.

Screening of diabetic retinopathy using artificial intelligence (ID 415)

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Context: Diabetic retinopathy (DR) is a frequent and preventable complication of type 2 diabetes mellitus (T2DM) and a leading cause of visual impairment. Despite clear screening recommendations, adherence to ophthalmologic follow-up remains low, often due to geographic distance, limited accessibility, and organisational barriers. Artificial intelligence (AI)–based retinal screening technologies offer the potential to enable point-of-care detection and improve screening coverage. This study presents the results of a pilot AI-based diabetic retinopathy screening activity implemented within the Interreg Danube Transnational Programme project DIGI4Care, aiming to support digital transformation in health management.

Methods: Between September and November 2025, a total of 49 patients with T2DM were screened for diabetic retinopathy in Bihor County, Romania, using the non-mydriatic fundus camera with AI based diabetic retinopathy detecting software. This activity represented the local Pilot 1 implementation of the DIGI4Care project. Bilateral retinal imaging was successfully performed in 41 patients, while unilateral imaging was obtained in 8 patients. Collected data included diabetes duration, previous attendance at ophthalmology services, and patient satisfaction with the screening procedure. The screening was conducted at point-of-care, outside traditional ophthalmology settings, to assess feasibility and acceptability.

Results: Diabetic retinopathy was detected in 5 patients (10.2%). The mean duration of T2DM among patients diagnosed with DR was 11.8 years, compared with 2.52 years in patients without DR. Patient satisfaction with the AI-based screening procedure was high. However, adherence to conventional screening prior to the study was limited: only 4 patients had attended regular ophthalmology visits within the previous 12 months, and only 6 patients had undergone an ophthalmologic examination in the past three years. Distance to ophthalmology services was the most frequently reported barrier. Practical challenges included the need for repeated scans in some cases. At the time of analysis, follow-up data for patients diagnosed with DR were not yet available.

Discussion: AI-based retinal screening using the non-mydriatic fundus camera proved feasible and well accepted in a population with low engagement in traditional ophthalmologic care. The higher prevalence of DR among patients with longer diabetes duration aligns with established risk profiles. Point-of-care AI screening may effectively reduce access barriers, particularly geographic distance, and support earlier detection of diabetic retinopathy. From a health management perspective, such digital solutions have the potential to improve screening coverage and care pathways. Further studies are needed to assess long-term follow-up adherence and clinical outcomes.

Measuring quality in physiotherapy practice: developing a workforce-oriented framework for quality management in Croatia (ID 416)

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Context: Physiotherapy plays an important role in contemporary health systems, including acute and chronic care, rehabilitation, and frailty prevention. However, physiotherapy often lacks structured, system-wide approaches to quality measurement, quality improvement, and workforce development. International literature highlights the growing importance of process indicators, patient experience, and professional competencies in physiotherapy quality management, yet evidence on their practical implementation remains limited, especially in Central and Eastern Europe. In Croatia, systematic data on quality measurement practices, workforce competencies, and training needs in physiotherapy are largely absent. This internal university research project aims to address this gap by developing an evidence-informed framework for measuring and managing quality in physiotherapy practice.

Methods: This study is planned as a multi-phase, mixed-methods research project and is currently ongoing. First, a structured desk review synthesised international literature on quality frameworks, and existing indicators relevant to physiotherapy quality management, including tools for measuring processes, outcomes, and patient experience. Second, a national survey of physiotherapists working in selected healthcare institutions will be conducted to assess the current use of quality tools, indicators, and improvement methods, as well as perceived competence and training needs related to quality management. Third, semi-structured interviews and focus groups with key stakeholders (senior physiotherapists, managers, educators, and policymakers) will explore contextual barriers, facilitators, and priorities for implementing systematic quality measurement in physiotherapy. In parallel, patient-reported experience measures applicable to physiotherapy will be reviewed and assessed for potential cultural adaptation. Data will be analysed using descriptive statistics and thematic analysis, with integration of findings across phases to inform framework development.

Work in progress and expected results: At the time of submission, literature review data collection was finalised with data analysis ongoing. 145 relevant articles were identified through PubMed search (MeSH term: physical therapy modalities AND quality indicators, health care) and 29 were included in the final review (26 based on PubMed search and three follow reference snowballing approach). Subsequent research phases are being planned and undertaken. The study is expected to generate: (1) a structured overview of quality domains and indicators relevant to physiotherapy practice; (2) a mapping of current quality measurement practices and gaps across physiotherapy settings in Croatia; and (3) an assessment of workforce competencies and training needs related to quality improvement and patient-centred care. Preliminary insights suggest significant variability in the use of quality tools and limited formal training in quality management among physiotherapists but also high professional motivation to engage in improvement activities. Findings of this work will inform further co-development of a practical, workforce-oriented framework for quality measurement in physiotherapy in Croatia.

Discussion: This work aims to position quality measurement and improvement as a core workforce and professionalism issue in physiotherapy in Croatia. Focus on competencies, training needs, tools, and real-world implementation, will hopefully contribute to a national debate on how to prepare the future health workforce for quality- and safety-oriented practice. Lessons from this work may also support universities, professional bodies, and health system leaders in integrating quality management competencies into physiotherapy education and continuing professional development, hence strengthening the role of physiotherapists as active contributors to resilient and people-centred health systems. In the Scientific Dialogue format, these preliminary findings will be presented to invite peer reflection on existing quality measurement approaches, workforce competencies, and challenges to practical implementation, informing planned future study phases and its policy implications.

Building the workforce for quality and patient safety: ten years of healthcare quality management postgraduate programme in Croatia (ID 417)

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Context: Health systems increasingly depend on a workforce capable of translating quality and patient safety principles into day-to-day practice. Despite policy commitments, many health professionals lack formal training in quality management, improvement science, and systems thinking. In 2015, Libertas International University (Zagreb, Croatia) launched a university postgraduate specialist programme in Healthcare Quality Management (Programme) to address this gap. Now in its eleventh cohort, the programme offers a structured, interdisciplinary curriculum combining theoretical foundations, workplace-based projects, and individual mentorship. This contribution reflects on ten years of programme development and evidence on its impact on professional practice.

Methods: We conducted a descriptive, mixed-methods programme review drawing on (1) content analysis of curriculum, and (2) a cross-sectional alumni survey administered in 2025. The survey targeted graduates from all cohorts between academic years 2015/16 and 2024/25 and collected data on professional background, employment sector, perceived competence development, application of acquired skills in practice, and perceived programme strengths and areas for improvement. Closed-ended items were analysed descriptively, while open-ended responses were analysed thematically to identify recurrent patterns related to workplace impact, leadership roles, and quality improvement activities. Findings were interpreted using established frameworks for quality management education and workforce development in healthcare.

Results: Between 2015/16 and 2024/25, the Programme has enrolled multidisciplinary cohorts of 227 (173 female and 54 male) health and non-health professionals working across public and private healthcare, administration, education, and consultancy. Across cohorts, the curriculum consistently addressed core domains of healthcare quality management, combining theoretical instruction with applied, workplace-oriented learning. All alumni were invited to participate in the survey. Response rate was 36,6% (83/227). The respondents most frequently identified examples from practice (71%) and lecturers' professional experience (70%) as the most useful aspects of the Programme, followed by networking with colleagues (61%) and theoretical content (49%). When asked about Programme's contribution to participants' professional development, majority emphasised aspects included students' ability to contribute to quality systems within their organisations (66%) and standardise (61%) work processes, with notable effects also reported for patient safety (46%), staff communication (46%), and staff safety (41%). Alumni most commonly reported applying competencies related to general quality improvement (31%) and standardisation (22%) in their workplaces, followed by patient safety (15%) and risk management and communication (both 7%). A fifth of respondents reported no need for improvements to the study Programme (22%), while improvement suggestions focused primarily on increasing practical work aspects (41%), adjustments related to teaching staff (12%), teaching methodology (11%) and course content (8%).

Discussion: Ten years of experience suggest that structured, practice-oriented education can meaningfully support workforce capacity for healthcare quality management and patient safety. The Programme demonstrates how combining core theoretical domains, workplace-based projects, and sustained mentorship supports translation of learning into organisational change. These findings align with broader calls to professionalise quality and patient safety roles within health systems. Based on this experience, we propose three practical directions for workforce development, to help future-proof health systems by equipping professionals to manage complexity, risk, and continuous improvement: (1) embedding core quality and safety competencies across pre-service education; (2) scaling flexible, work-integrated postgraduate education, such as the Programme presented; and (3) investing in faculty development to teach improvement science effectively.

Evaluating AI readiness in clinical research systems: a mixed-methods study to inform national health policy and competitiveness in Portugal (ID 418)

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Context: Despite regulatory harmonisation through the EU Clinical Trials Regulation, the Artificial Intelligence Act, and the European Health Data Space, Europe continues to lose global competitiveness in clinical research to the United States and Asia. This trend reflects not a uniform European deficit, but pronounced heterogeneity across Member States in institutional capacity, workforce sustainability, digital maturity, and data governance. Strengthening Europe's position, therefore, depends on effective national policies that translate European frameworks into operational capacity. Portugal represents a policy-relevant case within this fragmented landscape. This study addresses the need for country-level, system-based analyses that enable national competitiveness and support a more coherent, competitive European clinical research region.

Methods: A mixed-methods exploratory study was conducted focusing on the Portuguese clinical research ecosystem as a national case study. First, a documentary review and secondary data analysis examined European and national regulatory frameworks, policy instruments, and comparative performance indicators, situating Portugal within the heterogeneous EU landscape. Second, semi-structured interviews with Portuguese stakeholders from healthcare institutions, academia, industry, and regulatory bodies explored context-specific barriers and enabling factors for AI-enabled clinical research. Third, a two-round Delphi survey was implemented to establish expert consensus on priority national policy interventions across governance, workforce capacity, digital maturity, and data governance domains. Finally, findings were integrated using an AI readiness analytical framework encompassing regulatory alignment, institutional organisation, human capital, digital infrastructure, and real-world data governance.

Results: The analysis identified a persistent gap between Portugal's formal regulatory alignment and its operational capacity to support AI-enabled clinical research at scale. Key constraints included fragmented governance of Clinical Investigation Centres, precarious workforce models with limited AI literacy, uneven digital interoperability, and insufficient research-grade data infrastructures. Experts reached consensus on high-impact AI applications—such as feasibility assessment, patient recruitment, advanced trial designs, and decentralised and rare disease trials—where targeted national policies could realistically strengthen competitiveness. Priority actions included professionalising the clinical research workforce, reinforcing institutional autonomy, ensuring predictable funding for governance-grade digital infrastructures, and implementing EHDS-aligned, trust-by-design data governance models. Benchmarking showed that countries translating EU-level harmonisation into strong national execution capacity achieve sustained competitiveness.

Discussion: This study demonstrates that Europe's competitiveness in clinical research is ultimately built through national systems. Regulatory harmonisation creates necessary conditions, but competitiveness emerges when Member States implement coherent national policies that operationalise these frameworks. Using Portugal as a case study, the findings show that AI readiness is fundamentally a governance, workforce, and data capacity challenge rather than a technological one. By providing a structured analytical framework and empirically grounded policy priorities, this study supports evidence-based national reforms that can reduce intra-European fragmentation. Widespread adoption of such nationally tailored yet conceptually aligned policies is essential for strengthening Europe's collective position in AI-enabled clinical research relative to the United States and Asia.

Integration of physiotherapy in primary health care: the community physiotherapist model in Tuscany, Italy (ID 419)

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Background and Objectives: Primary health care systems play a crucial role in addressing community health needs, particularly in managing functional aspects. This abstract aims to outline the Community Physiotherapist (CP) model implemented in Tuscany, Italy, which integrates rehabilitation services within primary health care. The study focuses on describing the targeted population and evaluating health outcomes during the initial two-year implementation phase.

Methods: The CP service operates on an on-call basis, requiring referrals from general practitioners or medical specialists. Data collected include reasons for referral, waiting times for service delivery, diagnostic categories, types of interventions provided, number of interventions per patient, and outcomes achieved. Additionally, differences in patient characteristics between referrals from general practitioners and medical specialists were analysed. In addition, the impact of physiotherapy interventions on caregivers' skills to provide care safely is assessed through self-assessment and direct observation during care activities that are most significant for quality of daily life.

Results: From April to December 2021, 165 patients referred by general practitioners to the CP had a mean age of 83.7 years (SD: 11.1). Most referrals were for patients with comorbidities (38.8%) or long-term immobilisation issues (21.8%). Counselling was the most frequently provided intervention, achieving objectives for 77.0% of patients. A comprehensive rehabilitation program was prescribed for only 6.1% of patients. In 2022, 409 individuals were referred, with 79.5% achieving functional goals through interventions, primarily focused on counselling and caregiver training. Only 3.3% required a full rehabilitation program, and no adverse events were reported. Furthermore, initial results from caregiver assessments and self-assessments show the effectiveness of physiotherapy interventions in terms of care skills, and satisfaction with the service was judged high.

Discussion and Conclusion: The introduction of the CP model in primary care has enabled the delivery of appropriate, effective, and safe rehabilitative interventions. By providing care closer to home, the model addresses the needs of an aging population, prevents exacerbation of chronic conditions, and integrates seamlessly within existing health care services. Furthermore, it is aligned with the need to empower patients and caregivers as resources within the system. This approach highlights the potential of community-based care solutions to meet evolving health challenges, promoting better health outcomes and resource utilisation without additional costs to health authorities.

Operationalising transnational co-creation to narrow healthcare innovation gaps in the Danube region (ID 423)

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Context: Leveraging the current digital paradigm shift in healthcare exposes the Danube region to a confluence of challenges. Countries of the region demonstrate varying degrees of maturity along a series of interlinked dimensions that determine their ability to adopt digital health solutions. Furthermore, the region needs to actively pursue the accumulation of real-world, context-specific evidence, along with transferable findings from the implementation of such solutions. Finally, it must overcome siloes and foster a network of engaged actors on the professional and policy-level to facilitate the diffusion of accumulated knowledge and inform future sectoral strategies.

Methods: DIGI4Care, a regional collaborative project applied an iterative, multi-level strategy to address these challenges. First, the 11 partners from 7 participating countries used an adapted version of the SCIROCCO Maturity Model for Integrated Care to assess their countries' maturity in adopting digital health solutions and delineate actionable strengths and challenges along chosen dimensions. (March-August 2024). Then, partners operationalised selected findings by preparing and implementing pilot projects to test chosen digital solutions in health and care service delivery (September 2025-February 2026). To support interregional collaboration, the project applied a coordinated, multi-site pilot implementation strategy; four transnational pilot projects – each comprising a different group of partners - were implemented. Partners in the same pilot project tested the same (set of) digital solution(s), while the collection of context-specific implementation experiences followed a standardised framework. Active stakeholder engagement and peer learning opportunities facilitated knowledge transfer and the fostering of a professional network.

Results: All seven maturity assessments were prepared, based on partners' appraisals of their national contexts. Highlighted strengths and weaknesses were weighted against partners' local settings and digital technologies available for implementation. This resulted in the definition of the four pilot projects. We witnessed a diversity in targeted conditions (diabetes, cardiovascular diseases and neurocognitive disorders) and intervention points (prevention, screening, emergency/prehospital- and long-term care, rehabilitation). Tested solutions also differ in their targeted setting and user-base (patients, and/or service providers). Pilot sites' midterm factsheets suggest varying challenges along these dimensions (e.g. in user attitude or procurement procedures). The transnational nature of the project clearly fostered intra-regional knowledge transfer; regular communication between partners and 7 site visits facilitated experience exchange, collaborative learning and the tailoring of implementation strategies. However, leveraging this added value came with a set of difficulties, stemming from several factors, including differing regulations, and communication challenges with other stakeholders.

Discussion: The country-level maturity assessment proved to be a useful tool to delineate perceived strengths and weaknesses and establish the basis of collaboration within transnational pilot projects. However, the abundance of potentially testable digital technologies required the development of a landscaping methodology, while harmonising between the local characteristics of collaborating pilot sites necessitated the lengthening of the preparation phase and intensive stakeholder consultation. The iterative, multi-level approach of DIGI4Care to pilot definition and implementation resulted in initiatives that are markedly different on multiple dimensions. On the one hand, this has the potential to generate diverse and transferable insights directly applicable to partners' identified needs, though it also risks excessive fragmentation. Finding a balance between these two poles in the formulation and dissemination of project results is going to be crucial for DIGI4Care to make an effective contribution to the digital paradigm shift in the Danube region.

Towards a comprehensive framework for assessing the societal value of diagnostics (ID 424)

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Context: Diagnostics are a foundational component of healthcare delivery, influencing clinical decisions, patient pathways, and system performance. However, existing assessment approaches predominantly focus on clinical accuracy and selected economic outcomes, while broader societal effects remain insufficiently structured. Against this background, the present study aims to develop a conceptual framework that systematically captures the societal value of diagnostics by integrating existing theoretical approaches with stakeholder perspectives.

Methods: The study followed a qualitative, interpretative design and applied the framework development approach proposed by Jabareen (2009). First, a scoping review was conducted to identify existing concepts, dimensions, and value elements related to the societal value of diagnostics across health economics, health services research, and related fields. Second, semi-structured qualitative interviews were carried out with 15 stakeholders representing perspectives along the diagnostic pathway: clinical care, patients, health system regulation and financing, and diagnostic industry representatives. Interview data were analysed using qualitative content analysis, combining deductive categories derived from the literature with inductively emerging themes. Literature and interview findings were iteratively synthesised into an integrated conceptual framework.

Results: The analysis revealed a diverse and fragmented set of value elements associated with diagnostics. Beyond health outcomes, identified dimensions include informational value (cognitive, hedonic, and instrumental), psychological effects, planning and option value, system efficiency, economic effects, equity considerations, and broader societal and external effects. These elements operate across multiple levels, from individual patients to healthcare providers and society. The resulting framework structures the societal value of diagnostics across micro-, meso-, and macro-levels and organises value components into coherent domains.

Discussion: This study presents a conceptual framework that synthesises existing literature and stakeholder perspectives on the societal value of diagnostics. Rather than providing an operational assessment tool, the framework offers a structured foundation for more comprehensive consideration of diagnostic value in research, evaluation, and policy discussions. By making explicit the multiple value dimensions and stakeholder levels involved, the framework highlights gaps in current assessment practices and supports future methodological development.

Future-proofing digital health: deep tech innovation in university ecosystems (ID 425)

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Context: Health systems increasingly depend on deep technologies such as AI, blockchain, IoT, and cloud computing to address complex societal challenges. Universities play a critical role in digital innovation, workforce development, and cross-sector collaboration, yet their potential as ecosystem leaders is often underutilised. TROPHY project, funded through EIT HEI initiative, aims to transform partner universities into innovation-ecosystem leaders in deep technology by 2030. Through ecosystem mapping, entrepreneurial training, mentorship, and strengthened technology-transfer structures, the project builds institutional capacity to apply advanced technologies to healthcare and related societal challenges.

Methods: The TROPHY project applies a phased, mixed-methods implementation framework grounded in foresight, capacity building, and cross-sector collaboration. A multidisciplinary European consortium spanning management, information technology, medicine, research, and industry maps regional innovation ecosystems in alignment with Smart Specialisation Strategies, with attention to health-relevant needs and workforce gaps. These insights inform the co-design of targeted training and mentorship programmes in entrepreneurship and Web 4.0 technologies for students, academic, and non-academic staff. Delivery includes intensive bootcamps, online lean start-up modules, mentorship schemes, and curriculum innovation across educational levels. In parallel, institutional support structures for technology transfer are strengthened and partnerships established to ensure that strategic innovation priorities translate into actionable, locally embedded solutions.

