EHMA 2025

Taking action to improve health for all

4 - 6 June 2025 - Rennes, France

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 EHMA Conference

The EHMA Conference 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 EHMA 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 2025

The theme for EHMA 2025, 'Taking action to improve health for all', reflects the urgent need to create innovative, scalable solutions to ensure the sustainability, accessibility, and equity of healthcare across Europe. Today's health systems face increasing pressures due to workforce shortages, the rise of chronic diseases, digital transformation, and environmental sustainability.

The 2025 conference explored how health management can be mobilised to drive meaningful, practical changes that benefit communities across the continent. The goal is to move beyond simply managing systems and to actively shape them to promote prevention, equity, and resilience at all levels, from broad system-wide initiatives to individual care settings.

Acknowledgements

EHMA acknowledge the expert guidance of the Abstract Reviewers for assessing and selecting the 371 health management research abstracts received as part of the Call for Abstracts.

Abstract Reviewers

Dr Zoltán Cserháti, MD, Semmelweis University, Hungary
Prof Tiago Correia, Universidade NOVA de Lisboa, Portugal
Prof Hélène Croguennec-Le Saout, EHESP, Rennes, France
Prof Dr Odessa Dariel, EHESP, Rennes, France
Prof Arianne Elissen, Maastricht University, The Netherlands
Prof Lucia Ferrara, Bocconi University, Milan, Italy
Prof Paulo Ferrihno, Portugal, Institute of Hygiene and Tropical Medicine, NOVA University, Lisbon
Dr Inês Fronteira, Universidade NOVA de Lisboa, Portugal
Prof Karine Gallopel Morvan, EHESP, Rennes, France
Prof Dr Paul Gemmel, Ghent University, Ghent, Belgium
Dr Luca Giorgio, Università Cattolica del Sacro Cuore, Italy
Dr Anne Girault, EHESP, Rennes, France
Dr Steve Gulati, University of Birmingham, United Kingdom
Dr Maarten Janseen, ESHPM Erasmus University, The Netherlands
Prof Dr Marija Jevtic, MD, University of Novi Sad, Faculty of Medicine Institute of Public Health of Vojvodina, Serbia
Prof Catherine Keller, EHESP, Rennes, France
Dr Eszter Kovács, Semmelweis University, Hungary
Prof Federico Lega, University of Milan, Italy
Prof Dr Lasse Lehtonen, MD, Diagnostic Center HUS Diagnostic Center, Helsinki University Hospital, Finland
Prof Emmanuelle Leray, EHESP, Rennes, France
Dr Mathieu Levaillant, MD, Angers University, France
Prof Viviana Mangiaterra, SDA Bocconi School of Management, Milan, Italy
Dr Pamela Mazzocato, Karolinska Institutet, Sweden
Dr Simon Moralee, University of Manchester, United Kingdom
Prof Federica Morandi, Università Cattolica del Sacro Cuore, Italy
Prof Julien Mousquès, EHESP, Rennes, France
Dr Guido Noto, University of Messina, Italy
Dr Manfred Pferzinger, University of Applied Sciences, Austria
Prof Dr Christelle Routelous, EHESP, Rennes, France
Dr Silvia Gabriela Scintee, MD, National School of Public Health, Management and Professional Development, Bucharest, Romania
Dr Karen Shawhan, University of Manchester, Manchester, United Kingdom
Dr Marius-Ionut Ungureanu, MD, Babes-Bolyai University, Romania
Dr Bellis Van der Berg, Vilans, The Netherlands
Prof Dr Siegfried Walch, MCI - The Entrepreneurial School, Innsbruck, Austria

Contents

Caregivers’ lived experiences and perspectives on factors influencing customer care at a secondary health facility in Ghana (ID1)

Joseph Sam[1], Prof Paul Amuna, University of Health and Allied Sciences, Ho, Ghana

Context: Customer care in the healthcare setting is a key determinant of patient satisfaction and overall quality of health. Service utilization and client attendance rates have come under scrutiny at the Volta Regional Hospital over the years. Therefore, there is a need for an explorative analysis of customer care from not only the clients' but also the caregivers’ perspectives on factors that influence customer care.

Methods This study adopted an exploratory qualitative study design using Focus Groups as the primary data collection method. A purposive sample of 18 registered nurses (F=10; M=8) of various ranks and experience at the Volta Regional Hospital Outpatient Department were recruited. These participants were divided into three (3) Focus Groups, each lasting an average of 83 minutes. The Focus Group discussions took place in a secure, confidential, and designated space within the health facility to ensure participant comfort and privacy. Data analysis was carried out using the inductive method of thematic analysis, and MAXQDA version 2022 was employed as the software tool for data management and analysis. The study's findings were presented through personal narratives, allowing for an in-depth exploration of the various themes related to customer care.

Results & Discussion: Common customer care practices among nurse caregivers were found to be effective communication, empathy and kindness; and patient-centred care. Lack of resources to work with, low motivation and understaffing were identified as the main structural factors influencing customer care at the Volta Regional Hospital. The absence of equipment and computers at the general OPD, the labour wards and gynaecological wards; and the compartmentalization of the laboratory were attributed to account for long waiting times at the hospital with concomitant negative influence on customer care and patients’ satisfaction.

The exploratory approach used in this study has shown that customer care and patient satisfaction are greatly influenced by structural factors within the healthcare setting. The customer care delivery processes among caregivers are shaped by the presence of resources, and staff motivation including available education and training programmes. The study provides an in-depth exploration of the experiences and attitudes of nurses in the process of delivering care. The findings contribute to new knowledge on caregiver-related factors that influence the quality of care in Ghanaian health facilities from nurses’ perspective.

Further studies to expand the scope of work to include other cadres of the health workforce would provide a more holistic picture and further insights into the nature of the problem. Interventions must include the timely allocation of health resources and continuing education programmes to build the capacity of health workers; including in customer care, emotional intelligence and cultural competence to improve efficiency within a limited resource environment.

Bullying among medical students in Jordan: a cross-sectional study (ID 3)

Assoc. Prof Hana Taha[1], Dr Ghazay Alharbi[2], Dr Ali Boabbas[2], Dr Ahmad Boabbas[2], Dr Jasem Althafiri[2], Dr Soud Alsuwait[2], Dr Bader Nassar[2], Dr Thamer Al Shameri[2]
[1]The University of Jordan, Jordan. [2]The Hashemite University, Jordan

Background: Bullying is a major public health problem that negatively impacts the physical and psychological status of the person. This study aims to assess the prevalence of bullying among medical students and its determinants in the different universities around Jordan.

Methods: This cross-sectional recruited 400 medical students from the Faculties of Medicine, in Jordan University, Hashemite University, Jordan University of science and technology, and Yarmouk university. The data was collected using an online questionnaire developed by the researchers based on the literature. Statistical Package for Social Sciences (SPSS) version 25 was used for descriptive and multivariate analysis.

Results: High prevalence of bullying, with 47.5% reporting victimization, primarily by fellow students (35.9%) being the primary source, followed by professors (14.9%) and other staff members (6.4%). After experiencing bullying, 57.7% reported feeling depressed or experiencing negative emotions, while 17.3% did not report any adverse effects. Around a quarter of respondents (24.3%) admitted having bullied other students, with a similar proportion (24.3%) doing so in front of witnesses. Verbal abuse was predominantly by fellow students (33.4%), followed by different levels of faculty.

Conclusion: This study underscores the urgent need for comprehensive interventions to address bullying, including support mechanisms, awareness campaigns, and policies to foster a safer and inclusive learning environment. Future research is imperative to explore preventive measures and enhance support systems within medical colleges, aiming to mitigate the adverse effects of bullying on students' mental health and academic progress.

Digital transformation in healthcare's VUCA world: ethical complexities and moral dilemmas of healthcare professionals (ID 6)

Dr Lior Naamati-Schneider[1], Prof Shir Daphna-Tekoah[2]
[1]Hadassah Academic College, Israel. [2]Ashkelon Academic College, Israel

Context: Healthcare systems globally are increasingly operating in a VUCA (Volatile, Uncertain, Complex, and Ambiguous) environment, driven by economic, demographic, technological, and political shifts. In response, healthcare organizations are adopting digital transformation processes to remain competitive and efficient. However, this strategic adaptation has introduced new ethical conflicts and moral dilemmas, particularly for healthcare professionals working in resource-constrained settings like public hospitals. The integration of new technologies, while intended to improve efficiency, often poses challenges that conflict with healthcare workers' ethical frameworks and responsibilities, creating a need for deeper exploration of these emerging issues.

Methods: This research examines the personal experiences and ethical challenges of healthcare professionals in hospitals as they navigate the complexities of digital transformation. The study investigates how these professionals reconcile the demands of new technologies with their ongoing responsibilities in a rapidly changing and uncertain healthcare environment. Using a qualitative approach, the study is based on 35 semi-structured interviews with healthcare workers from public hospitals. The interviews, conducted digitally, were analysed through both deductive and inductive methods. The findings highlight key moral dilemmas faced by professionals at macro, mezzo, and micro levels within the healthcare system.

Results: The findings revealed four central themes: (1) Innovation Paradox - While digital advancements are essential for improving healthcare efficiency, they often exacerbate concerns around cybersecurity, data privacy, and increased administrative burdens. Healthcare professionals find themselves balancing the benefits of technological innovation with the growing complexity of safeguarding patient data and ensuring operational security. (2) Quality and Treatment Conflicts - The tension between computerized, efficiency-driven processes and patient-centred care presents significant challenges. As healthcare professionals strive to manage both digital tools and patient needs, issues surrounding time management and treatment quality arise, often compromising the depth of patient interaction and care delivery. (3) Information and Knowledge Conflicts - The overwhelming influx of data generated by digital tools creates difficulties in decision-making and mentoring within healthcare teams. Healthcare workers frequently struggle to sift through vast amounts of information, leading to potential errors in judgment and increased stress levels. (4) Personal Needs and Values - blurred work-life boundaries and a growing sense of defensive medicine have led to personal conflicts for many practitioners. Many professionals report a sense of moral distress as they grapple with these pressures, leading to burnout and diminished well-being.

Discussion: In a VUCA world, the complexities of digital transformation amplify the ethical and moral dilemmas faced by healthcare professionals. This study reveals that while digital transformation is crucial for modernizing healthcare and adapting to changing environments, it often leads to significant ethical conflicts. These conflicts can create barriers to effective change, increase stress, and contribute to moral distress among healthcare workers. The study underscores the need for healthcare organizations to proactively address these challenges by implementing robust support systems. Such systems are essential for preventing moral injury, reducing stress, and maintaining both the quality of patient care and the mental well-being of healthcare professionals. Effective management of these ethical dilemmas is critical to ensuring that healthcare workers can navigate the pressures of digital transformation while continuing to provide high-quality care in this volatile and complex environment.

The influence of electronic health record design on usability and medication safety: systematic review (ID 8)

Marie Cahill[1], Prof Brian Cleary[2], Dr Shane Cullinan[1]
[1]Royal College of Surgeons in Ireland, Ireland. [2]Rotunda Hospital, Ireland

Context: Electronic health records (EHRs) encompass both clinical and administrative data, and their advantages are well-documented, including improved care quality. However, the design of EHRs can contribute to professional dissatisfaction, with the inadequate EHR design repeatedly being cited as a challenge by users. While the design of EHRs can hinder their usability, poorly designed EHRs can also result in adverse drug events and medication errors. Our study seeks to evaluate how EHR design influences both usability and medication safety, to provide practical insights regarding how usability and medication safety can be promoted in the design process of an EHR.

Methods: A systematic review was conducted of PubMed, EMBASE, CINAHL and the ACM library from 1 January 2009 to 8 October 2024. Eligible studies reported on the impact of specific EHR design elements on usability and/or medication safety, involved HCPs and took place in a secondary, tertiary or quaternary care setting. The design features identified within these studies were validated, by cross-referencing these elements with International Organization for Standardization (ISO) standards pertaining to design recommendations for interactive systems, software user interface, menu dialogues, forms and the visual presentation of information. A narrative synthesis was conducted, with studies being tabulated based on whether they assessed usability and/or medication safety. Patterns were then identified and common design elements between studies were translated into themes. The Mixed Methods Appraisal Tool (MMAT) was used to evaluate study quality and PRISMA guidelines were followed throughout the review.

Results: Thirty-two studies were identified. While a variety of study methods were employed, surveys were the most common, followed by interviews. The design features described in these studies fit within seven broad design themes: searchability, automation, customisation, data entry, workflow, user guidance and interoperability. When these design themes were prioritised and implemented consistently within EHR systems, higher usability and enhanced medication safety were reported. The opposite was found for systems that neglected these aspects of EHR design. Our review also highlighted the numerous ways these themes can be implemented, while identifying the contributing factors that permit their successful implementation.

Discussion: The design of EHRs can enhance or undermine usability and medication safety. This depends on the searchability and customisability of these systems, how data entry processes and provider workflow are facilitated and how automation, user guidance and interoperability are implemented. Additionally, a number of the themes explored in our review have appeared in other studies, such as the positive role of customisation and the need for systems that facilitate provider workflows. However, our review also highlights important design themes, including automation, that were not included in these aforementioned papers. Future research should examine how consistency amongst usability evaluations can be fostered and centre on the development of guidance regarding what exactly constitutes a design element, within an EHR context.

Future projections of cancer burden in Europe: insights from the Box-Jenkins approach (ID 11)

Dr Birol Yetim[1], Prof Dr Ozgur Ugurluoglu[2], Prof Dr Yusuf Celik[3]
[1]Mus Alparslan University, Turkey. [2]Hacettepe University, Turkey. [3]Mehmet Ali Aydinler Acibadem University, Turkey

Context: Cancer remains one of the leading causes of morbidity and mortality globally, significantly impacting public health systems. Understanding its future burden is essential for effective resource allocation and healthcare planning. This study aims to assess the future burden of cancer diseases in Europe using the Box-Jenkins approach, a robust time series forecasting technique.

Methods: To achieve the study's objective, the DALY (Disability-Adjusted Life Years) values of cancer deaths from 1990 to 2021, provided by Institute for Health Metrics and Evaluation, have been considered. A time series analysis, known in the literature as the Box-Jenkins method, specifically ARIMA, has been used for data analysis. Before the analysis, the stationarity of the data was tested for each country. Subsequently, the optimal p, and q values were determined using the Akaike Information Criterion (AIC), and the analyses were conducted. The analyses were carried out using the “forecast” and “tseries” packages in RStudio.

Result: According to the analysis results, an overall increasing trend in DALYs associated with cancer deaths is projected in Europe by 2050. Significantly, Eastern and Southeastern European countries are expected to experience significant increases in DALY values. For example, Bosnia and Herzegovina is forecasted to reach 7,531.69 DALYs in 2035 and 8,802.07 in 2050, while Albania is projected to see values of 4,449.99 in 2035 and 5,163.61 in 2050. Romania is also anticipated to witness a rise, with projected values of 8,144.12 in 2035 and 9,374.71 in 2050. In contrast, some Western European nations, such as Belgium, are expected to show declines in their DALY values, with estimates of 4,903.09 in 2035 and 4,245.31 in 2050, and Austria, which is projected to decrease from 4,207.38 in 2035 to 3,642.35 in 2050. This divergence highlights the regional disparities in the burden of cancer within Europe.

Discussion: Our findings provide valuable insights into the evolving landscape of cancer in Europe, highlighting the urgent need for proactive public health strategies and enhanced prevention efforts. The projected trends underscore the importance of targeted interventions that can adapt to changing cancer dynamics. By contributing to a comprehensive understanding of cancer trends, this research supports ongoing efforts to improve health outcomes across the continent. Policymakers and healthcare providers can leverage these insights to develop informed strategies that address both the current and future challenges posed by cancer, ultimately leading to better prevention, early detection, and treatment options for affected populations.

Building One Health Management through collaboration: key insights from a European Joint Action on antimicrobial resistance (ID 12)

Karina Rojas Salvador
European Joint Action on Antimicrobial Resistance and Healthcare-Associated Infections (EU-JAMRAI), France

Context: Antimicrobial resistance (AMR) is a significant challenge for human, animal, plant, and environmental health due to microbes knowing no barriers. Adopting a One Health (OH) approach is crucial for addressing AMR, but its operationalization through National Action Plans (NAPs) faces several barriers. Using the EU-JAMRAI 2 consortium as a study group, this work explores OH collaboration across six European countries: Spain, France, Slovenia, Iceland, Denmark, and Ireland. The study identifies the enablers and barriers faced in these diverse settings, emphasizing the need to balance interpersonal dynamics, institutional structures, and governance systems to foster effective OH from declaration to practice, especially in underrepresented sectors like the environment.

Methods: This qualitative study involved semi-structured interviews with policymakers from human, animal, and environmental health sectors in Spain, France, Slovenia, Iceland, Denmark, and Ireland. Additionally, a focus group with OH experts was conducted. Countries were selected for their varying levels of OH collaboration, as identified by the Global Database for Tracking AMR (TrACSS). The study examined key aspects of NAP design and implementation, focusing on intersectoral coordination, communication strategies, and stakeholder engagement. Thematic analysis was applied to the interview and focus group data to identify patterns in enablers and barriers, providing insights into how OH collaboration operates at different stages of NAP implementation.

Results: Key enablers for OH collaboration included strong intersectoral governance, shared OH visions, and the allocation of dedicated resources. Effective health management practices, such as Spain's intersectoral committees and France's continuous coordination, fostered alignment across sectors. Leadership, stakeholder engagement, and tailored communication strategies, including the use of formal and informal networks, were essential in building trust and managing AMR responses. However, barriers such as resource constraints and a lack of comprehensive AMR data in the environmental sector limited the full integration of OH approaches. Communication gaps, inconsistencies in sectoral knowledge, and challenges in aligning health management frameworks across sectors further impeded collaborative efforts.