Results: Early outputs demonstrate high engagement and institutional readiness for ecosystem-based health innovation. Phase 1 activities integrated medical and technical students into multidisciplinary teams to address real-world challenges through problem-based learning. Over 190 Healthcare Management students (Faculty of Medicine, University of Novi Sad) trained in AI and blockchain, while 450 Information Systems and Technologies students (Faculty of Organisational Sciences, University of Belgrade) received specialised training in IoT, cloud computing, AI, blockchain, and entrepreneurship. Utilising hands-on, challenge-driven formats, participants developed innovative healthcare solutions, either by proposing original concepts or addressing structured challenges like reproductive health monitoring and infectious disease management. Subsequent phases will facilitate advanced development of these solutions through multidisciplinary teams—comprising students from medicine, public health, IT, and management—supported by a robust mentorship network of academic and industry experts. This collaborative framework establishes a foundation for future-proofing health systems through deep tech integration and cross-institutional synergy.

Discussion: Adapting higher education study programmes to deep technology innovation is a key mechanism for translating long-term digital strategies into practical action and for future-proofing health systems. By shifting emphasis from memorisation toward problem-solving, creative thinking, teamwork, and communication, universities strengthen the competencies required for an agile and innovation-ready workforce. While such approaches are more easily implemented in smaller programmes, scaling them to large undergraduate cohorts presents organisational and resource-related challenges. Expanding mentoring capacity, introducing structured peer-assessment models, and using AI-supported assessment tools offer feasible solutions to maintain quality at scale. However, successful implementation depends on strong institutional leadership and strategic commitment. Investments in digital infrastructure, human resources, and cross-sector partnerships are essential to sustain educational transformation. From a health management perspective, aligning educational reform with system needs supports workforce resilience, digital innovation, and the effective translation of strategy into action across health and related sectors. By positioning universities as ecosystem leaders in deep technology innovation, the TROPHY project has the potential to contribute to future-proofing health systems for a changing world, moving decisively from strategy to action.

An analysis of life expectancy and carbon dioxide emissions* (ID 426)

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Carbon dioxide emissions (CO_2) are among the most influential factors on environmental degradation and life expectancy. Rising CO_2 levels can cause climate change and can lead to disease and death through air pollution (Das, 2023). In this context, the impact of CO_2 on life expectancy is a significant research topic. This study examines the impact of CO_2, health expenditures, and GDP per capita on life expectancy in OECD countries between 2000 and 2022. The study aims to develop policy recommendations that consider both sustainable development and public health by analysing the direct and indirect effects of environmental and economic factors on life expectancy. The study was initially estimated within the framework of panel data fixed effects and random effects models. According to the results of the Hausman test, the null hypothesis was rejected, and the fixed effects model was found to be a valid estimator. The Modified Wald test was applied to test for heteroskedasticity. The Bhargava, Franzini, and Narendranathan (1982) Durbin-Watson test was applied to examine the presence of autocorrelation. The Breusch-Pagan LM test was applied to examine cross-sectional dependence. Heteroskedasticity, autocorrelation, and cross-sectional dependence were detected in the model. To eliminate the potential effects of heteroskedasticity, autocorrelation, and cross-sectional dependence on the estimation results, the Driscoll-Kraay (1998) estimator, which is resistant to heteroskedasticity, autocorrelation, and cross-sectional dependence, was used. CO_2 were found to have a negative and statistically significant effect on life expectancy. In this context, it can be said that environmental degradation has negative effects on public health and shortens life expectancy. GDP per capita was found to have a positive and statistically significant effect on life expectancy. In this context, increased economic prosperity may have a positive effect on life expectancy as it increases the access of the population to nutrition, housing, and health services. Health expenditures were found to have a positive and statistically significant effect on life expectancy. It can be said that the resources allocated to the health system play a direct role in life expectancy. In this context, it is shown that increasing life expectancy is closely related not only to the healthcare services provided, but also to social determinants of health such as environmental and economic factors.

* This study was supported under the TÜBİTAK 2209-A University Students Research Projects Support Program, application number 1919B012413192.

A digital health capability maturity model for integrated care systems: guiding leadership development for cultural transformation (ID 427)

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Digital transformation in healthcare is frequently framed as a technical challenge, yet evidence consistently demonstrates that implementation failures stem primarily from cultural and leadership deficits rather than technological limitations. Integrated Care Systems face particular complexity in building digital health capability across organisational boundaries, diverse professional cultures, and fragmented governance structures. This paper presents a conceptual Digital Health Capability Maturity Model (DHCM) designed to support Integrated Care System (ICS) leaders in diagnosing organisational readiness and guiding targeted leadership development efforts.

Maturity models have proven valuable across industries as diagnostic and improvement tools, providing structured pathways from ad hoc practices toward optimised capability. Drawing on seminal work including the Capability Maturity Model Integration framework and healthcare-specific adaptations, the DHCM extends existing approaches by explicitly integrating leadership and cultural dimensions alongside technical and operational processes. The model recognises that digital maturity is not merely a function of infrastructure investment or technical skill, but fundamentally depends on leadership behaviours, shared mental models, and organisational culture.

The DHCM framework comprises five maturity levels, from Initial through to Optimising, across multiple process areas including digital strategy, data governance, workforce capability, and crucially, leadership for digital change. Each process area specifies observable practices and outcomes at each maturity level, enabling systematic assessment and benchmarking. The model's distinctive contribution lies in positioning leadership development not as a parallel activity but as integral to maturity progression. Leaders cannot effectively drive transformation without understanding their organisation's current maturity state; equally, maturity advancement requires deliberate cultivation of leadership capabilities appropriate to each transition.

For ICS leaders, the DHCM offers practical utility in several respects. Firstly, it provides a shared language for discussing digital readiness across partner organisations with different starting points. Secondly, it enables prioritisation of improvement efforts by identifying which process areas constrain overall maturity. Thirdly, and most significantly for cultural change, it helps leaders recognise that their own development needs are contingent on organisational context. The leadership capabilities required to move from Level 2 to Level 3 differ substantively from those needed at higher maturity transitions.

This conceptual paper contributes to health management scholarship by proposing an integrated framework that bridges the persistent gap between digital health strategy and organisational development. Future empirical work will validate the model's constructs and test its utility as a diagnostic tool across diverse ICS contexts. The implications extend beyond the UK's NHS to international health systems grappling with similar challenges of digital transformation at scale.

Construcción de un cuadro de mando integrado para mejorar el acceso a las primeras visitas al especialista en Cataluña (ID 428)

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Context: Long waiting times for outpatient first specialist visits remain a major challenge for European health systems. They affect equity, patient experience and trust in the system. In Catalonia, fragmentation between primary care and hospital outpatient services has historically limited shared accountability for access outcomes. The CAIROS (Comitè d'Avaluació, Innovació i Reforma Operativa del Sistema de Salut – Committee for Evaluation, Innovation and Operational Reform of the Health System) group was established at the request of the Catalan Department of Health and works jointly with the Catalan Health Service (CatSalut) within the Continuum of Care and Accessibility framework. This project aimed to develop a data-driven tool that provides unified view of the outpatient first-visit process, with the explicit objective of placing the patient at the centre, reducing the number of patients exceeding guaranteed waiting times.

Methods: A population-based dashboard was developed during the second half of 2025 to cover the full outpatient first-visit pathway, from referral request in primary care to completion of the hospital visit. The Organisations Management Unit of CatSalut led data integration and analysis, linking for the first time, at patient level, primary care referral systems (ECAP, IS3), the population-based waiting list registry (LES) and hospital outpatient activity data (CMBD-AEA). This enabled end-to-end process traceability. A standardised methodology was applied to process data, harmonise services, exclude non-relevant activity and ensure consistency. Observed activity was compared with population-adjusted expected values. Between December 2025 and February 2026, multidisciplinary primary care and hospital teams used the dashboard to conduct joint analyses and agree on territorial improvement pacts.

Results: Results to date relate mainly to implementation, adoption and organisational use. The dashboard supported joint analysis of outpatient access using a shared evidence base. Teams were able to identify process discontinuities and mismatches between expected and observed activity that translate into patients exceeding guaranteed waiting times. Data integration also revealed differences in organisational models and data-quality gaps that were previously invisible. All CSIR (Centre de Salut Integral de Referència – Comprehensive Reference Health Centre) pilot territories completed a structured diagnostic phase and initiated formal improvement pacts focused on reducing patients out of time.

Discussion: A key limitation relates to heterogeneous organisational models across territories. In some primary care settings, specialist inter-consultation replaces formal first-visit referrals, leading to under-registration in specific services. This may affect absolute volumes but is not expected to substantially change patient profiles or relative patterns after population adjustment. Despite this limitation, the dashboard provides the first integrated view of the full outpatient first-visit process and has proven valuable as a shared, patient-centred working tool. Although developed with strong analytical leadership from the Organisations Management Unit, it is explicitly conceived as a service-oriented product for system-wide use. Designed as a minimum viable product, it has strong potential to evolve into a command centre for managing continuity of care between primary care and hospital services.

Strategies for attracting and retaining new generations of nurses (PEEGI24 Project) (ID 431)

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Introduction: The global nursing shortage represents a critical challenge to the sustainability of health systems. It is estimated that by 2035, between 13 and 18 million nurses will be lacking worldwide. In Spain, the structural deficit is particularly severe, with an estimated need for at least 158,000 additional nurses to reach the European average of 9.2 nurses per 1,000 inhabitants, compared to the current ratio of 5.9. Contributing factors are multifactorial and include population ageing, employment precariousness, and professional burnout, with 37% of Spanish nurses considering leaving the profession within the next decade.

Methods: A mixed-methods design was conducted in three phases. Phase 1 consisted of a Delphi study involving 51 experts to validate 17 final recommendations based on the literature and the previous PEEGI23 project. Phase 2 employed focus groups with 41 professionals (managers, educators, and clinical nurses) to define 36 specific actions. Phase 3 identified barriers and facilitators through an ad hoc questionnaire. In total, 92 professionals from clinical practice, education, and management participated. The study received ethical approval from the Ethics Committee of the Universitat Autònoma de Barcelona (CEEAH-6755).

Results: Seventeen recommendations and 36 actions were validated and organised into 16 lines of action across five thematic areas: undergraduate education, professional development, public policies and model transformation, education and research, and professional autonomy and well-being. A total of 398 barriers were identified, with the most prominent being resistance to change, lack of financial resources, and bureaucratic constraints. In contrast, 373 facilitators were reported, including collaborative work, the use of technological tools, and structured mentorship programs.

Discussion: Attracting and retaining new generations of nurses requires moving beyond predominantly economic approaches towards people-centred and care-focused workforce management strategies. The validated recommendations emphasise the importance of professional autonomy, recognition of clinical expertise, and the creation of healthy, stable, and supportive working environments to mitigate burnout and turnover intentions. The identification of barriers and facilitators provides actionable insights for organisations and policymakers seeking to operationalise these strategies. Strengthening nursing leadership within strategic decision-making bodies and prioritising structured transition-to-practice and mentorship programmes emerge as key levers for sustainable workforce retention. These findings support the need for integrated, multi-level interventions to ensure the long-term resilience and quality of healthcare systems.

Creating ValEU: a blended innovation training model to build the future health workforce (ID 432)

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Health systems across Europe, and worldwide, face increasing pressure to cultivate a workforce capable of driving innovation, navigating digital transformation, and designing value-based solutions to complex health challenges. The *Creating ValEU Innovation Training Course*, co-developed by the University of <X>, University <Y>, University <Z>, and <EU agency>, responds to this need by offering a blended, challenge-based programme that equips emerging health innovators with practical skills, entrepreneurial mindsets, and cross-sector collaboration experience. The course combines online learning with an intensive in-person training period at the University of <X>, where participants engage with industry leaders, experienced mentors, and expert faculty to develop and pitch high-value care solutions.

The programme is structured around a simulated entrepreneurial journey in which participants work through real-world health system challenges, apply innovation frameworks, and develop prototypes or business concepts aimed at improving patient value. Core components include skills workshops, mentorship, team-based project development, and a final pitch to experts and prospective investors. Participants who successfully complete the programme receive an EIT Health certificate and may earn ECTS credits. Top teams may also receive recognition or seed-capital opportunities to advance their ideas.

This proposal presents the development, implementation, and early evaluation of the Creating ValEU programme, led by <the submitting authors>. The instructional design emphasises experiential learning, interdisciplinary teamwork, and value-based innovation principles. The blended format—100–200 hours of combined online and onsite learning—supports accessibility while maintaining depth of engagement.

To assess programme impact, participants complete pre- and post-implementation measures of innovation competencies, entrepreneurial confidence, teamwork skills, and value-based design capabilities. Preliminary results from the most recent cohorts indicate substantial improvements in key domains, including innovation competency, entrepreneurial self-efficacy, ability to design value-based care solutions, confidence in pitching and communicating innovation concepts, and team-based problem-solving skills.

Qualitative feedback highlights the value of mentorship, exposure to diverse perspectives, and the opportunity to work on real health system challenges. Participants consistently report that the programme strengthened their readiness to contribute to innovation initiatives within their organisations and across the broader health ecosystem.

The Creating ValEU programme demonstrates a scalable, competency-based model for preparing the future health workforce to lead innovation in a rapidly changing environment. Its blended structure, international collaboration, and challenge-based pedagogy offer a transferable framework for universities and health organisations seeking to build innovation capacity and support workforce transformation. This presentation will share programme design insights, implementation lessons, and early outcomes, offering practical guidance for institutions aiming to cultivate the next generation of health-innovation leaders.

Toward environmentally sustainable care: scoping review evidence on implementation conditions and impacts of reusable PPE in hospitals (ID 434)

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Context: Healthcare systems face a growing paradox: while their mission is to protect health, they contribute substantially to climate change through greenhouse gas (GHG) emissions. In high-income countries, healthcare accounts for 5–10% of national emissions, with hospitals as major contributors, largely due to supply chains and single-use medical products. Personal protective equipment (PPE), particularly disposable gowns, masks, and respirators, represents a significant source of waste and emissions, an issue amplified during the COVID-19 pandemic. In response, some hospitals have begun transitioning toward reusable PPE as part of a broader shift toward circular economy models. However, adoption remains uneven, and hospital managers face persistent concerns regarding safety, logistics, costs, and organisational feasibility. Understanding whether reusable PPE constitutes a viable and scalable lever for ecological transition in hospitals is therefore a critical health management issue.

Methods: We conducted a systematic scoping review to synthesise international evidence on the adoption and implementation of reusable PPE in hospital settings and its impacts on environmental performance, care safety, costs, and supply-chain resilience. The review followed Arksey and O'Malley's five-stage framework and adhered to PRISMA-ScR reporting guidelines. An adapted Consolidated Framework for Implementation Research was used to structure the analysis of implementation processes, organisational contexts, and stakeholder roles. A comprehensive search of peer-reviewed and grey literature was performed across multiple databases from inception to December 2024. Eligible studies included qualitative, quantitative, and mixed-methods designs conducted in hospital settings. Data were extracted and synthesised narratively, with descriptive mapping of study characteristics, reported outcomes, and implementation factors across clinical and organisational contexts.

Results: The literature shows strong and consistent evidence that reusable PPE, particularly surgical and isolation gowns—delivers substantial environmental benefits compared with disposable alternatives. Reported reductions include 30–66% lower GHG emissions, 28–71% lower energy use, and 83–99% less solid waste over the product life cycle, despite higher water consumption related to laundering. Economic analyses indicate significant cost savings, typically ranging from 30% to 50% for reusable textiles, and up to 90% for certain respiratory protection systems, depending on infrastructure and utilisation volume. Across multiple clinical contexts, reusable PPE demonstrates equivalent or superior protective performance, with no increase in healthcare-associated infection risk when hospital-grade laundering and sterilisation processes are used. Key facilitators of adoption include leadership commitment, presence of clinical champions, staff training, standardised procedures, and interdepartmental coordination. Major barriers include upfront capital investment, logistical complexity, limited infrastructure, and persistent cultural norms favoring single-use devices.

Discussion: Reusable PPE emerges as a credible lever for ecological, economic, and organisational transformation in hospitals rather than a simple technical substitution. From a health management perspective, successful adoption depends less on clinical effectiveness, which is well supported, than on organisational capacity, governance, and alignment of procurement, logistics, and workforce practices. Scaling up reusable PPE requires supportive regulatory frameworks, sustainable public procurement, and investment in infrastructure and skills. As healthcare systems seek to reconcile quality, safety, cost containment, and environmental responsibility, reusable PPE offers a concrete and evidence-based pathway to operationalise low-carbon care.

Building global health management and leadership competencies through a multi-national collaborative online international learning (COIL) programme (ID 435)

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Health systems increasingly require leaders who can collaborate with stakeholders across disciplines and diverse cultures, and apply systems thinking to dynamic organisational challenges. To address these needs, University of <X> and Università <Y> implemented a Collaborative Online International Learning (COIL) programme integrating virtual teamwork, comparative health systems analysis, and in-person international immersion. This initiative was designed to strengthen cross-cultural communication competencies, systems thinking, evidence-based problem solving, and ethical leadership among graduate health administration students who are also working healthcare professionals.

The COIL programme paired <country X&Y> students in small teams to complete structured assignments, including comparative analysis of national health systems; application of shared problem-solving methodologies to real organisational challenges identified by <country Y> students during on-site learning; and joint case studies conducted during in-person sessions in <country Y>. Students were also organised into small intercultural groups, discussing key learnings with programme experts. This final summative experience facilitated reflection on cultural and health system insights through a semi-structured dinner discussion.

Students completed a reflective assessment, consolidating learning and evaluating the impact of the international collaboration. To assess programme effectiveness, students completed pre- and post-implementation measures of four competency domains: (1) cross-cultural communication and relationship management; (2) systems thinking and comparative health systems analysis; (3) collaborative, evidence-based problem solving; and (4) professionalism and ethical leadership in global contexts. Competencies were measured before the COIL experience, during virtual collaboration, and after international immersion. Preliminary results indicate meaningful improvements across all domains, with students reporting greater confidence navigating cultural differences, applying systems thinking to international contexts, and co-designing operational solutions with global peers.

The programme also revealed practical insights for integrating COIL into health management curricula. Key facilitators included intentional student matching based on professional background, structured assignments balancing national-level analysis with hospital-level problem solving, and strong faculty coordination across institutions. Meeting high-level officials and managers in their own organisations enabled students to grasp the tacit complexity of daily challenges. The small-group format fostered personal communication and direct feedback, which students found enriching as discussions drew on their diverse backgrounds and challenged cultural assumptions, protocols, and traditions. Challenges included aligning academic calendars, managing time-zone differences, and integrating learning management systems. Despite these barriers, the model proved scalable and adaptable, offering a feasible pathway for programmes seeking to internationalise curricula without requiring full-semester study abroad.

This work demonstrates that COIL can serve as an effective strategy for preparing the future health workforce with the global competencies required for resilient, people-centred, and collaborative health systems. By embedding international teamwork into core coursework and assessing competency development over time, health administration programmes can equip emerging leaders to operate effectively in an interconnected and rapidly changing world.

Making and unmaking network integrity in healthcare policy (ID 436)

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Addressing contemporary's cross-boundary issues like ageing older person populations and pressing workforce shortages requires moving beyond traditional notions of agency and the distribution of leadership roles, toward a relational process unfolding *across* organisational boundaries and *between* diverse actors. In this context, leadership is no longer confined to formal authority or institutional silos. Addressing issues requires not only a change in leadership narrative—from siloed to *shared* responsibility—but also a deeper reflection on how such narratives take shape in networked arrangements, which are increasingly prominent in healthcare policy. Central to this is understanding is how 'network integrity'—the reason for the network to exist, it's desired social function that legitimises its actions—is made and unmade over time. This is especially eminent for managers as they must be responsive to political and policy demands and the citizenry, whilst also preserving the organisation's distinctive values, roles and competences. This article explores how managers *in-between* the organisation and the network(s) make and unmake network integrity within the context of a policy shift toward networked healthcare in the Netherlands. It examines how network integrity emerges, is contested, and changes over time, particularly across multiple and different organisational and network levels.