Discussion: This study contributes to advancing the field by demonstrating that collaboration is a pillar of One Health (OH) Management in AMR. Successful OH collaboration requires flexible, context-specific strategies, as there is no one-size-fits-all solution. Key enablers—such as robust governance structures, stakeholder engagement, and leadership—must be adapted to local contexts, while barriers like environmental sector integration and data gaps need to be addressed through stronger evidence and resource allocation. The findings emphasize the importance of long-term commitment, tailored communication, and stakeholder involvement in promoting OH practices.

Additionally, the study reveals that micro-level factors and interpersonal dynamics —such as individual leadership, stakeholder motivation, and sector-specific engagement—serve as critical levers for effective OH operationalization and application. A systems approach, integrating bottom-up exploration of local health systems with top-down policy alignment, is crucial for sustainable OH collaboration. These insights provide a roadmap for policymakers and healthcare managers to strengthen OH strategies in AMR and other global health issues.

Use of artificial intelligence tools in supporting decision-making in hospital management (ID 13)

Maurício Alves[1,2], Joana Seringa[3], Tatiana Silvestre[4], Dr Teresa Magalhães[3]
[1]NOVA National School of Public Health, NOVA University Lisbon, Portugal. [2]Unidade Local de Saúde de Coimbra, Portugal. [3]Public Health Research Centre, Comprehensive Health Research Center, CHRC, REAL, CCAL, NOVA National School of Public Health, NOVA University Lisbon, Portugal. [4]Unidade Local de Saúde da Lezíria, Portugal

Background: The integration of Artificial Intelligence (AI) tools in hospital management holds potential for enhancing decision-making processes. This study investigates the current state of decision-making in hospital management, explores the potential benefits of AI integration, and examines hospital managers' perceptions of AI as a decision- support tool.

Methods: A descriptive and exploratory study was conducted using a qualitative approach. Data were collected through semi-structured interviews with 15 hospital managers from various departments and institutions. The interviews were transcribed, anonymized, and analysed using thematic coding to identify key themes and patterns in the responses.

Results: Hospital managers highlighted the current inefficiencies in decision-making processes, often characterized by poor communication, isolated decision-making, and limited data access. The use of traditional tools like spreadsheet applications and business intelligence systems remains prevalent, but there is a clear need for more advanced, integrated solutions. Managers expressed both optimism and skepticism 7about AI, acknowledging its potential to improve efficiency and decision-making while raising concerns about data privacy, ethical issues, and the loss of human empathy. The study identified key challenges, including the variability in technical skills, data fragmentation, and resistance to change. Managers emphasized the importance of robust data infrastructure and adequate training to ensure successful AI integration.

Conclusions: The study reveals a complex landscape where the potential benefits of AI in hospital management are balanced with significant challenges and concerns. Effective integration of AI requires addressing technical, ethical, and cultural issues, with a focus on maintaining human elements in decision-making. AI is seen as a powerful tool to support, not replace, human judgment in hospital management, promising improvements in efficiency, data accessibility, and analytical capacity. Preparing healthcare institutions with the necessary infrastructure and providing specialized training for managers are crucial for maximizing the benefits of AI while mitigating associated risks.

Gender disparities in online visibility: analysing the online representation of female leadership in the healthcare sector using AI-driven algorithms (ID 15)

Prof Dr Stefanie Scholz[1], Prof Dr Vera Antonia Büchner[2]
[1]SRH University of Applied Sciences, Germany. [2]Technische Hochschule Nürnberg Georg Simon Ohm, Germany

Context: This research investigates the *visibility of female leadership in the German healthcare sector* by analysing search engine results. Using AI-driven algorithms, we explored how female leaders in healthcare companies like pharmaceutical or MedTech and institutions, such as hospitals, are represented online. We focused on the disparities between male and female leaders in terms of the prominence and content of search results. Over 500,000 results were gathered using keywords like "female healthcare leaders," "hospital leadership," and "gender in healthcare management." Our study aims to contribute to the understanding of how digital visibility impacts the perception of female leadership in healthcare, a sector where leadership roles are crucial to shaping policies and outcomes.

Methods: We conducted an automatic internet search using AI algorithms designed to cluster topics within the search results. The keywords targeted terms related to leadership, gender, and healthcare. The data collection resulted in over 500,000 entries, which were filtered and clustered based on relevance, content type, and topic themes. The analysis compared the volume and nature of results associated with female versus male leaders, focusing on mentions in articles, reports, and online profiles. Natural Language Processing (NLP) was applied to identify key ´topics and trends. We examined not just the volume but also the framing of the content in which female leaders appear. By identifying patterns in online representation, we aim to highlight gaps in digital visibility that could influence career progression and public perception.

Results: Preliminary results indicate a significant imbalance in the visibility of female leaders compared to their male counterparts in the healthcare sector. Female leaders were less frequently featured in prominent search engine positions, and the content of their mentions was more likely to focus on personal traits or challenges rather than professional achievements or strategic decisions. In contrast, male leaders appeared more often in industry reports and news articles discussing their leadership roles and organizational impact. Additionally, the type of sources varied notably between genders. Mentions of male leaders were more commonly found in high-authority sources, such as established news outlets and industry publications, which typically carried more weight in search engine rankings. The disparity extended to the language used in the content, where male leaders were often associated with terms highlighting success, innovation, and strategic influence, while female leaders were described with words emphasizing resilience, empathy, or personal background. The clustering analysis revealed that discussions around female leaders often included narratives related to work-life balance and overcoming gender barriers, whereas male leaders were featured in articles focusing on business achievements and leadership milestones. This thematic divergence suggests that the online portrayal of female leaders may reinforce traditional gender roles and undermine their perceived professional authority.

Discussion: These findings suggest a gender disparity in the online representation of healthcare leadership, which may affect perceptions of female leaders within the industry. The reduced visibility and different content framing around female leaders could perpetuate stereotypes and limit their influence. Addressing these discrepancies requires more intentional representation of female leadership achievements in healthcare, both online and in media. Future research should explore strategies to enhance the visibility and portrayal of female leaders across digital platforms, ensuring a balanced representation that recognizes their professional contributions and leadership impact.

Empowering patient-centred care: insights from AI-based analysis of breast cancer patient needs in adjuvant therapy using Natural Language Processing (ID 16)

Prof Dr Stefanie Scholz[1], Hannah Wrosch[1], Prof Dr Christian Winkler[2]
[1]SRH University of Applied Sciences, Germany. [2]Technische Hochschule Nürnberg Georg Simon Ohm, Germany

Context: Breast cancer is the most common type of cancer globally, necessitating a comprehensive understanding of patient experiences during treatment. Patients undergoing adjuvant therapies face significant physical, psychological, and social stress. Breast Care Nurses (BCNs) play a pivotal role in delivering patient-centred care by aligning nursing practices with patients' evolving needs. This study leverages AI-based big data analysis of user-generated content (UGC) to capture a nuanced view of patient needs during adjuvant therapy, aiming to enhance BCN support and promote people-centred care approaches worldwide.

Methods: To gain a comprehensive understanding of patient-centred needs during adjuvant therapy for breast cancer, we applied an innovative AI-based big data analysis approach to UGC. This methodology involved collecting a substantial volume of anonymized data from various online sources, including patient forums, social media platforms, and other communities where patients freely discuss their treatment experiences. Natural Language Processing (NLP) techniques were used to parse and analyse these large text datasets, enabling us to capture patient narratives in real-time and extract common themes. Through machine learning-driven topic modelling, we categorized these themes into distinct areas of patient needs, allowing us to systematically understand the specific support, information, psychosocial, and emotional needs voiced by patients. Additionally, sentiment analysis was employed to assess the emotional tone within these narratives, offering insights into the psychological and emotional impact of adjuvant therapy on patients. This multi-layered AI approach ensured a detailed, scalable assessment of patient experiences, capturing both the breadth and depth of their needs in a way that traditional survey methods may overlook.

Results: The analysis identified four primary needs among breast cancer patients undergoing adjuvant therapy: support, information, psychosocial, and emotional needs. Patients expressed challenges in coordinating care and navigating healthcare logistics, revealing a need for cohesive support structures. A notable gap in personalized information led patients to seek individualized guidance on treatment options, side effects, and recovery. Additionally, many patients experienced psychosocial isolation, underscoring the value of empathetic support networks. In the emotional category, the need for compassionate, continuous emotional support was one of the most prominent findings. Patients frequently shared their struggles with fear, uncertainty, and the psychological toll of their treatment journey. This indicates a strong need for BCNs to incorporate practices such as active listening, empathy, and reassurance into their interactions with patients, helping to alleviate emotional burdens and build trust. These insights informed specific BCN recommendations aimed at improving patient engagement and optimizing care practices.

Discussion: This study offers an AI-driven, scalable framework for BCNs to address different crucial aspects - and also secures data privacy as all analyses can be done on a aggregated level: key support, information, psychosocial, and emotional needs of breast cancer patients, advancing people-centred care by capturing real-time insights from patient-generated content. By combining validated assessment tools with digital health platforms, such as ICOnnecta't, BCNs can address patient needs in a structured, personalized way, facilitating better care coordination and reducing logistical burdens. Tools like the Toronto Information Needs Questionnaire - Breast Cancer allow BCNs to deliver targeted support and enhance information sharing tailored to individual patient profiles. To meet psychosocial and emotional needs, BCNs can establish patient support networks, fostering peer connection and reducing isolation. The study underscores the value of integrating digital health ecosystems, which enable real-time communication, shared decision-making, and active patient involvement.

The use of artificial intelligence and gamification in the training of health care students and professionals: evidence from the UAE (ID 17)

Prof Mohamad Alameddine, Dr Ayad Turky, Mr Zyead Alwsh, Prof Abbes Amira
University of Sharjah, UAE

Context: The training and professional development of health care professionals is presenting a challenge nowadays not only due to the scarcity of resources but also due to the boring and non-engaging nature of many of those educational and training programs. The utilization of Artificial Intelligence and Gamification presents an opportunity to enhance the knowledge and skills of health care professionals in fun, engaging and cost-effective manner.

Methods: We present the experience with the design and implementation of an Artificial Intelligence powered digital application that incorporates gamification to make the APP engaging, fun and cost effective.

Results: We will walk the audience through the design process of the EduMentor (c) Application and the collaborative efforts between computing and informatics designers and engineers with the content provided by health care educators. Aspects of discussion include utility, looks and feel, human machine interface, flexibility, cost-effectiveness and fun aspects among others.

Discussion: At the time of abstract submission, the EduMentor (c) application was ongoing pilot testing and was being prepared to go live in January 2025. The presenters promise to bring to the audience the initial evaluation reports and learning lessons so that the experience could be replicated in European countries.

Improving sustainability from hospital processes: green hospital, green healthcare (ID 20)

Dr Natalia Allué, Dr Jaume Duran, Miguel Angel Martínez
Fundació Sanitària Mollet, Spain

Context: Fundació Sanitària Mollet (FSM) is a non-profit organization that offers public social and health services in Vallès Central (Barcelona). For the FSM, one of the institutional principles is Green Culture and Environmental Sustainability. Health centres are responsible for 4.4% of CO2 emissions at a European level, and globally it is equivalent to being the fifth most polluting country in the world. Then, it is necessary for health centers to establish measures and strategies to reduce the environmental impact of health care, with the ultimate goal of achieving a neutral carbon footprint.

Methods: For this reason, the Green Hospital project was born, which began in the projection phase of the new building inaugurated in 2010, which has a history of more than 10 years. The building has a Geothermal installation, one of the largest in Europe, sustainable roofs with rainwater collection, 1,368 photovoltaic panels, 100% electricity from renewable sources, 29 types of waste are segregated, the fleet has been electrified of vehicles, among other actions. The objective of this study was to identify healthcare strategies to reduce the environmental impact of hospitals in order to contribute to a reduction in the hospital's carbon footprint. Once the measures with the greatest impact on the reduction of CO2 emissions, related to the structure and facilities of the Hospital, have been carried out, the need to carry out a process-by-process analysis was determined, for its analysis and to establish measures to minimize the environmental impact.

Results: Progressive elimination of single-use materials was activated. Waste Management allowed us to go from segregating 9 different types of waste, to a total of 29. In a day of hospitalization, a person generates an average of 7 kg of waste. The prioritization of home hospitalization and the Fast-track project for knee or hip prosthesis interventions have been an example of the improvements. The acquisition of the most efficient equipment is prioritized. An example is the installation of Semiautomatic Medication Dispensing Cabinets, which, thanks to better drug administration control, stock control, and expiration dates, have made it possible to reduce solid drug waste by 38% in 2022 compared to 2021. Mobility generates a great environmental impact. For this, it was developed a YouTube channel for Rehabilitation service, virtual consultation and high-efficiency consultations. Finally, a project was carried out to avoid duplication in the performance of unnecessary diagnostic tests.

Discussion: The main result obtained thanks to the Green Hospital project and the route to decarbonization has been that the hospital has achieved a significant reduction in direct emissions, of 71.12% in 10 years of activity. Beyond the current Strategic Plan, the FSM has traced the route to NetZero, establishing an action plan until 2050 for total decarbonization. To achieve this objective, the three actions with the greatest impact that have been established are the reduction of emissions; governance, culture and education; and be a Healthy Entity. This route consists of three main paths that will be intertwined, the initial the total decarbonization of the activity until 2030, the total decarbonization of the supply chain in 2040 and total compensation of emissions, and finally the decarbonization of the economy and society in the final stretch will allow total neutrality including residual emissions.

Artificial intelligence affecting hospital systems: a managerial perspective (ID 26)

Dr Cheryl Chong Zhiya, Ray Chong Junrui, Dr Jonathan Chng Jia Hao
National University Health System, Singapore.

Context: The rise of artificial intelligence (AI) in healthcare management marks a transformative shift in healthcare system operational paradigms, driven by technological advancements and the increasing complexity of healthcare delivery. AI's integration into healthcare is propelled by the exponential growth of data, enhanced computing power, and breakthroughs in machine learning algorithms. These developments enable healthcare organisations to optimise operations, enhance patient care, and address longstanding challenges such as resource constraints and rising costs. From a managerial perspective, understanding these dynamics is crucial for leveraging AI effectively to improve organisational performance and patient outcomes.

Methods: This study employs a comprehensive systematic review to analyse existing research on AI applications in hospital management. The inclusion criteria for the study were studies that discussed artificial intelligence or machine learning and its uses in hospital systems and management. Identified articles were reviewed against the inclusion criteria. Prior to inclusion, the studies were also evaluated for their relevance and applicability to the research question. For each eligible article, we extracted relevant information, such as methodology, sample size, data collection methods, and key findings regarding artificial intelligence or machine learning use in hospital management. The review synthesises findings from peer-reviewed articles, case studies, and industry reports to identify best practices and emerging trends in AI implementation. Furthermore, we critically examine the challenges faced by hospital administrators in integrating AI technologies within existing frameworks, providing insights into managerial strategies that can facilitate successful adoption and utilisation.

Results: Key themes identified include operational efficiencies, patient engagement, and clinical outcomes. Based on the results, we analysed different aspects in which AI significantly enhances hospital management. These include automating administrative tasks, improving patient flow, and refining resource allocation. Hospitals leveraging AI report notable reductions in operational costs and improved patient outcomes due to enhanced decision-making capabilities. From a managerial standpoint, this underscores the importance of investing in AI technologies as a means to drive efficiency. However, challenges such as data privacy concerns and the need for staff training are identified as critical barriers to successful integration. The study emphasises the necessity for hospital leaders to establish a robust governance framework that addresses these challenges, while maximising the benefits of AI.

Discussion: Our systematic review highlights the complex interplay between AI's benefits and ethical challenges in hospital systems. While AI can drive efficiency and enhance care quality, it also raises significant questions regarding data ethics and decision-making transparency that hospital managers must navigate. Effective managerial strategies should prioritise stakeholder engagement, continuous education, and ethical governance to foster trust in AI applications. As healthcare continues to evolve, embracing AI requires a balanced approach that integrates innovation with ethical responsibility. This strategic alignment will ultimately enhance healthcare delivery systems and ensure that organisations remain agile in meeting the demands of an increasingly complex healthcare landscape.

Evaluation of availability and quality of healthcare services in Lithuania: current opportunities and directions for improvement (ID 27)

Ilona Ogurcova, Dangoulė Jankauskienė, Birutė Mockevičienė
Mykolas Romeris University, Lithuania

The Mykolas Romeris University (MRU) sociological study, conducted in 2024, aimed to examine healthcare accessibility, patient satisfaction, and the impact of the COVID-19 pandemic on healthcare service delivery. Data were collected from a representative sample of the population. The study compared patient experiences between 2021 and 2024, focusing on service accessibility, quality, and patient expectations. Statistical analysis was employed to identify key changes and trends in service utilisation and patient choices.

The study reveals that while 99% of the population uses primary healthcare services, access to outpatient specialist services and the doctor registration system remains the biggest challenges, especially in the post-COVID-19 era. The percentage of patients encountering issues with accessibility and quality increased from 30% in 2021 to 48% in 2024. This increase is primarily attributed to organisational changes in healthcare delivery following the pandemic. As a result, many patients are increasingly choosing private services (29 per cent) to avoid long waiting times.

According to statistics, the number of visits to healthcare services dropped from 26 million in 2019 to 23 million in 2020 but rebounded to 28 million in 2023, indicating an increased demand for services. The most commonly utilised services are primary healthcare, diagnostic services, specialist consultations, and dental care, while mental health, rehabilitation, and nursing services are less frequently utilised. Emergency services were used by nearly half of the population. The quality of secondary healthcare services is still insufficient, with 64% of patients rating them as good or excellent, while level II and level III services received the highest ratings.