The study draws on two ethnographic case studies conducted between March 2022 and September 2025, focusing on the 'Child Welfare Network' (CWN) and the 'Mental Care Network' (MCN), each based in a different Dutch region. These networks were formed by healthcare organisations to provide integrated services to specific populations. Our fieldwork and long sojourn in both cases consists of extensive participant observations of managers' interactions during dedicated 'reflective sessions', complemented and triangulated with multiple rounds of (digital) interviews, numerous informal conversations, and a document analysis of network, organisational, and policy notes. We paid attention to both 'horizontal' (i.e. interactions among managers during the reflective sessions) and 'vertical' dynamics (i.e. interactions across organisational and network levels).

Our analysis shows that network integrity isn't a fixed entity, but something that is actively created, maintained, and at moments can erode. It emphasises the importance of recognising and embarking on 'critical moments'—such as shifting network constellations, managerial succession, internal crises, existential uncertainty of the network, and volatile political developments and policy pressures on the network— as sites where network integrity is both tested and can be actively reinforced. These moments often expose underlying assumptions, trigger reflexivity, and challenge routinised ways of working. They prompt managers to revisit foundational questions about network purposes and managerial identities and reveal how they engage in dialogue and negotiate their roles within and across organisations. Networking, in this context, is not merely a functional activity, but deeply tied to the identity and evolving role of managers themselves.

Building the workforce of the future: are hospitals ready for skills-based human capital management? (ID 437)

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Context: Health systems across EU countries face persistent workforce shortages, widening skills mismatches, and increasing professional mobility. Reports from WHO (2022, 2024), OECD (2023, 2024) and the European Commission highlight significant gaps between required and existing skills, particularly in complex clinical environments. Rapid digital transformation, skill-intensive care models and rising expectations for patient safety reinforce the need for systematic, skills-based human capital management. Latvia reflects these trends: competency data remain fragmented, HR systems lack interoperability, and structured skills monitoring is absent—constraining strategic workforce planning. Developing a hospital-level skills monitoring system is therefore critical to advancing quality, safety and long-term workforce resilience.

Methods: Qualitative, mixed-method design was employed, combining document analysis with in-depth institutional inquiry. National and institutional regulatory frameworks, HR policies and education-related documents were analysed to map existing competency requirements for medical practitioners. Subsequently, twelve semi-structured interviews were conducted with representatives from personnel, education, quality and finance departments across the three Latvian clinical university hospitals. Interviews explored current practices in documenting skills, competency assurance, training governance and decision-making processes. Thematic analysis was used to identify institutional patterns, capability gaps and system-level barriers. Finally, feasibility of introducing a structured skills monitoring model was examined by assessing organisational readiness, availability of data, existing IT infrastructure, governance mechanisms, and potential integration points with quality, risk and financial management systems. The analytical focus was to project the extent to which skills monitoring could become an enabling component of human capital management in tertiary-level hospitals.

Results: Across all hospitals, no unified or regularly updated system for documenting physicians' practical skills exists. Skills data are fragmented: onboarding processes verify qualifications, while subsequent training records are captured inconsistently-internal courses are partially recorded and external activities remain in individual portfolios. Skill-related shortcomings are detected mainly through reactive mechanisms such as audits, patient safety events or managerial observation. Education departments emphasised the need for standardised skills catalogues and harmonised evidence formats (participation, knowledge validation, practical demonstration). Quality units confirmed links between skill deficits and clinical risks, underscoring the importance of systematic traceability. Finance departments acknowledged the potential benefits of targeted investment and cost justification. While respondents broadly support skills monitoring-especially for high-risk areas and residency training-they also identified administrative burden, cultural resistance, incomplete data and limited IT capacity as key risks. Overall, the findings reveal substantial readiness gaps alongside strong perceived value and strategic importance.

Discussion: Findings demonstrate the urgent need to transition from fragmented documentation to a systematic, skills-based human capital management approach. Hospitals show commitment to quality and patient safety, yet lack the data infrastructure required to understand workforce capabilities at scale. Skills monitoring would provide the missing foundation: a transparent, standardised skills profile that enables targeted training, strategic workforce planning, clinical risk mitigation and evidence-based investment decisions. However, limited organisational preparedness-cultural concerns, leadership workload, inconsistent data and the absence of integrated digital systems-remains a significant barrier. To build a future-ready workforce, hospitals should implement phased actions: define minimum skills catalogues, standardise evidence requirements, pilot skills portfolios in high-risk areas, integrate training records with quality and incident systems, and gradually align skills data with performance reviews, rotations and budgeting. Future research should quantify clinical and financial impacts, assess interoperability with national registries and examine effective change-management strategies for sustainable implementation.

Working around the system: how employees navigate structural constraints in high-throughput workplaces (ID 438)

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Context: Healthcare organisations rely on formal processes, protocols, and technologies to ensure efficiency, quality, and safety. This is often described as *work as imagined*. However, in high-throughput, technology-intensive environments, frontline employees frequently adapt these formal designs to meet real-world demands, resulting in *work as done*. This gap is especially pronounced in clinical laboratories, where automation, time pressure, regulatory requirements, and resource constraints shape daily operations. To keep work moving, frontline staff frequently develop workarounds, temporary fixes that allow tasks to be completed when formal systems do not align with real-world work demands. While these adaptations may support short-term performance, they can become normalised. Once normalised, these adaptations can obscure underlying system issues and potentially introduce patient safety risks.

Methods: This study uses a cross-sectional observational design involving laboratory professionals working in acute care settings. Data are collected via a survey measuring workaround behaviours, psychological safety, perceived departmental support, and additional coping strategies used to navigate operational constraints. Psychological safety is measured using an adapted version of Edmondson's scale, while departmental support is assessed through a modified perceived organisational support measure. Workarounds are measured using a validated healthcare scale that has been adapted for the clinical laboratory context. Additional items capture related coping strategies, including informal practices such as shadow knowledge and role spillover. The study is conceptually grounded in the distinction between work as imagined and work as done and draws on Adaptive Structuration Theory (AST) to explain how frontline staff appropriate formal systems in practice. AST emphasises the interaction between technology, organisational structures, and human action. It highlights how employees adapt rules and processes in response to time pressure, technological constraints, and workflow misalignments. From this perspective, coping strategies like workarounds emerge as structurally conditioned responses rather than individual deviations. Mediation analyses examine psychological safety as a key mechanism linking departmental support and coping behaviours.

Results: Preliminary observations from survey deployment indicate variation in workaround behaviours across laboratory roles, functional areas, and shifts. These variances reflect differences in operational pressure and workflow constraints. Further analyses will examine relationships among departmental support, psychological safety, and workaround behaviours. Mediation analyses will assess whether psychological safety explains the relationship between departmental support and reliance on workarounds. Final results will show how organisational conditions shape adaptive responses to misaligned formal workflows in high-throughput environments.

Discussion: By situating workarounds within the gap between work as imagined and work as done, this study reframes workaround behaviour as a structurally conditioned response to misalignments between formal system design and the realities of frontline work. The clinical laboratory provides a critical but understudied context in which automation and efficiency pressures intensify this gap. Findings are expected to highlight how organisations (departmental support and psychological safety), shape whether operational problems are surfaced, discussed, and addressed, OR if problems are managed privately through workarounds.

For healthcare leaders, this work highlights the importance of strengthening supportive leadership practices, speak-up climates, and attending to frontline work realities when future-proofing health systems. Treating workarounds as signals of structural strain rather than rule-breaking behaviours may create opportunities for learning, system redesign, and improved resilience.

When workload becomes leverage: political skill, relationships, and promotability in healthcare (ID 439)

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Context: Healthcare professionals operate in chronically high-workload environments characterised by staffing constraints, competing demands, and increasing expectations to be flexible and available. Although workload is typically treated as a uniform job demand with negative consequences such as burnout, employees often experience and respond to workload differently depending on organisational context and relational conditions. In practice, some forms of workload are imposed and experienced as role overload, while others are voluntarily assumed as part of professional commitment, visibility, or career advancement. Prior research in healthcare has rarely distinguished between these forms or examined how workload interacts with workplace relationships and individual capabilities to shape job satisfaction, perceptions of promotability, and intentions to stay. As a result, organisations lack clarity on when workload undermines workforce sustainability versus when it functions as a signal of opportunity within healthcare teams.

Methods: This study uses a cross-sectional observational survey design involving healthcare professionals working in clinical healthcare settings. Data are collected using a Qualtrics survey composed of validated instruments. Key outcomes include overall job satisfaction, perceived promotability, and turnover intention. Job satisfaction is measured using a validated single-item measure. Perceived promotability is assessed using an adapted multi-item scale capturing recognition practices and perceived opportunities for career advancement. Turnover intention is measured using a 3-item scale adapted from Dolbier et al. (2005).

Primary predictors include workload, coworker dynamics, and supervisor relationships. Workload is measured using the workload scale developed by Spector (1998), consisting of 5-items assessing pace, volume, and time pressure. Coworker dynamics are measured using a 4-item interpersonal conflict scale (Spector, 1998), capturing the frequency of negative coworker interactions. Supervisor relationships are assessed using the LMX-3 scale, a 3-item measure of leader–member exchange quality. Additional organisational context variables include constraints to job performance (11 items; Spector, 1998), perceived organisational politics (6 items; Kacmar & Carlson, 1997), and perceived status differential within teams (3 items; Anderson et al., 2012). Analyses include regression-based path models examining how workload and relational conditions jointly shape job satisfaction, promotability perceptions, and turnover intention

Results: Data collection is ongoing at the time of submission. Analyses will assess the effects of imposed versus volunteered workload on job satisfaction and promotability, as well as the direct and indirect roles of coworker and supervisor relationships. Moderation analyses will examine whether political skill alters how workload translates into career-related outcomes. Preliminary patterns suggest that imposed workload is associated with lower satisfaction, whereas voluntarily assumed workload may be associated with higher promotability under supportive relational conditions. Final results are hypothesised to show how workload operates as both a risk factor and a potential lever within healthcare teams.

Discussion: This study challenges dominant assumptions that workload functions solely as a negative job demand in healthcare settings. By distinguishing between imposed and volunteered workload and examining the role of relationships and political skill, the findings are expected to show that workload conditions do not affect all employees equally. Rather, workload becomes meaningful through social and organisational context, shaping whether employees experience strain, opportunity, or both. For healthcare leaders, these findings highlight the importance of relational climates, recognition practices, and supervisory support in determining how workload is interpreted and managed. Understanding when workload contributes to disengagement versus career development has important implications for workforce retention, leadership development, and the design of sustainable healthcare roles in high-demand environments.

A scientific perspective on the evolution of smart wearable devices for continuous health monitoring (ID 440)

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Context: Smart wearable devices for continuous health monitoring have become increasingly important in modern healthcare, supporting real-time assessment of physiological parameters and contributing to improved disease management and diagnosis, including cardiovascular conditions. Their growing affordability and accessibility have accelerated their adoption in both clinical and preventive health contexts. To better understand the current scientific landscape and global research trends in this rapidly evolving field, bibliometric analysis represents a valuable tool for mapping knowledge development, identifying leading contributors, and highlighting geographic distribution. This study provides a bibliometric overview of wearable health monitoring research, supporting digital transformation strategies in health management within the DIGI4Care project framework.

Methods: A bibliometric analysis was conducted using the Web of Science database, selected for its reliability and international relevance, while excluding other databases to ensure data consistency and comparability. The search strategy included the keywords "wearable device," "wearable devices," "monitoring cardiac parameters," and "physical activity," combined using Boolean operators ("AND," "OR"). Data processing and visualisation were performed using VOSviewer software (version 1.6.20), which enables mapping of complex relationships among authors, citations, institutions, and keywords. Filters were applied for document type, language, and publication period (2021–2025). The analysis focused on scientific performance indicators, collaboration networks, thematic evolution, and geographic distribution of research output.

Results: After applying all inclusion criteria, a total of 32,680 publications were identified as relevant for analysis. China, the United States, and South Korea emerged as the countries with the highest research output in this field. Bibliometric indicators showed that Elsevier was the most prolific publisher, with 8,145 publications, followed by MDPI (3,915) and Wiley (3,834), reflecting their significant role in disseminating wearable health research. The most productive journals were *Sensors* (1,381 publications), *Chemical Engineering Journal* (1,041 publications), and *ACS Applied Materials & Interfaces* (833 publications). At the institutional level, the Chinese Academy of Sciences ranked first with 1,746 publications, followed by the University of Chinese Academy of Sciences, the University of California System, Donghua University, and the Indian Institute of Technology System, highlighting strong research engagement in Asia and North America.

Discussion: The bibliometric findings demonstrate that research on wearable devices for continuous health monitoring is rapidly expanding, with strong global engagement and increasing interdisciplinary collaboration. The dominance of leading publishers, journals, and research institutions reflects the strategic importance of wearable technologies in digital health innovation and health management. These trends underline the growing role of smart wearables in supporting preventive care, personalised monitoring, and data-driven healthcare decision-making. From a health management perspective, the results emphasise the need for coordinated strategies to translate scientific advances into scalable healthcare solutions. Within the DIGI4Care framework, this analysis provides evidence-based support for integrating wearable technologies into digital health ecosystems, fostering innovation, and informing policy and implementation strategies across healthcare systems.

Walls that speak: visual cues of psychological safety in the clinical setting (ID 441)

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Context: Psychological safety is widely recognised as critical for learning, speaking up, and error management in healthcare organisations. However, it is most often studied through self-report surveys that capture perceptions rather than tangible evidence that capture organisational signals of psychological safety. Less attention has been paid to the physical and visual environments in which healthcare professionals work and the cultural cues embedded within them. In clinical laboratories, walls of workspaces are decorated with postings related to compliance, quality metrics, errors, policies, reminders, and meeting minutes. With these postings, the messages can bring attention to learning, recognition, support, rewards, and punishments. Therefore, these visible artifacts may function as powerful, everyday signals that shape how staff interpret expectations around voice, error reporting, and accountability. Understanding how psychological safety is communicated through environmental artifacts offers a novel way to examine the alignment, or misalignment, between espoused organisational values and lived workplace experiences.

Methods: This study uses a multi-site, observational, content analysis of visual artifacts displayed in hospital-based clinical laboratory environments. Data collection involves systematic documentation of posted materials across core laboratory areas, including chemistry, haematology, microbiology, transfusion services, and specimen accessioning. Artifacts are categorised by function (e.g., compliance, error prevention, productivity metrics, training resources, recognition, communication boards), tone (supportive, neutral, or punitive), and other psychological safety cues.

Using the lens of sensemaking theory (Weick, 1995; Gioia & Chittipeddi, 1991), we conceptualise wall-based visual artifacts as organisational sense giving mechanisms that shape how staff interpret expectations related to voice, error, and accountability. At the organisational level, the study is further informed by the Attention-Based View of the Firm (Ocasio, 1997), which highlights how structures and artifacts reflect what organisations prioritise and make salient over time. From this perspective, posted materials represent tangible expressions of organisational attention that signal which issues the organisation cares about. Together, these lenses position psychological safety as both an organisational attention outcome and an individual sensemaking process that is communicated through visible cues embedded in the work environment.

Descriptive and comparative analyses will examine variation across laboratories and functional areas.

Results: Descriptive analyses will quantify variation in the density, tone, and composition of wall-based visual artifacts across laboratory functional areas and institutions. Frequencies and proportions will characterise the prevalence of compliance-focused, error-prevention, learning-oriented, and recognition-related postings. Comparative analyses will assess whether artifact profiles differ across laboratory sections and sites. Where appropriate, composite indices (e.g., punitive tone, learning orientation, and voice-invitation cues embedded in posted materials) will be examined.

Discussion: By shifting attention from perceptions to physical artifacts, this study reframes psychological safety as something that is not only felt through voice, but also something that is visibly communicated through organisational design choices. The findings are expected to highlight how laboratory environments may inadvertently reinforce blame-oriented or compliance-heavy cultures, even when organisations espouse values of no-blame. For healthcare leaders and managers, the study underscores the importance of attending to the symbolic and practical messages conveyed by workplace artifacts, which may shape staff behavior and willingness to speak up. In addition, this could have the potential to negatively impact the use of formal reporting structures for near-misses and other quality/safety events. More broadly, the study positions environmental cues as a manageable and often overlooked lever for aligning organisational culture, leadership intent, and workforce experience in high-reliability healthcare settings.

Resilience in health workforce planning and policies (ID 442)

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Strategic health workforce (HWF) planning is a critical determinant of health system preparedness, resilience, and sustainability, particularly in the post-COVID-19 context. Across Europe, health systems face persistent and interrelated challenges, including demographic ageing, rising chronic disease burden, workforce shortages and maldistribution, increased mobility, generational shifts, and rapid digital transformation. These pressures highlight the limitations of reactive workforce management and underscore the need for anticipatory, evidence-informed, and system-oriented planning approaches. Strategic HWF planning integrates health labour market analysis, forecasting, and policy instruments to align workforce supply, skills, and distribution with evolving population health needs and service delivery models, supporting progress towards UHC and sustainable health systems.

This paper focusses on implementation evidence from the HEROES Joint Action (JA) (2023–2026), a multi-country European initiative aimed at strengthening national and regional capacities for strategic HWF planning in 19 countries. The JA's objectives evolve around four interrelated pillars: (1) optimisation of HWF databases, data collection, and quality; (2) optimisation of forecasting tools, scenario modelling, and planning methodologies; (3) optimisation of skills, capacity-building for HWF planners and managers; and (4) optimisation of stakeholder engagement and governance through structured policy dialogues. Our analysis uses descriptive synthesis of country-level implementation reports, documentation of capacity-building activities, and qualitative assessment of stakeholder-inclusive policy dialogues conducted at national and EU levels. Particular attention is dedicated to the role of policy dialogues as governance mechanisms enabling evidence translation, consensus-building, and institutionalisation of strategic HWF planning processes.

Preliminary results from the HEROES JA indicate substantial progress in strengthening strategic HWF planning capacities, despite wide variation in baseline maturity levels across participating countries. Improvements were observed in the consolidation and centralisation of HWF datasets for planning purposes (e.g. Lithuania, Slovenia, Hungary), development of more resilient and adaptable forecasting models (e.g. Slovakia, Estonia, Croatia), and expansion of training programmes for HWF planners in all 19 countries. Over 50 stakeholder-inclusive policy dialogue sessions were conducted in 18 countries during 2025, engaging over 350 participants. Dialogue topics included workforce shortages, data governance and legal frameworks, skill-mix and competency analysis, multi-stakeholder governance, and sustainability of planning systems. Some countries developed new HWF strategies followed by agile policy dialogue processes, which strengthened the stakeholder collaboration and are leading to lift HWF planning to a government function. Additionally, an EU-level policy dialogue held in September 2025 attracted approximately 700 registrations and engaged 350 participants worldwide, focusing on new models of care, task shifting, and institutionalisation of HWF planning.

Findings highlight that inclusive policy dialogue and structured stakeholder involvement are central enablers of effective and sustainable strategic HWF planning. Policy dialogues function as governance instruments that create safe, deliberative spaces for evidence interpretation, priority-setting, negotiation of trade-offs, and co-production of policy solutions among ministries, professional bodies, education institutions, service providers, social partners, and civil society. This inclusive approach enhances political feasibility, readiness, trust, and shared ownership of reforms, which are essential for implementing long-term HWF strategies requiring regulatory change and sustained investment. Moreover, stakeholder engagement facilitates alignment between health and education systems, supports adaptation to digital transformation, and strengthens responses to workforce wellbeing, retention, and skill-mix challenges. Overall, the HEROES experience demonstrates that strategic HWF planning is not merely a technical exercise but a transformative governance process, with policy dialogues acting as key mechanisms for translating evidence into resilient, context-sensitive workforce policies.