The study emphasises the need for ongoing investment in public healthcare to address organisational challenges and meet rising patient expectations. Improving accessibility, quality, and financial efficiency is critical for creating a patient-centred healthcare system that can effectively respond to both routine needs and emergencies. Strengthening collaboration between healthcare institutions and improving waiting time management are essential for enhancing patient satisfaction and ensuring the sustainability of public services. While private healthcare provides quicker access, the study highlights the need for broader system reforms, reducing bureaucracy, and improving the quality and accessibility of public services. Ensuring that public healthcare remains accessible to all citizens requires long-term structural changes.

Exploring teamwork in fluid Multiteam Systems (MTS): a qualitative case study on team effectiveness in public health emergency response teams (ID 28)

Dr Eva Krczal
University for Continuing Education Krems, Austria

Context: Achieving public health aims typically requires collaborative efforts that go beyond the capacity of any single team but rely on the coordination of multiple teams within a multiteam system (MTS). Working within such a context introduces additional complexities, as team members must coordinate activities both within their own teams and across component teams. This study aims to provide insights into the multifaceted factors influencing MTS effectiveness by qualitatively exploring team members' experiences in a fluid MTS, their ability to collaborate effectively across teams, and the impact of social dynamics on cooperation and teamwork.

Methods: This research employs an in-depth qualitative case study of a public health partnership in Wales, UK. Using maximum variation sampling and diverse data sources, the study captures team members' experiences from various perspectives. Data were gathered through semi-structured interviews, focus group discussions, and open-ended survey responses. Non-directive questioning allowed participants to freely discuss their experiences, suggest key themes, and reflect on their roles. Thematic analysis was used to identify key contributors to MTS effectiveness, while the Input-Mediator-Output (IMO) model provided a conceptual framework for analysing multiteam performance. Participants included senior managers from partner organizations, as well as current and former staff from various positions and teams.

Results: The study reveals that situational factors, particularly the pandemic, played a significant role in shaping team dynamics, strengthening commitment to shared goals, and fostering a collective identity across teams. Leadership emerged as a critical factor in enabling MTS effectiveness, particularly through the establishment of effective governance, role modelling (ensuring all voices are heard), and promoting a psychologically safe work environment. Psychological safety was identified as essential for team effectiveness by supporting structured learning processes within teams. Additionally, social dynamics, such as team commitment and a shared identity, were found to enhance communication, mutual support, and cooperation across component teams.

Discussion: The findings offer valuable insights for managers leading fluid MTSs. Clear articulation of a common goal, alignment of individual team contributions to that goal, and regular feedback mechanisms are key to fostering a shared identity and uniting multiple teams. The research also highlights the importance of implementing coordination mechanisms to create an organizational foundation that facilitates collaboration. Information flow within the system is essential for updating shared mental models, particularly in high-stakes, complex settings. Effective personnel management strategies, including selecting team members who can navigate uncertain environments, appointing leaders with inclusive and compassionate leadership styles, and introducing staff well-being measures to manage work-related stress, are recommended.

The relationship between GDP per capita and the share of health expenditures in government spending: evidence from Türkiye and OECD countries (ID 29)

Prof Mesut Çimen, Assoc. Prof Salim Yılmaz
Acıbadem Mehmet Ali Aydınlar University, Turkey

Context: Understanding the dynamics between GDP per capita and the share of health expenditures in government spending is critical for effective economic and health policy-making. This study explores the interaction between these variables for Türkiye and OECD countries over the period 1980–2022. By utilizing advanced econometric techniques, the research investigates the causal relationships and dynamic linkages that may guide policy development for optimizing health expenditure distribution.

Methods: This study applies the Toda-Yamamoto causality test and variance decomposition analysis using time series data of GDP per capita and the share of health expenditures in government spending. The analysis includes data spanning 1980–2022. Stationarity assumption was assessed using the Augmented Dickey-Fuller test, and differences were taken to ensure stationarity for variables with integration at different levels. The maximum integration order (dmax=3) was identified for Türkiye and (dmax=2) for OECD countries. Optimal lag lengths were determined using Akaike Information Criterion ensuring robust model specification. In addition, standard assumptions for VAR modeling were tested, including autocorrelation, normality, and heteroskedasticity diagnostics, to validate the model's reliability.

Result: For Türkiye, GDP per capita was found to have a significant causal effect on the share of health expenditures in government spending ($\chi^2=45.471$, $p<0.001$), while the reverse relationship was not supported ($\chi^2=6.4135$, $p=0.601$). Variance decomposition analysis showed that GDP per capita explained up to 64.47% of the variance in health expenditure share over the long term. For OECD countries, the share of health expenditures in government spending had a significant causal effect on GDP per capita ($\chi^2=26.878$, $p<0.001$), while no causality was found in the reverse direction ($\chi^2 = 0.6008$, $p = 0.7405$). At 2 lags, the share of health expenditures explained 28.47% of the variance in GDP per capita, while GDP per capita explained 71.53% of its own variance, indicating a more limited short-term impact of health expenditures on GDP per capita.

Discussion: In Türkiye, GDP per capita, an indicator of economic growth, drives health expenditure distribution, with long-term effects evident from variance decomposition at 7 lags. This reflects Türkiye's economic structure, where health spending aligns with budgetary adjustments shaped by broader economic performance. However, health expenditures in Türkiye have yet to drive economic productivity, likely due to inefficiencies in allocation or the predominance of other growth factors like industrial and service sectors. In contrast, OECD countries show a stronger short-term impact of health expenditures on economic performance, as seen in variance decomposition at 2 lags. This is attributed to mature and efficient healthcare systems that enhance economic productivity through better public health, reduced absenteeism, and workforce efficiency. The higher share of health spending in OECD budgets further underscores its role in economic development. Policymakers must recognize these linkages to enhance resource allocation and promote sustainable growth.

Sustainability in healthcare institutions: managerial implications (ID 30)

Dr Cheryl Chong Zhiya, Ray Chong Junrui, Dr Jonathan Chng Jia Hao
National University Health System, Singapore

Healthcare organisations (HCOs) face increasing pressure to adopt sustainable practices to mitigate their environmental impact. The healthcare sector is responsible for a significant portion of global greenhouse gas emissions, surpassing even high-emission industries like aviation and shipping. Many HCOs have initiated sustainability practices to reduce ecological footprint. This systematic review explores sustainable initiatives implemented by HCOs, assesses their effectiveness, and discusses managerial implications of sustainable healthcare.

A systematic review was conducted on sustainability practices in healthcare on PubMed, Scopus, and Google Scholar around keywords sustainability, environmental impact, healthcare, hospitals. Inclusion criteria selected studies focusing on measurable outcomes, such as waste reductions, energy consumption, or greenhouse gas emissions. Prior to inclusion, the studies were also evaluated for their relevance and applicability to the research question. Data extraction involved identifying types of initiatives implemented, frameworks used for implementation, their effectiveness and limitations.

The review included 36 articles exploring effective sustainable practices in healthcare institutions. Healthcare facilities are increasingly implementing energy-saving technologies and renewable energy sources to minimise energy consumption. Many hospitals have achieved substantial energy savings through electrical system upgrades. Some institutions reported reductions in carbon emissions of up to 98% by minimizing desflurane use in anaesthesia, showcasing the potential of targeted energy efficiency measures to significantly lower greenhouse gas emissions. Effective waste segregation and recycling practices are essential, allowing healthcare organizations to manage hazardous materials responsibly while minimizing their overall waste footprint. Some hospitals have adopted waste policies that successfully reduced waste volumes by up to 40% during surgical procedures. Reducing the use of harmful chemicals and plastics through green procurement policies that prioritize biodegradable and non-toxic supplies is another vital initiative. By sourcing sustainable food and medical products, hospitals can significantly decrease their environmental impact while promoting healthier options for patients.

Managerial implications: While significant progress has been made, there are several managerial implications which remain in implementing sustainable practices in healthcare.

Strong leadership is essential in driving sustainability initiatives and allocating necessary resources. Leaders must champion sustainability as a core organizational value, ensuring integration into strategic planning and decision-making processes. Investing in staff training and education programs can empower employees to participate in sustainability efforts. By providing knowledge and skills on sustainable practices, organizations can foster a culture of environmental responsibility.

Implementing robust monitoring and evaluation systems help track progress, identify areas for improvement, and optimize resource allocation. Data-driven insights inform decision-making and ensure sustainability initiatives align with organizational goals. Collaborating with other healthcare organizations, suppliers, and policymakers facilitates knowledge sharing, leverage economies of scale, and accelerate the adoption of sustainable practices.

Identifying these managerial implications allows healthcare managers to tackle them head on, working toward a sustainable future while ensuring high-quality patient care.

Benchmarking for success: transforming accreditation in graduate healthcare management education to ensure well-prepared future leaders (ID 31)

Dr Anthony Stanowski[1], Dr Daniel West[2,1]
[1]Commission on Accreditation of Healthcare Management Education, USA. [2]University of Scranton, USA

Context: The Commission on Accreditation of Healthcare Management Education (CAHME) uses competency-based education criteria with a CQI process. CAHME incorporates benchmarking in ensuring program excellence.

The presentation reviews how benchmarking can elevate accreditation processes in graduate healthcare management education, making performance improvement more targeted and impactful. It emphasizes success through data-driven strategies utilizing benchmarking as a transformative tool for aligning educational programs with accreditation standards and healthcare industry needs. The session will demonstrate how AI is incorporated into accreditation preparation and the development of university program strategy.

Methods:

1. Explain the role of benchmarking in meeting and exceeding accreditation standards (e.g., CAHME Standards, university program outcomes, university program resources).
2. Demonstrate how benchmarking drives continuous improvement in program quality and accreditation outcomes.
3. Review how public access to relevant information drives performance improvement.
4. Provide attendees with tools and strategies to integrate benchmarking into accreditation processes.

Results: Benchmarking in Action

- Case 1: Benchmarking to improve student competency outcomes.
- Case 2: Benchmarking faculty qualifications and compensation data.
- Case 3: Benchmarking for student recruitment in graduate programs.
- Case 4: Benchmarking to prepare for an accreditation site visit.

Discussion:

- Recap of actionable strategies to integrate benchmarking into accreditation workflows.
- Handling gaps in data collection or reporting
- Addressing resistance to change based on benchmarking findings
- Managing resource constraints and the use of AI to assist in analysis.

Time to care: can financial incentives alone cultivate caring? (ID 32)

Dr Odessa Dariel, Dr Paula Cristofalo
EHESP, France

Context: In a context of persistent challenges facing the homecare sector which include staff shortages, poor working conditions and undervaluation of care work, a French association inspired by the Dutch Buurtzorg model has implemented a new homecare approach for nurses. Buurtzorg-France homecare nurses working in self-managed teams have experimented an hourly payment scheme, replacing the current fee-for-service (FFS). Using Joan Tronto's care ethics framework, this study investigates how this innovative organizational model reshapes nursing practices and patient outcomes. The study focuses on the interplay between organizational values, payment reform and nurses' professional autonomy to assess how structural incentives facilitate the practice of holistic care. We explore how the model supports and encourages holistic care by cultivating a favourable working environment that recognizes the value of caregiving.

Methods: A longitudinal qualitative study was conducted between 2017 and 2023 to examine the French adaptation of the Buurtzorg model. 63 semi-structured interviews and 185 hours of shadowing and observation of homecare nurses were conducted capturing caregiving activities, team dynamics and patient interactions. Interviews were transcribed and analysed using thematic analysis in NVivo, followed by a secondary analysis based on Tronto's framework to identify caregiving phases and alignments with ethical values. Data triangulation ensured reliability and a comprehensive understanding. We obtained informed verbal consent, maintained anonymity and assigned pseudonyms.

Results: The results reveal a "virtuous cycle of caring," driven by incentives resonating with nurses' ethical values and enabled by the hourly payment scheme. Previously constrained by the fee for service payment limitations, nurses were now empowered to provide relational, preventative and holistic care. Observations demonstrated enhanced patient autonomy, improved continuity of care and meaningful rapport-building. Nurses reported increased job satisfaction due to reduced time pressure and an alignment with their professional ethics. Organizational support including an assigned coach, continuing education, a performant IT system and teamwork facilitation further contributed to improving their work-life quality. As the hourly payment scheme is generalized, we raise attention to the fact that the success of this payment reform depends on its integration within the Buurtzorg organizational model. Our results underscore the importance of nurturing a values-driven care ecosystem to sustain improvements in care quality and workforce retention.

Discussion: This study highlights the role of an organizational structure focused on work-life quality and an hourly payment scheme to improve nurse job satisfaction and address the undervaluation of care work. By aligning the payment model with nurses' ethical values, Buurtzorg-France fosters relational caregiving, accountability and patient-centred practices. Placing the spotlight on autonomy, teamwork and holistic care allows nurses to practice with integrity while enhancing patient outcomes and reducing systemic inefficiencies. However, scaling this model nationally will necessitate safeguarding its foundational principles because financial incentives alone will be insufficient. The payment scheme must be accompanied by a supportive organizational model and ecosystem that legitimizes caregiving as an essential societal contribution. This study therefore seeks to contribute to a broader discourse on the societal value of caring, urging policymakers to embed care ethics in healthcare reforms.

The impact of international accreditation on healthcare quality (ID 34)

Prof Mesut Çimen, Aslı Öztürk
Acibadem University, Turkey

Context: Healthcare accreditation systems play a critical role in improving healthcare quality and ensuring patient safety. As global health systems face increasing demands and challenges, understanding the impact of accreditation on healthcare delivery is vital for effective management and resource allocation. This study aims to determine the impact of international accreditation on healthcare quality from the perspective of healthcare providers.

Methods: This study was conducted between June 1-30, 2022, at four hospitals in Turkiye accredited by Joint Commission International (JCI). Data were collected using a survey form. The Accreditation Scale and the "Quality Outcomes Scale" were used to measure employee perceptions. Correlation analyses were chosen based on normality checks. Linear regression models were established to examine relationships between the specified metrics. Assumptions were checked using the Anderson-Darling test, Durbin-Watson statistic for variance, and the skewness and kurtosis values of the dependent variable. Interpretations were made at a 95% confidence interval.

Results: Descriptive statistics revealed positive attitudes toward accreditation with mean scores for employee engagement (3.86 ± 0.74), accreditation benefits (4.15 ± 0.64), and quality outcomes (4.22 ± 0.62). Participants exhibited a generally favourable perception of accreditation processes and their impact on healthcare quality. Correlation analysis showed moderate positive relationships between employee engagement and accreditation benefits ($r=0.663$, $p<0.05$) and between employee engagement and quality outcomes ($r=0.638$, $p<0.05$). A strong positive relationship was identified between accreditation benefits and quality outcomes ($r=0.790$, $p<0.05$). Regression analysis indicated that accreditation positively influenced employee engagement ($\beta=0.204$, $p<0.001$) and accreditation benefits ($\beta=0.655$, $p<0.001$), which, in turn, improved quality outcomes. Accreditation accounted for 64.8% of the variance in quality outcomes ($R^2=0.648$).

Discussion: The findings show that accreditation improves critical quality indicators such as clinical services, institutional efficiency, employee motivation, patient satisfaction, and patient safety awareness. Continuous improvement to meet accreditation standards and clear protocols for monitoring these processes are essential for sustainability. Active employee participation enhances healthcare management strategies and outcomes. Accreditation provides a structured framework to align healthcare operations with international best practices and quality standards. Participants' positive perceptions highlight the need for organizations to prioritize and actively engage in accreditation processes. The analysis underscores the vital role of international accreditation in improving healthcare quality and patient satisfaction. Accredited facilities demonstrated significant progress in medical documentation, patient safety awareness, and clinical support services like laboratories. Accreditation also boosts global competitiveness and reputation. These findings confirm accreditation as a critical tool for continuous healthcare improvement, offering valuable insights for policy-making and healthcare management strategies.

The institutional impact of robotic surgery adoption: evidence from prostate and thyroid cancer in South Korea (ID 40)

Dr Junsoo Ro[1], Dr Young Kyung Do[2,3]
[1]Department of Preventive Medicine & Public Health, Ajou University School of Medicine, Republic of Korea. [2]Department of Health Policy and Management, Seoul National University College of Medicine, Republic of Korea. [3]Institute of Health Policy and Management, Seoul National University Medical Research Center, Republic of Korea.

Background: The adoption of robotic surgery, particularly the *da Vinci* system, has transformed surgical practices globally by offering enhanced precision and minimally invasive techniques. While its clinical benefits are well-documented, there is limited causal evidence on its institutional impact, particularly on service delivery and patient flow. This study examines the effects of robotic surgery adoption on service volumes—including surgical procedures, inpatient admissions, and prostate-specific antigen (PSA) testing—in South Korea, where the technology has rapidly proliferated since 2005.

Methods: We analysed de-identified administrative claims data from the National Health Insurance Service (NHIS) for 109,502 prostate cancer and 393,614 thyroid cancer patients treated between 2005 and 2017. Interrupted Time Series Analysis (ITSA) was employed to evaluate both immediate (level effects) and long-term (slope changes) impacts of robotic surgery adoption at the institutional level. Key indicators included changes in surgical volumes, inpatient admissions, and PSA testing frequencies. Service volumes were measured on a quarterly basis to account for institutional variation, and trends prior to adoption. The ITSA model assessed differences before and after robotic surgery adoption, providing robust evidence of trends over time. Statistical significance was determined at $p<0.05$ using standard error adjustments for autocorrelation within institutions.