Building trust in AI-enabled cancer survivorship care: Living Lab evidence from rural Romania (ID 443)

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Context: In Europe, several AI-enabled digital tools are promoted to improve cancer survivorship and cardiovascular prevention. Long-term cancer survivorship is linked to an increased risk of cardiovascular disease, as treatment and follow-up gaps often intensify cardiac vulnerability, creating a need for integrated prevention strategies. Yet, many AI-enabled solutions, intended to support such integrated approaches, fail to achieve impact as they are introduced before trust is established - particularly in Eastern and rural regions, where poverty, limited healthcare access, and digital exclusion persist. MAYA project addresses inequalities by embedding social responsibility and trust into digital transformation.

Methods: The EU-funded project, MAYA, deploys its iCARE Health Hub – consisting of a Smart Mirror and AI-powered conversational agent – through living labs across eight European countries to improve cardiovascular outcomes and quality of life for adolescent and young adult cancer survivors. As part of its social responsibility framework, each site begins with trust- and needs-focused assessments before any technology is introduced. This presentation reports findings from one such preparatory workshop held in Lerești Living Lab, a rural Romanian setting, marked by high cardiovascular risk, population ageing, limited access to specialised care, and limited digital and health literacy. Representing a first-level qualitative and exploratory Living Lab activity, nine residents with cardiovascular conditions, part of a Citizens' Jury, participated. Through structured facilitation, participants talked about appropriate use, placement, consequences for the provision of care, preferred communication style, professional responsibility, and emotional safety, key factors shaping how trust is built in this local context.

Results: Participants were generally supportive of digital health technologies when these were embedded in socially responsible and trustworthy care relationships. Although most already used monitoring devices, frequent or poorly contextualised information could increase anxiety, highlighting the need for careful, supportive and respectful communication. The Smart Mirror was viewed more positively when imagined as a tool used alongside trained healthcare and technical professionals rather than as a stand-alone device. Participants emphasised that AI should complement - not replace - human judgement, and that clinicians should use it as an aid without diminishing direct patient interaction and attention. While data sharing itself did not raise concerns, participants expressed unease about being constantly monitored and valued safeguards against overwhelming or distressing messages. Overall, they saw the Smart Mirror primarily as a clinical decision-support and triage tool, best integrated into professional care settings where it would be more trusted than in unsupervised self-monitoring contexts.

Discussion: These findings show that trust is the critical condition for introducing AI-enabled health technologies in cancer care, particularly in rural and underserved European regions. Communities evaluate not only the technical performance of digital tools, but also whether they respect dignity, protect emotional wellbeing, and operate within reliable human relationships. In contexts marked by poverty, limited access to care, and low digital literacy, premature or poorly mediated deployment risks reinforcing distrust and deepening divides. MAYA's Living Lab approach provides a socially responsible pathway for implementation by enabling communities, clinicians, and researchers to co-create acceptable uses, communication styles, and professional roles before technology is introduced. For health system leaders, this means that AI-enabled tools should be integrated into care pathways in ways that ensure trained professionals retain responsibility for interpretation and clinical decision-making. When trust is built locally, digital innovation can enhance, rather than undermine, access and equity in cancer survivorship care.

Strengthening evidence-informed policy development in primary care: Insights from a Europe-wide participatory approach (ID 445)

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Context: Primary care holds a key role in addressing growing health disparities in Europe as it is uniquely positioned to support equitable access to services. Despite its importance, it remains underrepresented in policy-dialogues across numerous countries. One main aim of the European partnership 'Transforming Health and Care Systems' (THCS), a Cofund action under the Horizon Europe Program, is to foster uptake of evidence into policy, including primary care. In this context, two participatory workshops were organised in 2025 that aimed to engage key informants across sectors in identifying barriers and solutions to support the translation of research into primary care policies.

Methods: Two participatory workshops were held to bring together professionals involved in primary care research, practice, and policymaking. The workshops followed a step-by-step approach, with each building on the results of the previous one:

(1) the first workshop took place in Bucharest, March 2025 and focused on national experiences of key informants from primary care practice. 20 attendees were equally distributed in two facilitated working groups. Participants engaged in discussions to identify key barriers and facilitators of evidence uptake in primary care policies. Workshops' findings were used to shape the design of the second workshop.

(2) Paris, June 2025, hosted the second workshop and brought together 25 participants from across Europe, including researchers and policymakers. Working in five facilitated groups, participants explored practical solutions to the challenges identified in Bucharest to better involve family doctors in research, manage policy pushback, and design tools to support evidence-informed primary care policies.

Results: Participants in the Bucharest workshop identified the following barriers: lack of incentives and training for family doctors to engage in research, institutional and structural barriers for evidence uptake in policymaking, time constraints, inconsistency in public policies and a lack of interest from authorities when it comes to evidence uptake. The involvement of family doctors in academic settings and the potential role of national professional societies in supporting research initiatives were perceived as important facilitators. During the Paris workshop, solutions arose to engage family doctors in research: providing clear evidence that participation in research leads to meaningful change, simplifying data workflows, coming back with results to those participating in studies and adding research skills into medical education. Moreso, key strategies for policy engagement and tools included understanding policymakers' priorities and constraints, anticipating concerns, and using clear stories and real-life examples to show the social and economic value of proposed actions.

Discussion: The workshops highlighted that challenges in using research for primary care policy development are strongly linked to communication, timing, and policy context rather than to the lack of evidence itself. While knowledge is important, turning it into action requires additional practical steps. Some of the key strategies mentioned and supported by the workshops include engaging family doctors in research, promoting ongoing exchange between researchers, practitioners, and policymakers, following up to maintain dialogue, and clearly communicating the social and economic benefits of evidence. These findings highlight the importance of multi-sectoral dialogue and participatory methods in bridging the research-policy gap.

Implementing the director of nursing assistance in Emilia-Romagna: an action research redesign of a hospital nursing directorate (ID 446)

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Context: In Italy's Emilia-Romagna Region, Regional law 771/2023 establishes the Director of Nursing Assistance, aligning regional governance with international approaches that position nursing leadership as central to quality, safety, and workforce development. As part of the executive leadership, this role contributes to policy and strategic planning, promotes innovative care models, and supports integrated, cost-effective clinical pathways, continuity of care, and interdisciplinary teamwork, while fostering professional development and research-informed practice. However, introducing this role also requires organisational redesign: it entails changes in behaviours, routines (Greenhalgh et al., 2004). Innovations become sustainable when institutionalised and embedded into everyday operations (Van de Ven et al., 1999), and staff empowerment helps reduce resistance to change (Anders & Cassidy, 2014). In this context, our research examines how this new role reshapes selected units and influences implementation, professional acceptance, and the development of required competences.

Methods: We adopted an action research approach widely used in healthcare to support organisational change. Its value is attributed to principles highlighted in the change-management literature: democracy and participation as enabling conditions for planned change (Bridges & Meyer, 2007). The study was conducted within the Nursing Directorate of the Istituto Ortopedico Rizzoli (Bologna). We established a focus group with 13 healthcare professionals (nurses, technicians, and physiatrists) representing both managerial and frontline perspectives. Using a mixed-methods design, we integrated brief theoretical sessions on organisational design with iterative, facilitated focus-group discussions. In phase one, participants mapped current tasks, workflows, and decision responsibilities. In phase two, we collaboratively redesigned the division of labour across units, clarifying interfaces and accountability. In phase three, we produced for each role a job description, person specification, and a set of eight core competencies, drawing on the competency dictionary framework (Spencer & Spencer, 1990).

Results: Our research produced several outcomes. First, we successfully redesigned the Nursing Directorate to ensure compliance with the regional law. Through a participatory process, we co-designed with the involved healthcare professionals a clear division of labour across units, defining roles, responsibilities, and the competencies required for each position. This work also strengthened the Nursing Directorate's legitimacy with other components of the Strategic Directorate, demonstrating its ability to operate in a structured, transparent, and institutionally recognised manner**.** This restructuring also supported professional development by making expectations explicit and fostering competency growth in key areas under the Directorate's remit (e.g., operating theatres). Moreover, active staff involvement increased perceived ownership, enhanced job satisfaction, and helped reduce resistance to change. Finally, the study offers a practical example of how action research can effectively support the (re)design of organisational structures within a large hospital setting.

Discussion: This study suggests that introducing the Director of Nursing Assistance can be operationalised effectively when implementation is treated as an organisational redesign rather than a formal appointment. Action research created a structured space for participation, enabling staff to surface tacit work practices, negotiate interfaces across units, and translate strategic expectations into concrete roles and accountability. The co-design process likely supported acceptance by increasing ownership, consistent with evidence that participation and empowerment mitigate resistance to change. A key contribution is the integration of role architecture with an explicit competency set, which can guide recruitment, training priorities, and performance development in high-complexity areas such as operating theatres. However, sustainability will depend on institutionalisation: aligning reporting lines, metrics, and resource allocation with the new division of labour.

Emotional artificial intelligence for healthier, happier and safer ageing at home: a system-level approach to human-centred digital transformation (ID 448)

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Background: European health systems are facing unprecedented challenges driven by population ageing, increasing prevalence of chronic and neurodegenerative conditions, workforce shortages, and growing health and social inequalities. In response, digital transformation has become a strategic priority, reinforced by the COVID-19 pandemic and by policy initiatives such as the European Health Data Space. While Artificial Intelligence (AI), robotics and digital monitoring tools offer significant potential to improve care delivery and efficiency, their successful adoption depends not only on technological maturity but on trust, human integration and alignment with care values. In ageing populations, emotional wellbeing, social connection and treatment adherence remain under-addressed dimensions of digital health innovation.

Objective: This work introduces AiMA as an emerging research initiative exploring the role of Emotional Artificial Intelligence (Emotional AI) within health systems to support healthier, happier and safer ageing at home. The objective is to examine how Emotional AI-enabled digital companions may complement existing health and social care structures by supporting emotional wellbeing, preventing depression, enhancing treatment adherence, and assisting both formal and informal caregivers across diverse care settings.

Conceptual Approach: AiMA is conceptualised as a people-centred digital support layer, not as a replacement for human care. It focuses on the integration of Emotional AI into health systems to detect and respond to changes in mood, behaviour, and engagement over time, particularly in older adults living alone or in care environments. The approach emphasises hybrid care models that combine human caregivers, social environments, and digital tools, aiming to reduce caregiver burden while preserving relational continuity and dignity in care.

Rather than pursuing a one-size-fits-all technological solution, this initiative explicitly acknowledges the heterogeneity of health systems across WHO member countries, including differences in governance, financing, digital maturity, and social support infrastructures. Economic gaps and unequal access to technology represent critical constraints that shape adoption, scalability, and impact.

Relevance for Health Systems: From a system perspective, Emotional AI raises key questions addressed in this track:

- How can digital health innovation strengthen, rather than weaken, the human dimension of care?
- What governance and ethical frameworks are required to build trust in emotionally responsive AI systems?
- Can emotionally aware digital tools contribute to better population health outcomes by preventing depression, improving adherence to treatment, and supporting ageing in place?
- What is the potential impact on health and social care costs through delayed institutionalisation and improved caregiver efficiency?

Expected Contribution and Ongoing Research: Ongoing research with AiMa focuses on defining evaluation frameworks for emotional well-being outcomes, caregiver support metrics, and system-level indicators relevant to sustainability and equity. The initiative seeks to contribute evidence and conceptual clarity to the debate on how Emotional AI can responsibly support digital transformation in ageing societies, while respecting the diversity and economic realities of European and global health systems.

Conclusion: Digital transformation in healthcare cannot succeed without placing people at its core. Emotional AI represents a promising, yet complex, avenue to humanise technology and support healthier ageing. AiMA invites interdisciplinary discussion on how health systems can responsibly integrate Emotional AI to enhance wellbeing, trust, and resilience in the care of older adults.

Development of a policy framework and policy levers to mitigate medical deserts in European healthcare systems (ID 450)

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Context: Medical deserts, areas where healthcare needs are unmet partially or totally due to lack of adequate access or improper quality of services. They are shaped by shortages of professionals and facilities, high out-of-pocket costs, waiting times, transport and socio-cultural barriers. The consequences are delayed care, higher avoidable morbidity, and deepening health inequities, especially in rural and deprived communities. Existing responses are often piecemeal, and evidence is not consistently translated into actionable, locally tailored policies. We developed a comprehensive policy framework to guide equitable primary care improvements and strengthen resilience to future shocks across European health systems.

Methods: We developed the framework, as part of a PhD thesis, using an interdisciplinary mixed methods design. We reviewed peer reviewed and grey literature on access, workforce distribution, and primary care service models, and mapped European and national policy instruments targeting geographic access. We then compiled a minimum indicator set, such as provider density, travel time, waiting time, affordability, and quality proxies, to characterise local "desert profiles". Qualitative data came from semi structured interviews with primary care clinicians, managers, planners, and policymakers across diverse European settings, focusing on implementation barriers and enabling conditions. Quantitative analyses of routinely available health system data and population characteristics triangulated findings and refined typologies. Evidence was synthesised into policy levers, organised by governance level, and iteratively reviewed with stakeholders to ensure feasibility and equity. Core principles, equity, sustainability, adaptability, guided translation into a stepwise pathway for diagnosis, lever selection, and monitoring.

Results: The framework defines medical deserts as multidimensional access failures and offers a toolkit for primary care planning. It introduces a typology of "desert profiles" combining workforce scarcity, service capacity bottlenecks, affordability constraints, acceptability barriers, and quality gaps. For each profile, it specifies matched policy levers and implementation preconditions. Priority levers include targeted recruitment and retention packages, training pipelines tied to underserved areas, task sharing and multidisciplinary teams, mobile and outreach services, transport support, telehealth and remote consultation, demand management, such as triage and scheduling reforms, and safeguards to reduce out of pocket costs. The framework also highlights enabling mechanisms, including dedicated funding, data sharing agreements, regulatory flexibility, and coordinated governance across local, regional, and national levels. A monitoring dashboard is proposed to track access, equity, and quality over time and support iterative adaptation. Stakeholder input is embedded to validate priorities, anticipate unintended effects, and strengthen legitimacy for implementation.

Discussion: Medical deserts are not static "no service" zones but shifting combinations of access barriers that require coordinated responses across workforce, financing, service organisation, and community trust. By linking a standardised diagnostic profile to a curated set of policy levers and monitoring indicators, the framework supports translation of evidence into timely, context specific decisions and reduces reliance on ad hoc or politically driven solutions. Its guiding principles, equity, sustainability, and adaptability, help policymakers balance rapid access gains with long term resilience and preparedness for future shocks. The approach is designed for use across diverse European regions, while enabling local tailoring through stakeholder participation and iterative learning. Future work should test implementation in selected settings, assess cost effectiveness and distributional impacts, and refine the indicator set using routinely collected data to enable continuous policy improvement. Embedding the framework in multilevel governance can strengthen coordination and scale up successful models.

Recycling of serum bottles – Hospital General de Granollers (ID 452)

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Context: One of the priority areas of the Salut Plus 2024–2028 Strategic Plan of Hospital General de Granollers is Environmental Sustainability. In line with this objective and with continuous improvement commitment, a selective collection project for serum bottles has been implemented. This initiative, led by the Direcció d'Infraestructures i Serveis Generals, aims to reduce the environmental impact of healthcare activities and improve the segregation of the waste generated. Serum waste is managed through a valorisation process for non-hazardous pharmaceutical waste, with particular emphasis on material and energy recovery, in accordance with the waste hierarchy principle established by current regulations.

Methodology: Given the scope and ambition of the project, the involvement and collaboration of clinical teams was essential to ensure proper recycling, which requires separating the administration equipment from the serum bottle. Several actions were carried out. First, informational sessions were held for staff. Subsequently, the necessary equipment and processes were deployed: specific containers for the collection of serum bottles were installed at nursing stations; an intermediate storage area was set up for the storage of serum bottle waste; and the supplier's collection dynamics (Llorens GMR) were modified, adjusting transport routes to minimise the carbon footprint. At the beginning of the year, the first phase was launched as a pilot project in two inpatient units. In April, the second phase was rolled out, extending collection to the remaining inpatient units (eight services), and in October a third phase was initiated in services such as the delivery room and ICUs.

Results: The preliminary results for 2025 are as follows:

- Total waste managed: 13,265 kg (LER 180109).
- Overall valorisation: 100%.
- Breakdown and management of the different fractions:
- Liquid serum: 8,201 kg (61.82%) → Anaerobic digestion (R0302) and biogas production.
- Polyethylene (PE) plastic: 4,991 kg (37.62%) → Recycling (R0307) and production of plastic pellets.
- Contaminants:
- Laboratory samples: 15 kg (0.11%) → Energy recovery (R0101).
- Others (gloves, masks, etc.): 58 kg (0.44%) → Energy recovery (R0103).

Discussion: The initiative has been well received by professionals. The project has been made possible due to engage of them, with information on correct implementation disseminated through the managers of each area. This initiative is intended to be progressively extended to the rest of the hospital.

Although it was known that some rejected serum bottles contained residual liquid, this high percentage of remaining liquid was unexpected. This result will be communicated to the relevant management teams as an area for improvement, with the aim of increasing efficiency and optimising serum use.

The results obtained demonstrate that the implemented management system enables efficient separation of the different fractions and optimal valorisation of non-hazardous pharmaceutical waste, maximising resource recovery and energy use. This model contributes to compliance with the waste hierarchy and promotes the circular economy within the field of healthcare waste management.

Mapping the integration of audit and feedback in European health policies: a comparative study of France and Lithuania (ID 453)

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Context: Audit and Feedback (A&F) is widely recognised as an evidence-based strategy to improve quality of care, yet its uptake and institutionalisation vary substantially across health systems. While a growing body of literature evaluates the effectiveness of A&F interventions, far less attention has been paid to its integration within healthcare policies and regulatory frameworks. This gap is particularly relevant in the European context, where countries differ markedly in governance structures and approaches to quality improvement. Understanding whether - and how - A&F is embedded in health policy is essential to assess its sustainability and potential contribution to more accountable and equitable healthcare systems.

Methods: This study employs a multi-level analytical framework to examine the integration of A&F within European healthcare policies. As an initial pilot phase, a structured cross-country survey is being developed and administered to two member countries of the European Observatory on Health Systems and Policies (Lithuania and France) selected to reflect different health system governance models. The survey is designed in collaboration with international experts to ensure methodological rigour and cross-country comparability. It systematically maps regulatory frameworks, governance arrangements, indicators, and institutional responsibilities related to A&F. Findings from this pilot phase will inform the extension of the analysis to additional countries.

Results: The study is expected to provide a comparative overview of how A&F is embedded within healthcare policies and governance arrangements in France and Lithuania. The analysis is likely to reveal differences in the degree of formalisation, regulatory integration, and institutionalisation of A&F across the two health systems. Variations are expected in regulatory frameworks, governance structures, and the use of indicators to support implementation, as well as in the distribution of institutional responsibilities for A&F activities. The survey will map key actors responsible for A&F design, implementation, and oversight, as well as the use of indicators to monitor its application. These findings will highlight both the differences and commonalities in policy integration, offering insight into how health system organisation shapes the institutionalisation of evidence-based quality improvement strategies.

Discussion: By conceptualising A&F as a policy and governance instrument, rather than solely as a technical intervention, this study contributes a novel perspective to the literature on quality improvement. The comparison between France and Lithuania illustrates how the institutional embedding of A&F depends not only on its demonstrated effectiveness, but also on broader health system features such as regulatory capacity, governance arrangements, and policy coordination. This shift in analytical focus helps explain why A&F initiatives may vary in sustainability and scalability across contexts. Although exploratory and limited to two countries, the study offers a transferable analytical framework and a structured methodological approach for examining A&F within health system governance. The findings may support policymakers and international organisations in designing more context-sensitive quality improvement strategies, facilitating cross-country policy learning, and strengthening accountability, effectiveness, and equity in European healthcare systems.