Results: Robotic surgery adoption was associated with a substantial increase in service volumes across adopting institutions. For prostate cancer, adoption resulted in an immediate rise of approximately 4.9 surgeries per quarter ($p<0.05$), coupled with a sustained upward trend in both surgical volume and inpatient admissions. These findings suggest increased institutional capacity to attract and manage prostate cancer cases, likely driven by the perceived benefits of robotic surgery and competitive market positioning. For thyroid cancer, while the immediate effect on surgical volume was not statistically significant, inpatient admissions showed a significant upward trend post-adoption ($p<0.05$), indicating a gradual increase in patient inflow. PSA testing also exhibited an upward trajectory following robotic surgery adoption, reflecting proactive screening and patient-targeting strategies to enhance prostate cancer management. Collectively, these results highlight institutional efforts to optimize the use of robotic surgery systems and expand service delivery.

Discussion: This study provides causal evidence that robotic surgery adoption significantly influences healthcare service volumes and institutional behaviours, particularly for prostate and thyroid cancer treatments. The observed increases in surgical volumes, inpatient admissions, and PSA testing reflect institutional strategies, including supplier-induced demand, competitive positioning, and the marketing appeal of robotic surgery. By attracting patients from surrounding areas, robotic-capable institutions may contribute to regional centralization of surgical services, potentially reshaping healthcare delivery patterns. While such innovations enhance institutional competitiveness and access to advanced care, they also pose challenges, including escalating healthcare costs and inequities in access to robotic technologies across regions. Policymakers and healthcare managers must address these challenges through policies that promote cost-effectiveness, equitable access, and sustainable integration of high-cost technologies. Future research should evaluate the long-term outcomes of robotic surgery adoption, including its economic impact, clinical benefits, and effects on healthcare resource allocation across other disease areas.

The impact of polypharmacy on treatment adherence and quality of life in individuals aged 65 and over: a comprehensive study (ID 41)

Prof Dr Özgür Uğurluoğlu[1], Dr Seval Selvi Sarıgül[2], Dr Birol Yetim[3], Prof Dr Yusuf Çelik[4]
[1]Hacettepe University, Turkey. [2]Erzincan Binali Yildirim University, Turkey. [3]Mus Alparslan University, Turkey. [4]Acibadem Mehmet Ali Aydinlar University, Turkey

Context: The primary objective of this study was to investigate the impact of polypharmacy on treatment adherence and health related quality of life. Furthermore, the study sought to identify the key determinants of the polypharmacy. The research was carried out among 326 individuals aged 65 years and older who received healthcare services at a family health centre in Erzincan, Türkiye.

Methods: The data for the study was collected through a survey administered to 326 elderly patients. A personal information form was utilized, which included questions on age, gender, the number, type, and duration of chronic diseases, as well as the number of the prescribed medications. To assess participants' quality of life, the EQ-5D-5L General Quality of Life Scale was employed, while the Medication Adherence Report Scale (developed by Horne (2004)) was used to evaluate medication adherence levels. Logistic regression analysis was conducted to identify the determinants of polypharmacy, and multivariate regression analysis was applied to explore the effects of polypharmacy and other variables on quality of life and medication adherence.

Results: The findings of the study indicate that polypharmacy is quite common (%70.2) among individuals aged 65 and older. Among chronic conditions, the presence of digestive system diseases was identified as a significant factor increasing the likelihood of polypharmacy. Also, polypharmacy was found to have the most statistically significant influence on both the quality of life and medication adherence levels of the participants.

Conclusion: This study emphasizes the detrimental effects of polypharmacy on treatment adherence and quality of life among individuals aged 65 and older. The findings highlight critical factors that should be addressed in healthcare access and treatment processes for the elderly population. Effective management of polypharmacy is essential for enhancing health outcomes in this age group. Therefore, it is recommended that healthcare providers focus on minimizing the adverse impacts of polypharmacy in older adults.

The effect of safety climate on safety performance in pre-hospital emergency health services (ID 42)

Assoc. Prof Dr Rojan Gümüş, Mehmet Oruç
Dicle University, Turkey

Context: Pre-hospital emergency health workers are the first responders to the events and their workplace is less stable than other healthcare settings. Employees sometimes have difficulty complying with safety measures because they must race against time to save lives and simultaneously ensure their safety, that of their colleagues, and that of their patients. As these characteristics generate a work environment in which personnel play a major role, special attention to organizational climate and teamwork is needed. Safety climate which is a measure of frontline healthcare workers' shared perceptions, behaviours, beliefs, and attitudes toward the organization's safety culture predicts safety performance. This study aims to reveal the effect of safety climate on the safety performance of pre-hospital emergency health workers.

Methods: This study was conducted from February to May 2024 in Diyarbakır, Türkiye. The study population included pre-hospital emergency workers consisting of 70 urban bases. Data were gained from volunteer 464 employees face to face by Personal Information Form, Safety Climate Scale, and Safety Performance Scale. Permission was obtained from the Ministry of Health and the Ethics Committee for the research. In the study, descriptive statistics, Student's t-test, ANOVA, Sheffe tests, Correlation, Regression, and Path Analysis were performed. Exploratory and Confirmatory Factor Analysis and Cronbach values and Skewness and Kurtosis of the data set were calculated.

Results: According to the results of the research, nearly 50% of the employees were subjected to both verbal and physical violence, 48% had a work accident, and approximately 60% had at least one occupational disease. While the most common causes of work accidents are infected needlestick injuries, injuries due to jolts in the ambulance, patient transportation and sharp object injuries the most common occupational diseases are sleep disorders, herniated discs, depression, anxiety, cervical disc herniation, and infectious diseases. It was found that safety climate positively affects the safety performance of the workers ($\beta = 0.480$; $p<0.001$) and employees with low safety performance averages were exposed to more violence ($F=3,310$; $p<0,05$), had more occupational diseases ($F=2,979$; $p<0,05$) and work accidents ($F=5,002$; $p<0,001$). Among sub-dimensions of safety climate “awareness and competence” of workers ($\beta=0.323$; $p<0.001$), “safety communication” ($\beta=0.246$; $p<0.001$) and “safety training” ($\beta= 0.173$;$p<0.001$) predict safety performance the most. The “organizational environment “sub-dimension of safety climate shows the lowest average and this has a diverse effect on safety participation ($\beta =-0.150$; $p<0.001$). The more negativities in the organizational environment, the more employees' safety behaviours increase.

Discussion: This study found that the increase in the safety climate in pre-hospital emergency health services supports safe behaviours. All employees stated that the work environment inherently carries great risks. On the other hand, employees noted that these negativities in the organizational environment do not reduce their motivation and have the opposite effect. It is seen that emergency service employees have competence in safety participation and compliance and make the utmost effort to fulfil their responsibilities and duties. Management, safety training, and communication support this effort. The biggest of the current problems stems from the work environment and the functioning of the jobs. These problems are long shift times, deficiencies in physical conditions, errors in work plans, and unbalanced distribution of the number of personnel. Pre-hospital emergency health workers must be supported physically, financially, and spiritually. In addition, personnel shortages should be eliminated, and optimum work planning should be made.

Performance evaluation of health spending models based on infant mortality and life expectancy during the 1980-2022 period: multidimensional scaling and cluster analyses for Türkiye and OECD countries (ID 43)

Prof Yusuf Çelik, Assoc. Prof Salim Yılmaz
Acibadem Mehmet Ali Aydinlar University, Turkey

Context: This study evaluates the performance of healthcare spending models among Türkiye and OECD countries from 1980 to 2022, focusing on their impact on infant mortality and life expectancy. Using multidimensional scaling (MDS) and clustering analyses, the research identifies patterns and differences across healthcare financing systems, which include out-of-pocket expenses, voluntary contributions, and mandatory public expenditures.

Methods: The analysis incorporates data from official OECD, WHO and World Bank sources for 38 countries over the period 1980–2022. Longitudinal data were weighted to emphasize more recent years, generating a single cross-sectional value per country while preserving temporal trends. Principal Component Analysis (PCA) was employed to mitigate multicollinearity among healthcare spending variables by reducing them into unified components. MDS mapped countries into a 3-dimensional space, achieving a stress value below 0.05 to ensure an appropriate fit. Clustering was performed using the K-means algorithm, with the optimal number of clusters (three) identified through the Elbow method.

Results: MDS results positioned Türkiye in proximity to countries like Israel and Estonia, which share a similar healthcare financing structure characterized by moderate voluntary contributions and a significant reliance on public funding. In contrast, countries with dominant out-of-pocket expenses, such as Mexico and Chile, were spatially distant from Türkiye, reflecting substantial differences in their healthcare financing models. Cluster analysis supported these findings, categorizing countries into three distinct groups. Countries with Government-Mandated Health Spending exhibited the highest success rate (76.5%) in the "High Life Expectancy & Low Infant Mortality" cluster, demonstrating their effectiveness in achieving favourable health outcomes. The Balanced Public/Voluntary Spending model followed with a success rate of 69.2%, indicating strong but slightly lower performance. In contrast, the Out-of-Pocket & Voluntary Dominance model recorded the lowest success rate at 50%, with a significant concentration of countries in the "Low Life Expectancy & High Infant Mortality" cluster.