Destabilising specialised care to build integrated care networks: lessons from universal health systems (ID 454)

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Specialised care has increasingly become a structural bottleneck in universal health systems, characterised by long waiting times, territorial inequalities, workforce imbalances and weak integration with primary care. These challenges are not exclusive to the Brazilian Unified Health System (SUS) but are also observed across European welfare-state systems inspired by the Beveridge model. In recent decades, economic crises, austerity policies and market-oriented reforms have intensified pressures on specialised care, reinforcing fragmented governance arrangements, productivity-driven management and the expansion of private provision within public systems. Understanding how specialised care is organised, financed and governed across different universal health systems is therefore critical for informing strategies aimed at strengthening integrated, equitable and sustainable care networks.

This study adopts a qualitative, exploratory and analytical approach, combining a theoretical-documentary review of specialised care organisation in selected European universal health systems—Italy, Spain, Portugal and the United Kingdom—with empirical evidence from the national research project Cartography of Specialised Care in Brazil (PNAES). The international analysis draws on scientific literature and institutional reports, particularly those produced by the European Observatory on Health Systems and Policies, focusing on governance structures, financing mechanisms, workforce planning, access regulation and integration between levels of care. The Brazilian component mobilises previously systematised findings from a multicentric qualitative study conducted across all 26 states and the Federal District. Rather than establishing direct comparisons or normative models, the analysis builds an analytical framework to examine shared structural tensions and management challenges affecting specialised care in universal systems.

Across all analysed contexts, specialised care emerges as a fragile and highly tensioned component of universal health systems. Persistent regional inequalities in service availability, prolonged waiting times and uneven distribution of medical specialists are common features. While Beveridge-inspired systems guarantee universal entitlement and predominantly public financing, they struggle with service capacity constraints, which often result in informal or formal cost-sharing mechanisms, increased out-of-pocket payments and patient recourse to private providers. In Brazil, specialised services are highly concentrated in capitals and hospital settings, with weak coordination with primary care and a strong influence of outsourced management models and private providers. Similar dynamics are observed in European systems, where decentralisation, fragmented governance and gaps in workforce planning undermine continuity of care and equity. Vulnerable populations—such as migrants and residents of peripheral or rural territories—consistently experience higher levels of unmet health needs.

These findings suggest that specialised care has become a critical site where neoliberal rationalities intersect with universal health systems, reshaping governance, financing and care practices. Waiting lists, workforce shortages and territorial disparities function not only as operational challenges but also as stabilising mechanisms that legitimise market-oriented solutions and weaken public coordination. Strengthening specialised care therefore requires moving beyond procedural productivity towards people-centred, network-based models, with stronger integration with primary care, territorial planning and multiprofessional practices. The Brazilian experience with the National Policy on Specialised Care (PNAES) illustrates how policy instruments and management arrangements can be mobilised to reorient specialised care towards integrated and equitable networks—lessons that are highly relevant for European health systems facing similar reform pressures.

Anticipating climate-driven sand fly-borne disease risks in Europe and beyond: foresight scenarios for policy, regulation, and sustainable health system resilience (ID 456)

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Context: Climate change increasingly challenges the sustainability and resilience of European health systems, particularly through the emergence and geographic expansion of vector-borne diseases such as sand fly-borne diseases (SFBDs). While Early Warning Systems (EWS) are frequently promoted as useful technical instruments to support policy decision-making, their long-term effectiveness depends on regulatory frameworks, institutional coordination, and policy legitimacy. Health system resilience requires anticipatory governance capable of managing uncertainty, aligning cross-sectoral responsibilities, and sustaining public trust. This study presents foresight scenarios developed within the EU-funded CLIMOS project to explore how different policy and regulatory choices may shape the future role of an EWS for SFBD preparedness in Europe by 2050.

Methods: A participatory foresight methodology was applied, combining horizon scanning, STEEPED analysis (Social, Technological, Economic, Environmental, Political, Ethical, Demographic), and qualitative scenario construction. Scenario development followed an inductive, co-creation approach over a two-year period, engaging more than 300 stakeholders through fifteen iterative workshops across Europe and beyond. Participants included public health authorities, veterinarians, researchers, policymakers, industry representatives, patient advocates, and community members. Two critical uncertainties structured the scenario matrix: (1) the perceived need for an EWS (high versus low) and (2) the dominant risk management approach (risk avoidance versus risk mitigation). Scenario narratives were iteratively refined, validated with professional and community stakeholders, and translated into policy-oriented executive summaries and infographics to support strategic regulatory reflection and health system planning.

Results: Four contrasting foresight scenarios were produced, illustrating alternative regulatory and governance pathways for managing climate-driven SFBD risks. The scenarios highlight contrasting trajectories ranging from highly integrated, technology-driven surveillance systems embedded in public health infrastructures, to fragmented, reactive responses characterised by low trust, limited investment, and delayed action. Across scenarios, common drivers included climate change impacts, data governance and interoperability, public trust, digital literacy, migration, and health system capacity. Each scenario generated targeted policy and regulatory implications, addressing issues such as mandatory surveillance, data-sharing obligations, ethical use of digital health data, cross-border coordination, and integration of animal, environmental, and human health governance.

Discussion: The findings highlight that resilient health systems require more than technological innovation; they depend on stable policy commitment, adaptive regulatory frameworks, and inclusive governance models. Foresight scenarios offer policymakers and health system managers a structured tool to test regulatory assumptions, anticipate unintended consequences, and align long-term sustainability goals with emerging climate-health risks. Embedding EWS within coherent policy and regulatory ecosystems can reduce reliance on emergency responses, support preventive investment, and strengthen institutional resilience. The approach demonstrated is transferable to other climate-sensitive health threats and provides practical insights for European (and beyond) policymakers seeking to design future-proof regulations that support sustainable, equitable, and resilient health systems.

The Climate Monitoring and Decision Support Framework for Sand Fly-borne Diseases Detection and Mitigation (CLIMOS) consortium is co-funded by the European Commission grant 101057690 and UKRI grants 10038150 and 10039289. The six Horizon Europe projects, BlueAdapt, CATALYSE, CLIMOS, HIGH Horizons, IDAlert, and TRIGGER, form the Climate and Health Cluster.

What really drives regional performance in Italy's health system? A PCA approach (ID 458)

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Context: Measuring healthcare performance is essential for accountability, priority-setting, and continuous quality improvement. Many health systems adopt multidimensional indicator frameworks to reflect complex goals such as effectiveness, safety, access, equity, and patient responsiveness (Arah et al., 2003; Smith et al., 2009). However, as indicator sets expand, they may become redundant and harder to interpret, producing inconsistent messages and making it difficult for decision-makers to separate actionable signals from measurement noise (Mannion & Braithwaite, 2012). Improving performance assessment thus requires not only the selection of indicators with strong validity and reliability, but also clarification of how measures relate to one another and whether they reflect a smaller number of underlying performance domains (Donabedian, 1988). Dimensionality-reduction techniques can help synthesise correlated indicators, enhance interpretability, and support more parsimonious monitoring and benchmarking (Jolliffe & Cadima, 2016). Identifying the most informative indicators is crucial to ensuring performance systems remain useful for governance and service improvement.

Methods: We performed a Principal Component Analysis to explore the underlying structure of Italy's framework for evaluating the regional delivery of the Essential Levels of Care, which ensure the constitutional right to provide free care. This framework—the New Guarantee System—includes 32 core indicators across three macro-areas: collective prevention and public health, primary care and hospital care. PCA was used to reduce dimensionality and identify which indicators contribute most to the main components, highlighting those that explain the greatest share of variation in regional performance. This approach is widely used in health services research to summarise complex, correlated metrics and to support interpretation and prioritisation within composite measurement systems (Jolliffe & Cadima, 2016; Abdi & Williams, 2010). We examined component loadings to identify the most influential indicators and used component scores to provide a parsimonious representation of NSG performance across regions

Results: Preliminary PCA findings for 2023 indicate that NSG indicators cluster into a limited number of underlying dimensions within each macro-area, enabling a more parsimonious interpretation of regional performance. In prevention, sampling adequacy was acceptable (KMO = 0.722; Bartlett $p < 0.001$) and three components explained 76.21% of total variance, with the first component capturing the dominant shared pattern among prevention measures. In hospital care, the dataset was also suitable for PCA (KMO = 0.656; Bartlett $p < 0.001$); three components accounted for 70.71% of variance, suggesting well-defined latent domains of hospital performance. In primary care, sampling adequacy was lower but still acceptable (KMO = 0.580; Bartlett $p < 0.001$); four components explained 70.98% of variance, indicating greater heterogeneity among primary level indicators. These results are exploratory, and more detailed analyses for the full 2019–2024 period will be presented at the conference.

Discussion: These findings highlight why dimensionality-reduction techniques such as PCA for policymakers engaged in revising performance indicator systems. When an indicator set grows over time, it may contain overlapping measures that track the same underlying phenomenon, creating reporting burden without adding decision-relevant information. Identifying clusters of indicators that load on the same latent domain can support a more streamlined dashboard, reduce redundancy, and improve interpretability for regional comparisons and priority-setting. PCA can also help distinguish indicators that meaningfully drive variation in performance from those that contribute little, informing which measures should be retained, revised, or replaced. Extending the analysis to 2019–2024 will allow assessment of the stability of domains over time, a key requirement for credible and durable indicator reform.

Digital therapeutics: potential and implementation barriers from a Polish perspective (ID 459)

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Content: Digital Therapeutics (DTx) are scientifically proven, software-based therapy tools that constitute a new category of medical innovation. They enable easier access to the prevention, management, or treatment of certain medical disorders. Research shows that DTx can increase Quality-Adjusted Life Year (QALY) and reduce costs. The opportunity is promising, but implementation requires systemic changes, such as pilot reimbursement programs to collect real-world data (RWD), updates to national legislation, or training medical personnel. This review identifies the potential for and barriers to the adoption of DTx within the Polish healthcare system.

Methods: This non-systematic review was carried out using keywords such as "digital therapeutics", "DTx", "(DTx) AND (barriers)", "(DTx) AND (reimbursement)", and "digital therapeutics implementation" based on PubMed and Google Scholar databases. No article published more than 15 years ago was included. The analysis included articles regarding examples of use of DTx (for instance: EndeavorRX®, reSET-O®, AppliedVR®) worldwide, reimbursement models for this innovation, and publications about potential implementation barriers in aspect of economy, ethics, and system organisation. The German Digital Healthcare Applications Ordinance (DiGAV - ger. Digitale-Gesundheitsanwendungen-Verordnung)) was exhaustively analysed as an example of an already existing path for registration of DTx.

Results: Research shows that DTx may effectively support the prevention and treatment of chronic diseases such as type II diabetes, Urinary Incontinence, as well as substance use disorder and neurological and psychological dysfunctions. DTx often leads to lower treatment cost. Poland lacks a registration path for digital technologies, which prevents their reimbursement by the NFZ (National Health Fund). Research indicates that the main implementation barriers for DTx are limited access to RWD depicting clinical and economic effectiveness, patients' data confidentiality, along with digital exclusion (especially among the elderly) and low awareness among medical professionals in terms of opportunities created by DTx. The Polish healthcare system has a good digital infrastructure for the implementation of DTx since other digital resolutions (for instance, an integrated platform of patients' data – Digital Patient Account (pol. Internetowe Konto Pacjenta)) have been introduced into the Polish healthcare system.

Discussion: Unlike other countries, Poland has not yet introduced reimbursed and clinically approved DTx. In contradistinction to German DiGAV in Poland, there are still no detailed guidelines on how to classify and evaluate such products. Globally, there are many examples of successful DTx implementation. A prime case is the USA's reSET; it was the first DTx to receive Food and Drug Administration (FDA) approval, successfully boosting clinical efficacy and lowering overall costs. There are many types of DTx for example: games, applications, and virtual reality (VR). The main limitation of this research is the lack of RWD from Poland. This research is based on reliable data from other countries; however, these data are not directly transferable to individual countries. Nevertheless, Poland is a viable setting for implementing innovations like DTx. Further research should focus on testing, for instance, through surveys, whether doctors and patients are willing to use DTx.

Unlocking the potential of public procurement of innovation for resilient European healthcare systems (ID 460)

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European healthcare systems are being confronted with unprecedented challenges, including an aging population, increasing life expectancy, workforce and resource shortages, and the demands of the green and digital transition. These challenges are increasingly exacerbated by global geopolitical tensions, which have exposed vulnerabilities in international supply chains, dependencies on non-EU actors, and the fragility of critical health infrastructure. In this evolving geopolitical landscape, the resilience of healthcare systems has become a strategic priority. Innovation has therefore grown to be essential to safeguarding the sustainability, autonomy, and long-term performance of healthcare systems across the EU. The European Commission recognises this pressing need and leverages the Single Market to drive transformation toward more resilient, innovative and sustainable healthcare systems.

A key mechanism identified by the Commission to support this transformation, is public procurement of innovation. Since public procurement accounts for around 14% of the EU's gross domestic product, the public sector has the ability to shape and create market conditions. By scaling up the demand for innovation in the healthcare sector, contracting authorities can incentivise the industry to develop and deliver solutions that meet future health system needs. However, despite its potential, public procurement of innovation remains a severely underused instrument.

This is contribution presents findings from the Health Innovation Procurement Support Services (HIPSS) project, funded by the EU's Horizon Europe Framework Programme. The research combines an extensive literature review with data collected through interviews with healthcare providers and ecosystem stakeholders to identify the main barriers deterring both public buyers and the industry from engaging in public procurement. The analysis identifies a range of barriers that hinder the uptake of innovation procurement, including risk aversion, capacity constraints, and legal uncertainty. One frequently cited obstacle is the perceived complexity and innovation-unfriendliness of the current legal framework governing public procurement.

However, an in-depth legal analysis of the procurement Directives and used cases challenges this perception by demonstrating that the current EU procurement framework offers more flexibility for innovation procurement than is commonly assumed. Existing legal instruments can, if correctly interpreted and applied, enable public buyers to procure R&D services and/or innovative solutions whilst remaining compliant with EU law.

This contribution concludes by highlighting that existing legal possibilities can be better leveraged to unlock the full potential of public procurement as a tool for innovation in the health sector. It invites conference participants to reflect on the flexibility of the legal framework to strategically utilise innovation procurement for improved health system performance.

Strengthening data systems for health workforce planning: implementation experiences from the Joint Action HEROES (ID 461)

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Context: Health workforce shortages represent a major challenge across Europe, requiring more systematic and data-informed workforce planning. Reliable, accessible data, with sufficient planning skills, are essential for monitoring trends and supporting policymaking. While healthcare remains a national responsibility, interconnected health labour markets create a need for collaboration and shared learning across Member States. Joint Action HEROES, funded under the EU4Health Programme, supports countries in strengthening national capacities for health workforce planning. A dedicated task focuses on improving the quality, availability and utilisation of health workforce–related data. Across three country clusters, 19 European countries developed action plans and implemented data-improvement actions.

Methods: This work presents implementation experiences and comparative insights from data-related actions undertaken within Joint Action HEROES. The analysis is based on country action plans, implementation reports and structured exchanges among participating countries. A qualitative comparative approach was applied to identify common patterns across diverse health systems, focusing on types of interventions including illustrative country examples. Actions were analysed according to their objectives, implementation mechanisms and system-level implications. The synthesis aimed to identify transferable lessons relevant for health system managers, workforce planners and researchers involved in the development of health workforce information systems and data-informed planning processes.

Results: Across participating countries, six main types of data-related interventions were identified. First, actions aimed at developing improved data sources or minimum planning datasets through data source mapping, data audits and clarification of definitions. Second, creating integrated databases focused on reducing fragmentation by linking multiple data sources and strengthening health workforce information systems. Third, better monitoring of the practising workforce improved identification of actively employed professionals, employment characteristics and workforce exits. Fourth, ensuring data for planning demand supported the development of indicators for estimating workforce demand and the integration of epidemiological trends, service utilisation and policy-related factors into planning approaches. Fifth, data visualisation initiatives, including BI and dashboard solutions, enhanced accessibility and interpretability of workforce information for managers and policymakers. Finally, obtaining additional information enabled more comprehensive planning, including analyses related to competencies, skill mix, mobility and education-to-employment transitions.

Discussion: The findings demonstrate that strengthening health workforce data is not a purely technical exercise but a system-level transformation process. Alignment of data-related actions with existing policy priorities facilitated progress, while fragmented responsibilities and data protection constraints remained key challenges. Joint Action HEROES provided added value by offering a structured implementation framework, peer learning opportunities and comparative reflection across countries.

Reforça't: an interdisciplinary post-discharge programme to reduce hospital readmissions in patients with chronic cardiorespiratory conditions. A randomised clinical trial (ID 463)

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Context: Hospital readmission is defined as an admission occurring within 30 days following hospital discharge. Readmissions show a high incidence among patients with heart failure and/or chronic obstructive pulmonary disease and represent a significant global challenge for hospital management. These patients typically present high complexity and require a multidisciplinary approach. Poor coordination and communication between different levels of care may negatively affect recovery capacity and continuity of care. The Reforça't programme is an intervention that proposes a shift in the care model through interdisciplinary coordination between health and social services, aiming to reduce hospital readmissions in this population.

Methods: *Main objective*: To reduce hospital readmissions in people aged 65 years and older with decompensated heart failure and/or chronic obstructive pulmonary disease.

Design: Open-label, randomised controlled clinical trial with a 6-month follow-up period.

Setting: Public county hospital in Catalonia, Spain.

Population: Patients aged ≥65 years admitted to Hospital Sant Jaume de Calella due to cardiac and/or chronic respiratory decompensation.

Sample: 200 patients (100 in the control group and 100 in the intervention group).

Intervention: The intervention group receives support from a multidisciplinary team composed of a nurse, social worker, physiotherapist, pharmacist and nursing assistant. During the 30 days following hospital discharge, patients receive medication reconciliation, early health and social interventions at home, telemonitoring of PROMs and PREMs, and coordinated care with community-based and specialised services.

Preliminary results: Preliminary findings show, compared with the control group, higher levels of functional status, therapeutic adherence and emotional well-being, as well as lower hospital readmission rates in the intervention group (graphic 1).

Discussion: In line with existing literature, this interdisciplinary post-discharge support model shows a favourable trend towards reducing hospital readmissions and may represent an efficient strategy to improve care transitions for patients with chronic conditions. The model is based on proactivity and prevention, integrating both health and social dimensions, and appears to enhance both care-related satisfaction and patients' emotional well-being. From a management and policy perspective, this approach may contribute to more efficient use of resources, reduced avoidable hospital utilisation, and improved continuity of care, supporting its scalability and integration into chronic care pathways.

Who is investing what in primary health care? A trend analysis across 22 European Union Member States (ID 464)

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Context: Primary health care performance is dependent on the availability of financial resources and healthcare personnel, among other factors. As health systems within the EU are affected by a variety of health population needs, investment in primary care is important to improve population health in addition to decreasing costs pertaining to inpatient services. Tracking health financing is a necessary step to identify poorly financed health services. With this analysis, we aim to compare two primary care indicators both temporarily and between countries.

Methods: We retrieved data for two primary health care expenditure (PHCE) indicators from the Global Health Expenditure Database (GHED) by WHO: "Primary Health Care (PHC) Expenditure per Capita in US$" and "Primary Health Care (PHC) Expenditure as % Current Health Expenditure (CHE)". The data were available for 21 EU countries (Austria, Belgium, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Romania, Slovenia, Spain, Sweden), between 2016 and 2023, and for another EU country, Slovakia, for which data were only available between 2016 and 2020. For this descriptive analysis, we report country rankings for the highest and lowest values, for each year, as well as absolute inequalities reported by the difference between the highest and lowest indicator. All analyses were conducted using R v4.3.3.

Results: In 2016, Malta (61.1%), Denmark (54.3%), and Lithuania (47.7%) had the highest PHC expenditure as % of CHE, while Sweden (34.9%), Czechia (33.8%), and the Netherlands (31.7%) lowest. In 2023, Malta (65.4%), Denmark (58.9%) and Finland (48.7%) ranked highest while Cyprus (31.8%), Czechia (31.3%), and the Netherlands (30.6%) lowest. Cyprus had the highest difference (9.5%) while Sweden the lowest (1%). Per capita expenditure was highest in Denmark ($3,043.73 in 2016; $3,835.03 in 2023) and Germany ($2,048.59 in 2016; $2,845.58 in 2023), with Luxembourg ranking third in 2016 ($2,027.49) and Finland in 2023 ($2,687.18). Romania had the lowest expenditure both years ($190.79; $389.2), while Croatia had 2nd ($335.84) and 3rd ($543.5) lowest in 2016 and 2023. Denmark had the highest difference ($1,422.69) while Slovakia the lowest ($75.61).

Discussion: Trends in PHC expenditure expressed as per capita or % of CHE showed inequalities in PHC financing as some countries ranked among the first in both years, while the lowest ranking countries in 2023 had slightly lower percentages compared to 2016. Moreover, our analysis shows that, for several countries, these financing inequalities have been maintained, although the per capita indicator for the lowest ranking countries has considerably increased. Our analyses showed that there are persistent inequalities between Western, high-income countries.

Additional analyses, such as document analyses and qualitative interviews involving stakeholders at various levels of the health systems can be undertaken as the PHC expenditure indicators by GHED encompass several health services, such as outpatient or home-based curative services as well as preventive services.

Territorial governance and integrated care networks: lessons from Brazil and Italy (ID 466)

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Universal health systems are increasingly challenged by demographic change, multimorbidity and the saturation of hospital-centred models of care. In response, territorial governance and network-based arrangements have gained prominence as strategies to improve care coordination, continuity and system sustainability. Both Italy and Brazil, despite distinct institutional trajectories, have invested in territorial services and organisational innovations aimed at strengthening integration between hospitals, primary care and community-based resources. Analysing these experiences offers valuable insights into how universal systems attempt to reorganise care beyond fragmented, sector-based logics.

This study adopts a qualitative and analytical approach, combining empirical research conducted in Italy with national-level evidence from Brazil. The Italian component is based on qualitative fieldwork in the Emilia-Romagna region, using a cartographic methodology that includes participant observation, document analysis and interactions with professionals and managers involved in territorial coordination services and intermediate care arrangements. The Brazilian component draws on the national multicentric research project Cartography of Specialised Care in Brazil (PNAES), which produced extensive qualitative and technical reports on care organisation, territorial governance and network functioning across all 26 states and the Federal District. Rather than establishing direct comparisons or normative models, the analysis builds an integrated analytical framework to examine shared governance challenges and organisational dynamics in both contexts.

The findings reveal that territorial coordination services and intermediate care arrangements play a strategic role in managing patient flows, supporting care transitions and mobilising local health and social resources. In Italy, territorial structures operate as coordination hubs between hospitals, primary care and community services, relying strongly on relational governance mechanisms, shared responsibility and flexible organisational practices. In Brazil, emerging territorial governance arrangements and policy instruments have sought to strengthen network-based care, but face structural constraints related to service concentration, weak inter-level integration and strong influence of private providers. In both contexts, integration is shaped less by formal organisational designs and more by everyday management practices, informal negotiations and the capacity of services to adapt protocols to territorial realities.

At the same time, the analysis highlights persistent systemic tensions. Workforce shortages, uneven territorial distribution of professionals, fragmented accountability structures and increasing market pressures constrain the consolidation of integrated care networks in both systems. Decentralisation enables local innovation but also produces territorial inequalities and variability in service capacity. Territorial services often compensate for structural gaps in primary care, social services and hospital discharge planning, revealing both their transformative potential and their institutional vulnerability.

These findings suggest that territorial governance constitutes a critical strategic space for the future of universal health systems. Strengthening integrated care networks requires more than organisational reforms: it demands coherent workforce planning, regulatory alignment and sustained investment in relational governance capacities. The combined Brazilian and Italian experiences demonstrate that territorial integration is not a technical fix, but a continuous governance process, central to building resilient, people-centred and sustainable health systems.

Integrating AI-driven diabetic retinopathy screening into primary care: a feasibility pilot from Hungary (ID 467)

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Context: In Hungary, over 50% of diabetic patients aged 50+ do not undergo annual ophthalmologic examinations, and 27% have never attended any screening. Given the high burden of diabetic retinopathy (DR) and the limited capacity of specialists, shifting the focus toward primary care contributes to health system resilience. As part of the DIGI4Care Danube Interreg Project, we developed and piloted an AI-based pre-screening system within a General Practitioner (GP) practice. This initiative aims to leverage technology to improve accessibility and patient outcomes.

Methods: This study employed a mixed-methods approach to evaluate the feasibility of integrating digital pre-screening into a settlement of 9000 inhabitants in Pest County. Patient involvement commenced in the second half of 2025. Enrolment criteria targeted adults with diabetes who had not attended DR screening in the previous 12 months. Pre-screening was conducted using a table top digital non-mydriatic fundus camera and a CE-certified Class IIb AI-based medical device. All patients were directed to ophthalmologists after the GP site pre-screening, and during the active follow up, the number and medical data of patients where treatment was necessary. We measured patient satisfaction compared to traditional care and measured healthcare professionals' technology acceptance among other feasibility questions.

Results: Preliminary results from 69 patients (out of a target of 100) identified DR in 18.8% of cases. The AI system reported negative results for 65.2% and undetermined results for 15.9%. High levels of patient engagement were observed, with 69.6% expressing an explicit intent to re-participate the AI-based pre-screening. Conversely, 43.5% reported an intent to participate in current standard screening examinations. While time-consumption evaluations are ongoing, technology acceptance among healthcare professionals remains high. Pilot activity continues until February 2026. Detailed patient level data on ophthalmologist examination and need of treatment will be evaluated until April 2026.

Discussion: This pilot represents Hungary's first integration of an AI-driven DR pre-screening system in a primary care setting according to the authors' knowledge. The positive patient response suggests that digital solutions can effectively bridge the gap between primary detection and secondary care, enhancing overall access. The pilot has promising feasibility; however, dedicated healthcare personnel and appropriate physical conditions (adequate space and lighting) were required, and time demands were occasionally substantial. Further evaluation is planned in collaboration with general practitioners, diabetologists, and ophthalmologists to assess scalability, considering cost–benefit aspects, national diabetes care guidelines, data management options and Hungary's demographic characteristics. This project provides actionable insights for future-proofing chronic disease management in Hungary.

Well-being of Generation Z professionals in a rapidly evolving healthcare system: Leaders' and professionals' perceptions (ID 468)

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Background: An increased workload due to a shortage of nursing professionals poses psychosocial risks for young healthcare professionals. Generation Z, born between 1995 and 2012, has been identified as especially susceptible to psychosocial risks at work, partly due to limited stress management skills. Leaders' and Generation Z professionals' insights into job demands, resources, and leadership behaviours are crucial to supporting well-being and maintaining a sustainable healthcare workforce in rapidly evolving healthcare systems.

Aim: To explore the well-being of Generation Z professionals in rapidly evolving healthcare based on the perceptions of leaders and professionals.

Methods: Purposive sampling was applied to recruit nurse leaders (n = 25) and professionals (n = 19) from one university hospital, one central hospital, and primary healthcare in Finland to participate in semi-structured interviews (individual, group, and pair) conducted online between March 2023 and May 2024. Data were analysed using deductive-inductive content analysis, with the extended Job Demands-Resources theory providing a framework for categorising the results into job demands, job resources, and leadership behaviours. Before analysis, the transcribed material was read through multiple times to gain a comprehensive understanding, and a meaning was chosen as the unit of analysis. Then the extracted open codes for professionals (n = 971) and nurse leaders (n = 620) were organised into analysis matrices. The data were then analysed inductively within each main category, forming subcategories (n = 63) and categories (n = 17) based on similarities to address the research question.

Results: Job demands comprised an imbalance between work and private life, concerns about sustainable working conditions, inadequate workplace culture, and the burden of the working environment. Job resources comprised meaningful work experience, a supportive work atmosphere, professional development opportunities, job crafting possibilities, sustainable working conditions, and technical ability. Leadership behaviours comprised support for professional development, genuine presence in the work community, equity in leadership, operational accountability, well-being-oriented focus, commitment to development, and allowing autonomy in work. The results showed that professionals and leaders shared similar perceptions regarding Generation Z's well-being, but differences also emerged. For example, in job demands, leaders emphasised work–life balance, whereas professionals pointed to the strain of shift work. Regarding job resources, leaders highlighted professionals' adaptability to change and technological proficiency as strengths, while professionals valued the possibility to influence their shift schedules. Concerning leadership behaviours, leaders stressed transparency, whereas professionals emphasised attention to individual needs.

Conclusion: The Extended Job Demands-Resources framework is useful for describing perceptions of the well-being of Generation Z professionals in rapidly evolving healthcare systems**.** Results offer insights for healthcare organisations to enhance leadership strategies, improve the well-being and work ability of Generation Z, and reduce quiet quitting and turnover in nursing. It is crucial to recognise Gen Z's lack of self-management skills, the need for a coaching leadership style, and the importance of nurse leaders' genuine presence. The different perspectives on Generation Z's well-being at work highlight new avenues for organisations to improve well-being, offering a strategic response to the ongoing nursing shortage. These results can inform leadership strategies to enhance the well-being of Generation Z and reduce quiet quitting and turnover in nursing.

Adoption and scale-up framework for innovative health interventions and its application to the Catalan health system innovation access program (PASS) (ID 469)

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Context: Ensuring that innovative health solutions are ready for adoption in real-world settings is a key challenge for adopters and innovators. Structured evaluation frameworks are needed to assess the preparedness, feasibility, and viability of both innovators and adopters in order to identify the appropriate adoption pathways. The Catalan Health System Innovation Access Program (PASS) aims to address these challenges and accelerate the incorporation of high-value innovations into the Catalan healthcare system.This initiative is coordinated by Biocat in collaboration with Servei Català de la Salut (CatSalut), Agència de Qualitat I Avaluaciò Sanitàries de Catalunya (AQuAS) and Fundació TIC Salut i Social.

Methods: The *Adoption and Scale-Up Framework for Innovative Health Interventions* was applied *while piloting the PASS-program*. This framework's is an evaluation tool-questionnaire that was developed by the *AQUAS-Innovation-Unit* within the CAN.HEAL Project (*GA-101080009*). The evaluation tool functions as a structured self-assessment instrument complemented by expert evaluation, addressing key domains related to innovation adoption maturity, including articulation of unmet needs, feasibility, viability, long-term sustainability, and expected impact and scalability. Within each dimension, grouped statements define a comprehensive set of actions relevant across the lifecycle of innovative interventions. Each statement is assessed according to two stages: *defined/planned* and *executed/delivered*. This framework was used to assess pilot innovations participating in the PASS-pilot-phase, providing a structured approach to classifying innovative interventions by maturity level and support innovators, researchers, and decision-makers in guiding adoption and scale-up efforts, contributing to health system transformation.

Results: Eight companies participated in the PASS-pilot-phase, covering diverse areas of health innovation The assessment supported systematic analysis of readiness for clinical integration and alignment with Catalan health system priorities, while providing guidance to innovators to refine their implementation and scaling strategies.

Four of the eight companies completed the full assessment. The evaluation enabled the identification of strengths, gaps, and needs related to adoption and scalability readiness. All companies/assessed solutions were classified according to their adoption and scale up readiness level. 75% of assessed solutions were classified at *Level 1* of maturity level (from design to proof of concept), with maturity scores ranging from 53% to 66%, indicating early-stage readiness for adoption. 25% of assessed solutions were classified at an *early Level2*, corresponding to early adoption and progression towards health system–level adoption (78%). For each participating solution, individualised evaluation reports were delivered, summarising the maturity levels, key findings and actions-recommendations.

Discussion: The Adoption and Scale-Up Framework provides a novel and practical approach to assess innovative interventions and identifying key actions needed to prepare them for future adoption and scale-up in the Catalan Health System. The Adoption and Scale-Up Framework facilitated a shared understanding between innovators and health system stakeholders regarding maturity levels and potential pathways for integration into the public healthcare system. The Framework has the potential to systemise innovation adoption in the healthcare sector within the PASS.

For innovators, the process clarified expectations and supported strategic planning. For managers and policymakers, it generated comparable information to back decisions on prioritisation, procurement and collaboration. The application of an evaluation tool-questionnaire within the PASS highlights its value in strengthening transparency, consistency, and strategic alignment in innovation assessment. This experience contributes to get innovative solutions ready to integrate into public healthcare system and boosts its potential in supporting health system transformation.

Evaluation of hospital management reforms in Romania, based on service utilisation performance indicators (ID 473)

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Context: The low performance of the Romanian healthcare system and its major inefficiencies are largely caused by the low administrative and managerial capacity. As part of the reforms initiated under the National Recovery and Resilience Plan, a new legislative framework regarding the development of healthcare management capacity has come into force. Thus, in Romanian hospitals, the performance of hospital managers and chief physicians becomes a mandatory evaluation criterion, according to the 2025 Ministry of Health reforms.

Methods: To assess the performance of medical services, a standardised set of data and key performance indicators (KPIs) was defined at the level of the department or group of similar departments (e.g. general surgery, internal medicine, paediatrics).

Based on the monthly service utilisation data reported from 2024 and 2025, reference values (benchmarks) for the use of services at the department level were calculated. These represent national averages, adjusted by department types and hospital categories, for relevant comparisons.

The aggregated analysis at the national and regional levels will compare the performance by total hospitals and by hospital categories. Data from the National DRG database and NIHSM integrated platform were used.

Results: The proposed models integrate indicators into management contracts for hospital managers and department heads, with quantifiable targets and penalties/bonuses.

Key indicators include, in addition to the number of discharged cases, average length of stay and bed utilisation rate, indicators such as: complexity of cases treated; hospital readmission rates within 30 days, by specialties/by hospital; % patient with surgical intervention discharged from surgical departments; preoperative inpatient length of stay by surgical department/by hospital; avoidable hospital admissions by department/by hospital (including diabetes, heart failure, hypertension, asthma, chronic lower respiratory diseases)

By relating the reference values calculated as national averages calculated for hospital categories and types of hospital departments, to the targets established through reforms and assumed in management contracts, models for evaluating managerial performance have been proposed.

Discussion: Management performance evaluation models based on key service utilisation indicators can be a useful tool in the process of redefining hospital categories into strategic hospitals and other hospitals (classified in performance categories, not by capacity and specialties)

The management performance evaluation aims to align with EU and OECD standards and evaluate health reforms with a focus on increasing the performance of the health system.

In addition to the basic KPIs, it is recommended to introduce complementary indicators for a holistic evaluation, with a focus on patient safety and operational efficiency.

Centralised access to care and organisational change: evidence from the implementation of 116117 in an Italian regional health system (ID 475)

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Across European health systems, centralised access points have increasingly been promoted as policy instruments to improve equity, continuity, and efficiency in healthcare delivery. Fragmented access pathways disproportionately affect vulnerable populations with lower health literacy, limited digital skills, or socioeconomic disadvantages, often exacerbating inequalities in access and outcomes. In the early 2010s, the European Union introduced harmonised social value freephone numbers (prefix 116), including 116117 for non-emergency medical on-call services. Following the COVID-19 crisis and within the National Recovery and Resilience Plan, Italy mandated the activation of 116117 as a strategic objective for regional health systems. This study examines how a centralised access policy reshapes healthcare operations and organisational practices within a regional system.

The paper adopts a longitudinal qualitative case study design, focusing on the implementation of the harmonised number 116117 in the Veneto Region, Italy. The region serves approximately five million residents and has established a centralised access infrastructure composed of two operational centres, supported by a dedicated digital platform and AI-enabled tools, while service delivery remains the responsibility of nine autonomous local health organisations. Analytically, the study is treated as a single case of a regional health system with multiple embedded organisational units, including the regional authority, the operational centres, and local providers. Data collection is ongoing and includes prolonged direct observations of implementation activities (coordination and governance meetings, training initiatives), semi-structured interviews with regional and local actors, internal operational documents, and official policy materials. Data are analysed iteratively to explore how centralised access policies affect organisational practices, decision-making processes, and operational capacities at the local level.

Preliminary findings show that the introduction of 116117 functions not merely as a new access channel but as a technological and organisational infrastructure that separates access management from service delivery. This separation requires local health organisations to make their practices explicitly visible and interoperable with the centralised system. Before the reform, access and response were often managed within the same organisational units, relying on tacit knowledge, informal coordination, and discretionary practices. The centralised access infrastructure disrupts these arrangements by imposing standardised classifications, explicit workflows, and traceable responses. Local organisations are required to codify over five hundred distinct health and social care needs, define pathways and responsibilities, and align their practices with centralised assessment and monitoring mechanisms. As a result, discretion is reduced at the point of access and reconfigured into back-end processes of categorisation, codification, and representation of local practices.

By conceptualising centralised access as an organisational intervention rather than solely as a service innovation, this work contributes to healthcare management and operations scholarship in several ways. First, it highlights how policies designed to improve equity and integration may generate unintended organisational consequences at the local level. Second, it shifts analytical attention from inter-organisational coordination to the internal reflective work triggered within organisations by centralised access infrastructures. Third, the findings suggest that organisational effects are not driven by digital technologies or AI per se, but by the institutional and infrastructural architecture in which these technologies are embedded. Preliminary evidence indicates three non-mutually exclusive organisational responses to codification requirements: compliance-oriented translation of existing routines, defensive codification to preserve local discretion, and reflective reconfiguration of service models. These dynamics have important implications for the governance of integrated, person-centred care systems and for the equitable use of resources in healthcare delivery.

From strategy to action in Spain: scaling a resilience-based universal mental health prevention programme in schools (ID 476)

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Context: Henka is a nationwide universal mental health prevention programme launched in 2022 by Hospital Sant Joan de Déu Barcelona in partnership with the Z Zurich Foundation to promote emotional well-being and resilience among adolescents, their families and education professionals. It addresses the growing burden of emotional distress in young people and the need for scalable, preventive and system-level responses. Henka integrates school-based interventions, training for teachers and families, awareness campaigns, digital dissemination platforms and scientific evaluation within a structured governance and cross-sector collaboration model linking health, education and community stakeholders.

Methods: A quasi-experimental, multicentre evaluation is being conducted using a cluster-controlled design across intervention and control schools. Repeated measures from 2024 to 2026 are analysed using mixed-effects models and regression techniques to assess changes in resilience, socio-emotional skills and psychological well-being. Qualitative data are collected through focus groups with students, teachers, families and school well-being leads to explore acceptability and implementation processes.

Results: Preliminary quantitative results show significant improvements in emotional repair, assertiveness, empathy and adaptive coping strategies among participating adolescents and benefits for teacher well-being, particularly in vulnerable educational contexts. Qualitative findings indicate high acceptability, improvements in classroom climate. During the 2024/2025 academic year, the programme was completed by 20,304 students in 165 schools, with the participation of 1,199 education professionals and 395 families, demonstrating its feasibility at scale.

Discussion: Henka provides an actionable example of how preventive mental health programmes can be operationalised at scale through effective governance, cross-sector alignment and integration into existing systems.

Managing beyond the hospital walls: from green hospital to planetary health at regional scale (ID 477)

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European health systems are increasingly challenged by climate change, environmental degradation and social inequalities, which are already affecting health outcomes, service demand and system performance. The *Lancet Countdown Europe 2024* reports an increase of 17.2 heat-related deaths per 100,000 inhabitants over the last decade, while global evidence shows that multiple planetary boundaries related to climate, biodiversity, land use and nutrient pollution have been transgressed. These trends expose a structural gap between health system mandates and the environmental and social determinants that shape population health, calling for leadership and management models that extend accountability beyond organisational boundaries.

This short paper presents the Vallès Central 2030 Planetary Health Programme (SPVC2030) as a management-led, "from theory to practice" initiative that redefines the role of hospitals in steering sustainable and resilient health systems. The programme is led by the Planetary Health Development Centre (PHDC), a joint initiative of Fundació Sanitària Mollet (FSM) and ISGlobal, -a leading global health research centre, embedded within a Net-Zero hospital that reduced direct carbon emissions by over 90% since 2012 while increasing clinical activity.

SPVC2030 operates at the level of the hospital catchment area (~175,000 inhabitants across 11 municipalities) and is structured around a Planetary Health Roundtable as its core accountability and decision-making mechanism. This multi-actor body brings together municipal authorities, healthcare providers, public health professionals, researchers and community stakeholders. Rather than a top-down plan, the programme applies a Theory of Change approach to support co-creation, collective leadership and long-term system transformation. Its function is not consultative but managerial: to align objectives, prioritise interventions, monitor progress and adjust actions through iterative decision loops.

From a performance management perspective, the programme is organised around five operational components: (1) a territorial diagnosis integrating health, environmental and social data; (2) development of a shared indicator framework aligned with international references; (3) mapping and mobilisation of local "planetary health assets"; (4) co-creation of interventions using a Theory of Change approach; and (5) continuous review through defined governance cycles. More than 60 local assets have already been identified, providing a concrete basis for implementation and monitoring.

Accountability is reinforced by linking managerial decisions to measurable co-benefits. For example, the integration of agroecological food sourcing from the nearby Gallecs area into hospital and community food systems is assessed against multiple KPIs: emissions reduction, exposure to agricultural pollutants near residential areas, improving diet quality in line with *EAT-Lancet* recommendations, and strengthening local food resilience. This approach demonstrates how environmental sustainability, health outcomes and system efficiency can be jointly managed rather than treated as competing objectives.

By positioning hospitals as system integrators and strategic partners rather than isolated service providers, SPVC2030 illustrates a scalable pathway towards governance maturity in sustainable health systems. The PHDC's designation as a Geneva Sustainability Centre Certified Learning Hub and its role as host of the European Secretariat of the Planetary Health Alliance from 2026 signal the relevance of this model for replication across the WHO European Region.

How Dutch government policies contributed to Nurse Practitioner and Physician Assistant employment and training (or not). Results of a PhD study using a realist approach (ID 478)

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Context: Governments face rising demand, healthcare costs, and workforce shortages. Task reallocation to Nurse Practitioners (NPs) and Physician Assistants (PAs) is considered a potential solution. NPs and PAs can take over tasks from medical doctors, maintaining quality of care and patient satisfaction at lower or comparable costs. In the Netherlands, a comprehensive program of NP/PA policies has been implemented. The country has one of the highest numbers of NPs in Europe and has also increasingly deployed PAs to support doctors. Despite growing international governmental interest in NPs and PAs, research on the impact of government policies is scarce.

Methods: Multiple methods and a realist approach were employed to formulate, refine and test a program theory on how and why governmental policies influenced NP and PA employment and training, for whom, under what circumstances, and in what respects. To assess whether policy implementation coincided with training and deployment trends, a review of government policies was combined with four surveys on intake among Dutch NP/PA training programs (2018 and 2021), and eight surveys on NP/PA workforce characteristics among alumni (2012-2021). Furthermore, 50 interviews conducted in 2019 with healthcare providers, sectoral and professional associations, and training coordinators were analysed. Interviewees worked in hospital care, (nursing) home care, primary care, intellectual disability services, and emergency care. Stratified purposive and snowball sampling were used. Additionally, 568 surveys from 2019 with experts on NP/PA hiring and training were analysed using descriptive statistics, inferential tests, and thematic synthesis of open-ended responses.

Results: Government policies stimulated training and employment by: 1) removing practice restrictions (scope of practice expansion, legal acknowledgment), 2) facilitating cost-effective training and deployment (training grants, billing options), 3) providing sectoral knowledge on deployment, training, and healthcare outcomes (funding research and a sectoral knowledge center), and 4) establishing sectoral agreements (on apprenticeships). Organisational and sectoral circumstances significantly influenced outcomes, especially hampering deployment in primary care. Key circumstances included flanking policies, stakeholder support, labor market capacity, healthcare demand, organisational resources and aims, and type of decision-maker (medical doctor or manager/director). Familiarity with the professions stimulated deployment.

Discussion: This study presents a refined and tested program theory on the impact of Dutch government policies on NP/PA employment and training. Policies are most effective when aligned with sectoral and organisational contexts, enhancing familiarity and trust, increasing motivation, and removing perceived barriers. Scope of practice expansion and training grants emerged as strong incentives. Long-term, sector-specific policies that provide clarity on future funding are essential to support NP/PA deployment.

Although health systems differ internationally, which may affect outcomes, we expect the underlying mechanisms to be similar, providing a basis for cross-country testing. Policymakers, funders, healthcare organisations, and professionals can use the theory to anticipate the effects of policy interventions, tailor policies to specific settings, and draw inspiration from the policies analysed.

DOI: 10.1111/jan.70433

DOI: 10.1111/jan.15607 DOI: 10.1186/s12913-023-09568-4

Comparing primary home care organisational models in Catalonia: an economic evaluation (ID 479)

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Context: Catalonia has a publicly funded multi-provider health system, where public and non-profit private providers co-exist, and in which the financing and the provision of care are separated. Within the context of the transformation of the system, facing a growing ageing population with increasingly higher life expectancies, some innovative home care organisational models emerged. Our goal was to evaluate them in terms of direct use of resources and patient outcomes from the perspective of the funder.

Methods: From a previous survey, we distinguished four main organisational models: traditional (baseline), days/week, nursing unit and multidisciplinary unit. Eligibility criteria required that centres had followed a certain model for at least two years. We excluded those in non-urban areas to ensure sufficient representation of the models. We included patients over 65 years old having a home care criterion and not dying during the study period (n=23,798). We retrieved resource use data for those patients during 2022: primary care, specialist and emergency visits, pharmaceutical prescription, hospitalisations, tests and analyses. We chose four effectiveness variables: days spent at home (main), polymedication, number of fractures and primary care longitudinality. We adjusted costs and effectiveness outcomes by sex, age, area socioeconomic status (IST), an adjusted morbidity index (GMA) and random effects of the centre using mixed generalised linear models. We calculated the incremental cost-effectiveness ratios for each outcome, constructing cost-effectiveness planes by bootstrapping (n=1,000).

Results: The traditional model was the most cost-effective organisational model in terms of days spent at home, despite differences in effectiveness being minimal. The nursing unit model achieved better results than the traditional model in polymedication, fractures and longitudinality, at a higher cost (ICER: 570.1€/avoided drug, 5,357.07€/avoided fracture and 144.29€/additional percentage point in longitudinality, respectively). The multidisciplinary model was dominated in all four outcomes, while the days/week model was dominated in all outcomes except polymedication (ICER: 3493.2€/avoided drug), where the nursing unit model was more efficient. The cost-effectiveness planes showed narrow differences in incremental costs and effectiveness outcomes except in polymedication, where the multidisciplinary unit had a significantly higher number of drugs prescribed on average than the other models.

Discussion: In the traditional model, a basic healthcare unit (UBA) consisting of one or more doctors and one or more nurses has room for visiting home care patients during any day of the week, as well as any other non-home care patients of their assigned quota. This study sheds light on the value that other forms of organising this type of care may add from a cost-effectiveness point of view with respect to that model. While specialisation in the form of nursing units adds incremental value in specific clinical results (polymedication, fractures) at a higher cost, the traditional model maintains the highest efficiency in keeping patients at home. The short study period, the exclusion of patients who die and non-urban centres, and the lack of unified assessment criteria for the home care diagnoses are the main limitations of this study.

Making health data accessible and comparable to support decision-making: the Health Outcomes Observatory in Catalonia (ID 480)

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Context: The Health Outcomes Observatory (Central de Resultats, CdR) is a tool that aims to measure and evaluate health outcomes achieved by the different stakeholders of the Catalan healthcare system, enabling quality and efficiency monitoring to support continuous improvement in healthcare delivery. With an 18-year trajectory, the CdR has progressively incorporated new indicators to adapt to the evolution and challenges of the healthcare system, but it has also introduced improvements to its exploratory tools in order to facilitate data analysis. In 2025, the CdR implemented methodological enhancements that facilitate the identification of good practices at both centre and territorial levels.

Methods: An interactive web-based platform developed using R-Shiny enables the visualisation and analysis of more than 500 health indicators across six care domains: primary and community care, hospital care, intermediate care, mental health and addictions, emergency and urgent care, and public health. Indicators are grouped according to key dimensions of healthcare quality. The platform adopts a dual-perspective approach, allowing results to be examined both from a population point of view—based on individuals' area of residence (Basic Healthcare Area, ABS)—and from a health-provider perspective. Healthcare centres are nominally identified. Analyses can be conducted across five geographical levels: healthcare centre, ABS, healthcare management area, Healthcare Region, and Catalonia as an overall.

Results: The platform includes eight years of data (2017–2024). For each indicator, detailed methodological documentation is provided, together with interactive maps. The platform follows an open-data approach, whereby any visualised information can be downloaded. Since the 2025 edition, standardised results are also presented, in addition to raw indicator values, enabling more robust comparisons across territories and providers. Standardisation was performed by sex, age and the socioeconomic level of the individual's area of residence (ABS). This approach has enabled new benchmarking analyses and the identification of good practices. It is the first time that an integrated analysis of health outcomes in Catalonia has been made available, encompassing multiple care domains and dimensions of healthcare quality. Using the assessment of the network of service provision within their area of residence, this analysis allows the identification of areas with better performance and promotes system-wide quality improvement.

Discussion: The CdR facilitates the systematic monitoring of healthcare quality indicators in Catalonia, enabling the assessment of health system performance and promoting continuous quality improvement. Recent methodological enhancements enable for benchmarking analyses and the identification of areas with better outcomes. This approach supports the analysis of high-performing practices and contributes to the improvement of the overall health system. Continued efforts are needed to further integrate indicators across all dimensions of healthcare quality and to adapt the CdR to the evolving reforms of the healthcare system.

A decade of health reform signals: European Semester country-specific recommendations for Romania, 2015–2025 (ID 481)

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Introduction: The European Semester is a key European Union governance instrument linking macroeconomic surveillance with structural reform coordination, including health system performance. In Romania, health has featured recurrently in Country-Specific Recommendations (CSRs), reflecting persistent structural weaknesses such as chronic underfunding, hospital-centred service delivery, workforce shortages, and substantial inequities in access and outcomes. Despite repeated policy signals, progress has remained uneven. This study examines European Semester health-related recommendations addressed to Romania between 2015 and 2025, aiming to assess their thematic focus, evolution over time, and strategic coherence, as well as to identify patterns that may explain limited reform traction.

Methods: A qualitative longitudinal document analysis was conducted covering all European Semester CSRs, Staff Working Documents, and relevant analytical reports for Romania issued between 2015 and 2025. Documents were systematically screened for explicit and implicit references to health and health systems. Extracted recommendations were coded thematically across seven domains: health financing and fiscal sustainability; service delivery with a focus on primary and community care; hospital sector reform; health workforce; access and equity; governance and efficiency; and digitalisation and system resilience. A temporal analysis was applied to identify shifts in emphasis across the study period, with particular attention to major contextual changes, including EU budgetary cycles, the COVID-19 pandemic, and the introduction of the Recovery and Resilience Facility.

Results: The analysis shows strong continuity in the European Semester's assessment of Romania's health system over the decade. Core recommendations—strengthening primary care and prevention, reducing avoidable hospital use, improving efficiency, and addressing inequitable access—were repeatedly issued, often with similar framing. While early recommendations emphasised cost containment and fiscal sustainability, later iterations increasingly framed health spending as an investment, particularly after 2020. The pandemic temporarily elevated health system resilience, preparedness, and digitalisation within the Semester agenda, but did not fundamentally alter long-standing reform priorities. Notably, several recommendations were reissued multiple times, suggesting limited or partial implementation. Equity concerns, especially regarding rural populations and vulnerable groups, gained visibility over time but remained weakly operationalised.

Discussion: The European Semester has provided Romania with a consistent and evidence-informed diagnosis of health system challenges and a stable set of reform expectations. However, the persistence of similar recommendations over ten years points to a substantial implementation gap. This appears to be driven less by analytical shortcomings and more by domestic governance constraints, political discontinuity, and limited alignment between EU recommendations and national reform ownership. While the post-pandemic shift towards investment and resilience represents a positive reframing, it has not yet translated into structurally different reform trajectories. Strengthening the impact of the European Semester on health will require clearer prioritisation of health within fiscal governance, stronger links to national planning and budgeting processes, and enhanced accountability for implementation—lessons with relevance beyond Romania to other EU Member States facing entrenched health system weaknesses.

Shared temporalities: Intersubjective time experiences in the social networks of people with chronic illness (ID 482)

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Context: In 2021, approximately one-third of adults in OECD countries live with a chronic health problem. Due to the enduring nature, those living with chronic conditions must continuously navigate the consequences of their illness while simultaneously rebuilding and adapting aspects of life beyond the disease. This affects not only patients themselves but also the people within their social network. The different roles that all these individuals assume are embedded in a web of rhythms, temporal expectations, and routines, which together shape the intersubjective experience of time within the social network of people with chronic illness.

Methods: The study employs a phenomenological qualitative research design to explore how intersubjective time is experienced and interpreted within the social networks of people with chronic illnesses. In total, 76 individuals were interviewed, including those who live with a chronic illness themselves (n = 39) and those who are part of their social network. Among them were 10 informal caregivers, 8 healthcare providers, 10 employer representatives of patients, and 9 employer representatives of informal caregivers. Four chronic illnesses with distinct temporal structures were included: cancer, kidney failure requiring dialysis, Crohn's disease, and arthritis. All interviews were audio-recorded and transcribed verbatim. The transcripts were analysed in MaxQDA 24 using a thematic coding approach that combined deductive sensitising concepts with inductive coding to capture emerging themes. The analysis was guided by phenomenological principles, emphasising the interpretation of lived experiences and temporal meaning-making.

Findings: The convergence of temporal schemata of individuals involved in the network of a person with a chronic illness and the temporal structures imposed by the environments in which they function, gives rise to three interrelated themes: temporal misalignment, negotiation, and recalibration. Temporal misalignment refers to a lack of synchrony that creates tensions across dyads. For example, a patient may reduce their temporal commitments due to illness, while informal caregivers may not, resulting in divergent temporal expectations. Temporal negotiation and recalibration are processual responses aimed at tuning these tensions into closer alignment. Negotiation involves actively seeking to coordinate differing temporal experiences, whereas recalibration entails a reconfiguration of how time is understood. Healthcare providers may try to mitigate patients' frustrations about waiting times by providing transparent communication (i.e., negotiation). For instance, healthcare providers may mitigate patients' frustrations about waiting times through transparent communication (negotiation), and consistent openness can foster a shared understanding of waiting throughout treatment (recalibration).

Discussion: Intersubjective time in chronic illness is shaped by processes that arise when individuals perceive tensions within their social network. They interpret these temporal misalignments and attempt to reduce them through negotiation and recalibration. The extent to which misalignments are resolved directly influences the experiences and well-being of all actors involved.

This highlights the importance for healthcare institutions to be attentive to temporal tensions between patients and healthcare providers and to recognise them as signals to initiate dialogue and foster shared understanding. Our study, further emphasises that the chronic illness network operates as an interdependent system, in which interactions within one relationship shape and are shaped by dynamic in other relationships. For example, patients' limited involvement in appointment scheduling can affect their relationship with their employer, and vice versa. These cross-relational influences show that temporal tensions must be understood within the broader, interconnected network.

Caring for caregivers: the cost of inaction. Findings from a survey on absenteeism and presenteeism in French hospitals (ID 483)

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Healthcare workers' health is a strategic determinant of hospital performance; yet absenteeism and presenteeism remain widespread and organisationally costly. In France, representative data indicate that 8.8% of public-hospital staff reported health-related absences while 66.1% reported having worked while ill, underscoring the magnitude of the issue. Building on human-capital theory and employer-centric valuation, this study estimates the full organisational cost of absenteeism and presenteeism for hospitals, moving beyond wage-loss accounting to capture disruption, coordination losses, and quality impacts. We adapt and operationalise a managerial multiplier approach in the French hospital context to provide decision-ready metrics for health management.

We conducted a national survey (January–December 2025) of hospital managers (directors of care, heads of unit/service, medical managers, nurses managers), yielding 1,326 usable responses. After excluding handling missing data, and matching respondents' units to PMSI[1] administrative production data (average case mix index: PMCT[2]), the analytical sample comprised 787 observations. First, four ordered probit models quantified how team interdependence, time sensitivity, ease of replacement, and work climate, relate to the perceived impact of (i) absenteeism and (ii) presenteeism on production and quality. Second, predicted impact indices were linked to PMCT via OLS (Ordinary Least Squares) model with hospital fixed effects and rich controls (unit specialty, occupation, number of stays, length of stay), yielding salary-loss multipliers that translate one day of absence/presence-while-ill into total employer cost beyond wages. We report overall and specialty/occupation-specific multipliers and illustrate with non-cardiac surgery units.

Absenteeism and presenteeism are each associated with significant losses in unit production value (PMCT). Estimated effects (per unit increase in perceived impact) were €−1,289 for production and €−2,132 for quality under absenteeism, and €−1,712 and €−2,252 respectively under presenteeism ($p < 0.01$ as reported). Average salary-loss multipliers (all units, production) were 1.231 for absenteeism and 1.207 for presenteeism; corresponding quality multipliers were 1.502 and 1.523, indicating systematic organisational costs beyond wages. In non-cardiac surgery, multipliers were higher: e.g., physicians 1.49 (absenteeism) vs 1.45 (presenteeism); nurses 1.37 vs 1.31. Heterogeneity aligns with organisational resilience: intensive care and neonatology show lower multipliers (systematic replacement dampens disruption), while oncology, non-cardiac surgery, and obstetrics-gynaecology exhibit higher values, reflecting greater coordination and scheduling fragility. Across occupations, absenteeism generally exceeds presenteeism in unit costs per day, though both are materially non-negligible.

Findings confirm that hospital employers systematically bear organisational costs above payroll for both absenteeism and presenteeism—costs that persist despite existing replacement and reorganisation mechanisms. Managers can apply the multipliers to local wage data and recorded absence days to estimate total costs, compare services, and prioritise prevention, staffing models, and health promotion where the return on investment is greatest. Although per-day costs are higher for absenteeism, the greater frequency and cumulative duration of presenteeism imply a potentially larger aggregate burden over time, making it a critical and often invisible management target. Limitations include reliance on perceived impact indices (mitigated by PMSI linkage), focus on MCO (medicine, surgery, obstetric) hospitals, and omission of long-term team well-being externalities. Future work should test the multipliers in longitudinal evaluations of workplace-health interventions and enable cross-country comparisons to inform European workforce strategies.

Governing reimbursed cross-border healthcare in the EU: evidence from Italy on access, sustainability, and information gaps (ID 484)

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Context: Reimbursed cross-border healthcare represents a growing but still limited component of patient mobility in the European Union. It is governed by two parallel legal frameworks: EU Regulations 883/2004 and 987/2009, and Directive 2011/24/EU. While designed to expand patient choice and access to care, the coexistence of these channels has generated governance challenges related to information clarity, financial sustainability, and equity. Understanding how these frameworks operate in practice is essential for health system managers and policy-makers, particularly as digital health integration expands and patient mobility becomes easier.

Methods: This study combines a comparative analysis of the EU regulatory framework for cross-border healthcare with an empirical assessment of official data on reimbursed patient mobility. European Commission reports, Eurobarometer surveys, and Italy's Court of Auditors data were analysed to identify trends in access, financial flows, and implementation patterns. Italy is used as an illustrative case to examine how EU-level rules are translated into national governance arrangements and budgetary mechanisms.

Results: Three main findings emerge. First, mobility reimbursed under Directive 2011/24/EU has increased in recent years, particularly after the COVID-19 period, but remains quantitatively marginal compared with mobility regulated through EU Regulations. Second, Regulation-based mobility accounts for the largest financial impact, with outbound flows consistently exceeding inbound flows and generating a persistent negative balance for Italy, largely concentrated in geographically proximate countries. Third, both regulatory channels show strong territorial concentration, with a limited number of regions accounting for a disproportionate share of outbound mobility. These patterns suggest that reimbursed cross-border care reflects existing access gaps and proximity effects rather than purely unconstrained patient choice.

Discussion and Implications: The findings highlight governance weaknesses in the current EU framework for reimbursed cross-border healthcare. Fragmented information, uneven performance of National Contact Points, and complex reimbursement procedures limit effective access and risk exacerbating inequalities, particularly for less informed or financially vulnerable patients. Digital tools, including interoperable health data infrastructures such as MyHealth@EU and the European Health Data Space (EHDS), offer an opportunity to reduce administrative friction and improve transparency, but their potential remains underutilised. For health system managers, strengthening information governance and aligning digital solutions with reimbursement pathways is critical to balancing patient access, financial sustainability, and equity in cross-border care.

From professional development workshops to intervention research strategies (ID 486)

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Context: Healthcare systems are increasingly characterised by rising complexity, professional specialisation, and fragmentation of care pathways, which require high levels of coordination across organisational and disciplinary boundaries. In response, clinical networks have emerged as key organisational forms for integrating knowledge, coordinating practices, and supporting patient-centred care. These networks rely on the collective contribution of diverse professionals who must collaborate effectively despite differing roles, norms, and institutional settings. From a micro-foundational perspective, the functioning and sustainability of clinical networks depend not only on formal structures but also on the competencies of individual actors. In particular, professionals occupying central positions play a crucial role in facilitating communication, trust, and coordination, making the identification and operationalisation of network-related competencies essential.

Methods: This study adopts a mixed-methods design to develop and validate a context-sensitive competency framework for professionals operating in healthcare networks. First, a structured review of the literature informed the identification of theoretical gaps. Second, a Professional Development Workshop (PDW) was conducted with scholars and practitioners to elicit competencies associated with network centrality. Finally, focus group sessions with representatives of healthcare professional associations and senior policymakers were used to refine, validate, and structure the competencies into a graduated competency dictionary, enhancing robustness and contextual relevance.

Results: The study resulted in a multilevel competency framework distinguishing knowledge-based, relational, and behavioural competencies relevant to central actors in healthcare networks. PDW discussions highlighted the critical role of relational and behavioural competencies in fostering collaboration, trust, and coordination. Focus group validation reduced redundancies, clarified competency definitions, and introduced graduated proficiency levels. The final output is a structured and validated competency dictionary that captures varying degrees of mastery and translates expert and practitioner knowledge into an operational tool applicable to complex, networked healthcare settings.

Discussion: The findings underscore the role of professional competencies as key micro-foundations of network functioning, complementing and extending structural explanations of network centrality. By showing how knowledge-based, relational, and behavioural competencies enable coordination, leadership, and collaboration, the study bridges competency-based HRM and social network theory. From a methodological perspective, the research demonstrates how participatory formats such as Professional Development Workshops can be systematically leveraged as data-generation devices when combined with structured validation through focus groups. This sequential and replicable approach enhances both rigor and contextual sensitivity. Although empirically grounded in the healthcare sector, the proposed methodology is transferable to other knowledge-intensive and interdependent settings, offering practical implications for competency development, training design, and network governance.

Healthcare professionals' and managers' perspectives on advanced practice nurses: factors influencing full role implementation in Spain (ID 487)

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Background: Implementation of APN roles requires knowing the elements that promote full use of their competencies within the healthcare team.

Methods: A survey used EVOHIPA to find out the opinion of healthcare professionals and managers about APNs. EVOHIPA is a valid and reliable scale (Alpha de Cronbach = 0,9) with 41 items in 8 dimensions: role activities, development and teamwork, leadership, efficiency, support, recognition, organisational model, and regulation. 162 APNs and 584 healthcare professionals, that worked with them from 34 hospitals completed the study survey.

Outcomes: Participants were women (74%), mean age of 46 years, nurses (51%), and physicians (40%). The views about the APNs were: 1. Role in relation to APN autonomy in taking complex decisions. 2. Development and teamwork: APNs advise and support others in decisions, do good teamwork, and establish alliances with others to improve patient care. 3. Leadership: APNs can lead multidisciplinary teams and care devices. 4. Efficiency: APNs are effective and efficient resources for patients' needs in chronicity or oncology and can help to reduce patients' hospitalisation. 5. Support: APNs do not have full support from managers, unions and physicians. 6. Recognition: there is a high agreement that APNs create close relationships with patients and their families. 7. Organisational model: all participants agree that advanced practice is an opportunity for nurses' professional growth and that healthcare needs to clarify functions, the scope of practice, and the profile of APNs. 8. Regulation, there is unanimous agreement that there is a need to have a regulation of APN, including financial recognition.

Impact: This study contributes to the needed evidence on the ways healthcare professionals in Spain view APNs. Future Directions: In countries where APNs are not regulated, there is a need to define the model of advanced practice nursing to minimise the great diversity in the recognition of APNs.

Enhancing RSV and HMPV surveillance in older adults: a five-country analysis of barriers, receptivity, and policy opportunities (ID 488)

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Context: Respiratory syncytial virus (RSV) and human metapneumovirus (HMPV) are among the top 5 respiratory viruses leading to hospitalisation in adults. RSV alone causes an estimated 120,000–320,000 hospitalisations and 12,000–20,000 deaths annually among older adults in Europe, with similar burden for HMPV (Zimmerman et al., 2022). Despite this burden, both pathogens remain under-diagnosed and poorly surveilled, with RSV surveillance primarily paediatric-focused and HMPV detected only incidentally through multiplex testing. The availability of RSV vaccines for older adults and development of combination RSV+HMPV vaccines necessitate robust age-stratified surveillance to inform evidence-based prevention programmes. This study examines current surveillance architectures, identifies implementation barriers, and assesses receptivity to enhanced systems across five European countries.

Methods: A mixed-methods approach combined structured country-level literature reviews, a multi-national survey, targeted expert consultation, and validation through multi-country focus groups. The literature review systematically assessed surveillance architectures, diagnostic capacity, testing pathways, and policy contexts for RSV and HMPV in older adults across France, Germany, Italy, Spain, and the United Kingdom. The multi-national expert survey (n=52) engaged clinicians, laboratory professionals, public health specialists, and policy/administrative experts to evaluate perceived progress over three years, national receptivity to system improvements, and priority barriers and opportunities. Survey respondents ranked barriers and opportunities based on perceived impact on surveillance enhancement. Findings were iteratively validated through expert focus groups in each country to ensure contextual accuracy and feasibility.

Results: Surveillance systems exhibit significant fragmentation, with RSV increasingly integrated into respiratory platforms but adult-focused testing remaining limited, while HMPV appears primarily as laboratory "by-catch" rather than through dedicated monitoring. Cross-country variation is substantial: France mandates RSV notification but lacks systematic adult testing; Germany captures RSV outbreak data with limited age-stratified confirmation; Italy's RespiVirNet provides age-stratified virology but incomplete severe-case capture; Spain offers granular RSV data through SiVIRA but fragmented HMPV reporting; and the UK maintains strong RSV tracking with less comprehensive HMPV characterisation. Survey respondents rated progress as limited for RSV and stagnant for HMPV, with national receptivity scores of 5.46/10 and 4.00/10 respectively. Priority barriers include fragmented data collection, unclear reimbursement pathways, insufficient testing access, and limited policy prioritisation. Opportunities centre on national guidance, sustainable diagnostics funding, federal-regional coordination, and digital data integration.

Discussion: Findings reveal that infrastructure and expertise exist but adult-focused virologic attribution and comparable minimum datasets remain inconsistent, particularly for HMPV. Diagnostic capacity directly shapes surveillance quality: when multiplex PCR is confined to secondary/tertiary settings and outpatient reimbursement is unclear, primary-care older adults remain untested, limiting both epidemiological precision and clinical decision-making. The political context of budget pressure and pandemic fatigue reduces appetite for expansive programmes, favouring pragmatic, low-friction approaches that leverage existing platforms. Evidence-based policy recommendations include adopting interoperable minimum datasets, evaluating existing diagnostic capacity, implementing targeted sentinel multiplex pilots, raising clinician readiness through focused education, and removing reimbursement and specimen-pathway barriers. These incremental, integrated steps can establish age- and severity-stratified burden data essential for RSV vaccination policy and future HMPV prevention strategies. This work was sponsored by Sanofi.

From strategy to action: our experience implementing HIS-integrated generative AI assistants (ID 489)

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Context: Generative AI (GenAI) is rapidly reshaping knowledge work in healthcare, yet many hospitals struggle to move from pilot projects to safe, scalable deployment in routine care and operations. Two years ago, our hospital identified GenAI as a strategic opportunity and launched a roadmap to implement GenAI assistants embedded in existing clinical and administrative workflows. A core principle of our approach is co-design: technical teams build, integrate and operate solutions within the hospital information system (HIS), while frontline professionals define needs, validate outputs and guide adoption.

Methods: We created a staged implementation roadmap covering governance, prioritisation, development, integration and continuous improvement. Use cases are selected based on clinical/operational value, feasibility, risk and data readiness. Multidisciplinary teams (IT, clinical leads, coding/quality, patient experience) define user stories, acceptance criteria and "human-in-the-loop" controls. Solutions are integrated with the HIS to minimise context switching and enable retrieval of relevant patient data under role-based access. We apply safety-by-design measures (clear scope, traceable sources when possible, disclaimers, escalation rules), plus monitoring for performance, user feedback and incidents. Training and change management focus on responsible use, limitations, and standardised workflows.

Results: We operationalised multiple GenAI assistants embedded in routine workflows through HIS integration. (1) A discharge report generator is in full production for all physicians since November 2025, supporting faster completion of discharge summaries (efficiency) while improving report quality through clearer structure, more complete content and better wording (quality). (2) An electronic health record summarisation tool is currently in a proof of concept (PoC) in the Emergency Department, helping clinicians synthesise large volumes of longitudinal information quickly and reducing the risk of missing relevant elements under time constraints. (3) A complaint-response drafting assistant has been in production since October 2024, supporting administrative teams in producing consistent, complete responses aligned with institutional tone and policies. (4) An ICD-10 coding assistant has been in production since Summer 2025, supporting coders and clinicians by suggesting relevant codes and improving consistency, while keeping final responsibility with professionals.

Discussion: Our experience suggests that hospitals can translate GenAI potential into practice when implementation is treated as a transformation programme rather than isolated pilots. Key lessons include: (a) co-design with frontline professionals is essential for relevance and trust; (b) tight workflow integration reduces friction and supports adoption; (c) governance and safety controls must be embedded from the start, with explicit human oversight; and (d) prioritising a portfolio of use cases (clinical documentation, summarisation, coding, patient experience and referral management) accelerates organisational learning. Ongoing work focuses on formal evaluation, model and prompt lifecycle management, and scaling across services while maintaining safety, transparency and accountability.

Key words in key moments: a practical guide to empathetic and effective communication between healthcare professionals and patients (ID 490)

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Context: One of the main objectives of the Patient and Family Strategic Plan (2024-27) was the implementation of a cross-cutting culture of people-centred care throughout the organisation. The correlation between two surveys (one to identify the aspects of patient experience most valued by patients and another to assess healthcare professionals' perception of the organisation's patient-centred approach), highlighted the need to enhance communication between professionals and patients at key points of expectation management across all healthcare circuits. The result was the implementation of a Communication Program that included an extended reference guide for healthcare professionals that would facilitate efficient and bidirectional exchanges of information that would strengthen the patient-professional relationship and align healthcare professionals with patients' unmet needs.

Method:

- Literature review: Examined evidence on the correlation between improved communication skills and health outcomes
- Contextual observation: Conducted a four-week assessment across all FAMT care circuits including emergency services, hospitalisation, operating rooms, outpatient consultations, primary care, mental health care and intermediate care
- Interviews and shadowing: Engaged with over 100 professionals across various care roles in admission areas, waiting rooms, outpatient services, day treatment hospitals, examination rooms, imaging centres, rehabilitation and sports therapy area, inpatient floors, ICU and operating rooms
- Systematisation of key language: Identified and categorised essential phrases for effective communication at critical moments throughout the patient journey
- Development of the Key Words at Key Moments Guide: Compiled findings into a structured reference tool for professionals
- Review and consensus: The first draft was reviewed and validated by 51 professionals across medical, nursing and the administrative teams

Results:

- Development of 47 key moment cards focused on patient-professional interactions, organised into 11 thematic areas: first impressions and greetings, patient listening, diagnosis, addressing patient concerns, recovery services, pre- and post- surgery care and communicating bad news.
- Each card includes key communication recommendations in specific situations, a section dedicated to main challenges and another detailing the aspects that can make a significant difference in the interaction.
- Creation of the SEEDA Model of Communication which outlines a methodology to systematise efficient and empathetic conversations in all interactions between professionals, patients and families
- Design and layout of the final 120-page guide
- Design of an online platform where professionals can access and download the contents of the guide
- Development of a training program based on role-play techniques, specialising in communication across different healthcare settings including the ER, operating rooms, imaging centres and the medical offices among others.
- Implementation of a dissemination plan targeting 3,200 professionals

Discussion: The project, currently being disseminated, has initiated a transformative journey within the organisation, focusing on cultivating a culture centred around patient experience. The result of the project, set to span more than three years—has been a practical tool for healthcare professionals who interact with patients daily and aims to enhance communication skills across various areas and healthcare circuits, alongside the development of a Communication Program that will train more than 800 professionals per year. The process of developing the tool, based on interviews and shadowing with more than 100 professionals, as well as final content review by a multidisciplinary team of 50 professionals, has led to the creation of practical, contextualised, and entirely in-house branded material. This project not only provides a tool to improve communication skills with patients but also facilitates dissemination of a patient experience culture within FAMT.

Perceptions of healthcare professionals and managers about Advanced Practice Nurses in Spain (ID 491)

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Hospital Clinic of Barcelona, Barcelona, Spain

Background: Implementation of APN roles requires knowing the elements that promote full use of their competencies within the healthcare team.

Methods: A survey used EVOHIPA to find out the opinion of healthcare professionals and managers about APNs. EVOHIPA is a valid and reliable scale (Alpha de Cronbach = 0,9) with 41 items in 8 dimensions: role activities, development and teamwork, leadership, efficiency, support, recognition, organisational model, and regulation. 162 APNs and 584 healthcare professionals, that worked with them from 34 hospitals completed the study survey.

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Impact: This study contributes to the needed evidence on the ways healthcare professionals in Spain view APNs.

Future Directions: In countries where APNs are not regulated, there is a need to define the model of advanced practice nursing to minimise the great diversity in the recognition of APNs.

Cross-border Health care: Hospital de Cerdanya – Hôpital de Cerdagne (ID 492)

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European Grouping of Territorial Cooperation (EGCT) – Cerdanya's Hospital, Cerdanya, Spain

Context: La Cerdagne is a mountainous region divided between Basse Cerdagne in Spain, Haute Cerdagne, and Capcir in France, all located at an altitude of over 1,200 metres. Tourism is the main economic activity, with significant seasonal population increases. Winter conditions can be harsh, contributing to the region's relative isolation from major cities. Despite the national border, strong cultural similarities persist across the territory. In this context, the European Grouping of Territorial Cooperation (EGTC) provides a legal framework for cross-border governance. The Cerdanya Hospital, opened in 2014, enables France and Spain to jointly manage funding, staff, and healthcare services in this isolated mountain area.

Methods: The analysis consists of a qualitative study of the legislative and management challenges faced by the hospital's governance, both in the past and at present, particularly in relation to workforce management and equity. It also examines the main challenges arising from cultural differences, governance structures, and legal frameworks in a cross-border context. In addition, the analysis addresses administrative frameworks related to professional accreditation, medical liability and insurance, as well as salary structures and social security contributions managed by public administrations.

Results: Although they work towards the same objectives, employees experience differences based on their nationality or country of residence. This situation affects all cross-border workers, particularly those employed within EGTC organisations. Since 2010, numerous EGTCs have been established in the Pyrenees, and they consistently identify talent retention as their main challenge. Addressing this issue requires the development of specific regulatory frameworks to ensure fair and equitable working conditions across borders. This also includes the need for harmonisation of professional diplomas within the European Union, issues related to the taxation of salaries, and an assessment of the relevance of a single emergency system staffed by multi-skilled professionals.

Discussion: New paths are required for cross-border EGTC institutions, as neither French nor Spanish labour law fully addresses the realities faced by their workers, while European law remains incomplete in this field. This legal gap raises the question of whether a specific European framework for EGTC employees should be developed. Establishing a dedicated EGTC worker status would allow for the harmonisation of human resources policies for cross-border workers employed by EGTCs. Such a framework should cover key areas including recruitment procedures, employment contracts, social benefits such as retirement schemes, taxation, and social security contributions. Creating this legal framework would enhance legal certainty, promote equity among workers, and significantly improve the ability of EGTC institutions to attract and retain qualified professionals.

Patient-centred approach and oncorehabilitation: opportunities for integration into healthcare systems (ID 493)

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The increasing incidence of oncological diseases poses numerous challenges in the implementation of therapeutic protocols, in which oncorehabilitation occupies a key role. At the same time, ensuring a higher quality of services offered by existing specialised institutions proves to be an extremely complex issue. Successfully overcoming these challenges requires comprehensive measures and actions aimed at improving the quality of provided oncorehabilitation services, ensuring real access to them, and developing new integrated cross-sector services (with an emphasis on the interconnection between social and healthcare services), tailored to the individual needs of target groups.

The concept of individualised patient-centred care reflects the patient's understanding of their health condition, personal experience, and perceptions related to everyday life and various life situations. The characteristics of the healthcare system—such as the level of cooperation between different units and teams and flexibility in managing the model—have a significant impact on how the patient-centred approach is implemented. In oncological rehabilitation, the patient-centred approach focuses on the individual needs of the patient, emphasising the physical, emotional, and social components of human health. It is associated with the prevention of complications resulting from therapy, improved clinical outcomes and survival, strengthened trust between patient and therapist, and enhanced quality of life.

The patient-centred approach in malignant diseases enables the provision of high-quality oncorehabilitation. Through an individually tailored oncorehabilitation program, patients gain access to a range of methods and tools that provide comprehensive impact on the three components of health, with minimal and short-term side effects. However, participation in such programs is hindered by the following weaknesses of the system: lack of patient awareness when seeking rehabilitation services, leading to loss of valuable therapeutic time; shortage of trained professionals in this field and underestimation of the role of kinesiotherapy in comprehensive treatment; Bulgarian legislation does not provide funding for this rehabilitation activity through the National Health Insurance Fund.

The contemporary approach to oncology patients requires integrated efforts and support from all healthcare professionals, institutions, organisations, families, relatives, and friends. The study identifies the following opportunities to overcome system weaknesses: establishment of rehabilitation centres and hospitals for specialised care offering oncorehabilitation programs; training multidisciplinary teams whose efforts are focused on treatment and prevention of complications in breast cancer; increasing patient awareness regarding the availability of oncorehabilitation programs (what and when), trained specialists (who), and the centres providing these services (where); development of legislative strategies to ensure funding of oncorehabilitation programs through the National Health Insurance Fund; creation of a multidisciplinary team algorithm to promote health and prevent cancer-related complications for each individual patient.

Improving quality of life, preventing disability, and facilitating return to work require urgent legislative action to meet the needs of oncology patients within the Bulgarian healthcare system. Timely and adequately conducted oncorehabilitation by certified specialists in hospital, outpatient, and home settings will contribute to reducing the risk of disability. The expected outcomes are associated with reduced financial costs for both the healthcare and social systems in the country.

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