Discussion: The findings highlight significant variation in healthcare financing models and their outcomes among OECD countries. Türkiye's inclusion in the Government-Mandated Health Spending cluster reflects its strong reliance on public financing, ensuring broad access to healthcare and contributing to moderate health outcomes. However, despite this advantage, Türkiye’s placement alongside countries like Colombia in the "Low Life Expectancy & High Infant Mortality" cluster indicates persistent challenges. These include budgetary constraints, inefficient resource allocation, and limited service diversity, which can hinder further improvements. In contrast, countries with balanced spending models, such as Israel and Estonia, achieve better health outcomes by integrating public support with moderate voluntary contributions. To improve its performance, Türkiye should focus on optimizing resource efficiency, increasing voluntary contributions without compromising equity, and addressing structural issues within its healthcare system. Balancing public and private spending could enhance both sustainability and health outcomes.

Two is a pair, three is a crowd – reviewing the three sides of XR-telerehabilitation adoption (ID 44)

Luuk Baltissen, Dr Miranda Stienstra, Dr Lien Denoo, Prof Dr Joris Knoben
Tilburg University, Netherlands

Context: Telerehabilitation using Extended Reality (XR) technologies can be used to address healthcare staff shortages. However, it faces low adoption for reasons such as high costs, technical limitations and high training time (e.g., Brepohl & Leite, 2023; Glegg & Levac, 2018).

Existing studies explain why adoption is so low. However, they omit the role of XR-developers and they do not consider conflicts of interest between patients and clinicians. Because XR can only be used when all three parties agree to trade, conflicts of interest are likely a major adoption barrier. We synthesised current literature on XR-telerehabilitation to better understand these conflicts.

Methods: We searched for four terms in the Article Title, Abstract and Keywords section of SCOPUS: the basic term "rehabilitation", the primary types of XR (Milgram & Kishino, 1994), all constructs that are associated with adoption (Proctor et al., 2011) and terms to find behavioural drivers (Nilsen, 2015).

We found 118 papers, of which we included 41 papers. The main exclusion reasons were that the work focused on the tool's medical efficacy or technological feasibility (n=35), was a literature review (n=31), was pre-registered (n=5), was a full conference proceeding (n=5) or was a book introduction (n=1).

The empirical findings in these 41 papers were divided into three groups based on the actors they apply to (i.e., patients, clinicians, and developers). For every actor, we then coded the empirics into four categories: gains of XR-telerehabilitation (1), losses of XR-telerehabilitation (2), feature requirements (3) and differences within an actor group (4).

Results: After synthesising the 41 papers, we identified two key insights. Firstly, we found that the developer's perspective and the multi-actor perspective are highly underexposed. Only three papers mentioned the developer and none of those truly dived into their behavioural drivers. Additionally, only nine papers took a multi-actor approach, and not a single work investigated the perspective of all three actors.

Secondly, we found four new conflicts. Firstly, clinicians are more strict when evaluating the tool's medical benefits and risks. Secondly, patients can see fun as a benefit in itself, while clinicians only see it as a means to achieve medical benefits. Thirdly, patients do not value whether the tool impacts the clinician's work experience. Lastly, the patient's and clinician's limited ability or willingness to pay hinders developers from reaching sufficient economies of scale.

Discussion: This paper demonstrates that combining the different behavioural drivers of patients, clinicians and developers reveals new adoption barriers. This insight is valuable for scholars interested in finding adoption barriers by providing a new "multi-actor" perspective they can use. It also aids those interested in increasing adoption by providing four new barriers they can aim to overcome.

We also formulated two future research directions. Firstly, we suggest that scholars focus on why, when, and how developers can (not) profitably develop and sell XR tools. Due to this field's novelty, we recommend using qualitative research methods based on frameworks such as PESTEL (Aguilar, 1967). Secondly, we suggest that scholars empirically validate the four conflicts in this paper, discover other potential multi-actor conflicts and find solutions to them. Here, we recommend using quantitative and experimental research methods due to the current prevalence of qualitative research (Green & Srivanasan, 1990; Harrison & List, 2004).

Understanding nurse job crafting through work orientations (ID 45)

Alexandra Erling
Stockholm School of Economics, Sweden

Context: The turnover and retention of nurses is a key challenge to healthcare systems. While existing research highlights factors like workload and leadership as influencing turnover and retention (e.g., Nei et al., 2015; Sellgren et al., 2007), they often overlook nurses' agency and the variability in how they find meaning and respond to challenges. Using job crafting (Wrzesniewski & Dutton, 2001) and distinct work orientations as lenses, this study shows how priorities linked to different orientations shape varied perceptions of and responses to systemic challenges. These insights can help organizations provide better support for nurse well-being and retention.

Methods: This qualitative, multi-method case study took place over 1.5 years, involving 23 nurses from two Swedish hospitals and four departments managing similar patient cases. Data collection, approved by the Swedish Ethical Review Authority (04/2022), included semi-structured interviews, audio diaries, and observations. Existing job crafting research often relies on surveys and cross-sectional studies to examine behaviors and outcomes like engagement. This study instead takes an interpretive approach to uncover not just what and how nurses craft their work, but why. The analysis followed an abductive approach, using job crafting as a starting point to identify patterns in task, relational, and cognitive crafting (Wrzesniewski & Dutton, 2001). Through an iterative, inductive process, deeper motivations—'orientations'—emerged, revealing how nurses' underlying values shaped their crafting behaviours as well as their perceptions and responses to workplace challenges.

Results: This research identifies three work orientations shaping how nurses derive fulfilment from work and adapt to systemic pressures through sensemaking and job crafting. *Patient-dominant* nurses share a commitment to patient care but feel frustrated when constraints like understaffing hinder these values. They primarily use cognitive crafting and sensemaking, while engaging in small acts of care and team support to cope. *Integrated team-self* nurses value strong relationships with colleagues and recognition, drawing on team dynamics as a key source of support and fulfilment, often relying on relational support when these needs are unmet. *Self-dominant* nurses emphasize autonomy and personal goals, making pragmatic adjustments to maintain well-being over emotional connections. Work orientations guide what nurses prioritize and focus on, shaping their perceptions and responses to misalignments. While shared priorities unite nurses within orientations, individual reactions can vary depending on experiences and contexts.

Discussion: Existing research identifies broad predictors of nurse turnover, such as workload and leadership (Nei et al., 2015), but often overlooks variability in how nurses derive meaning, interpret challenges, and cope with systemic pressures. Similarly, job crafting studies (Tims et al., 2013) have focused on the 'how' and 'what' of behaviours while neglecting the deeper 'why' behind them. This study adds nuance by identifying three work-orientations in the nursing context—patient-dominant, integrated team-self, and self-dominant—and showing how they reflect distinct priorities that guide nurses' values and aspirations. Systemic factors like understaffing and high workloads are widely recognized challenges in nursing. However, this study shows that such pressures are filtered through work orientations, shaping how nurses derive meaning and navigate challenges through job crafting, revealing variability even within shared work contexts. These findings illustrate that while systemic pressures broadly affect nurses, their responses are shaped by underlying work orientations. Although job crafting and sensemaking help mitigate immediate strains, they seldom address systemic issues. Recognizing shared values and variations in work orientations can help organizations foster engagement and improve retention.

Affective and normative commitment: a study on young doctors (ID 47)

Dr Valter Alcides Henriques Alves dos Santos[1,2], Prof Doutora Manuela Frederico[3]
[1]Universidade Beira Interior, Portugal. [2]USF Marquês, Portugal. [3]Escola Superior Enfermagem Coimbra, Portugal

Introduction: Social and economic transformations impact the bond between professionals and organizations, particularly in healthcare institutions. This phenomenon necessitates the adaptation of human resource management policies to minimize such impacts. Organizational commitment emerges as a central variable in this discussion, reflecting the psychological connection between employees and their institutions. This study investigates the affective and normative commitment of young doctors, considering factors such as perceived procedural justice, autonomy, and relationships within the group.

Materials and Methods: A descriptive quantitative study was conducted with 24 doctors aged 30 years or younger. Data were collected through a validated questionnaire that assessed organizational commitment, perceived procedural justice, autonomy, and group relationships, using a 5-point Likert scale. Analyses were performed using SPSS, with descriptive statistics and Spearman correlation.

Results: Results indicate an average affective commitment of 3.88, while normative commitment was 2.98. A moderate positive correlation was found between affective commitment and group relationships (0.365), though weak correlations were observed with procedural justice and autonomy. Female doctors reported lower values compared to male doctors, particularly in normative commitment.

Discussion: Data suggest that while affective commitment is positive, normative commitment levels are below the desired threshold. This highlights the urgent need for organizational strategies to improve perceptions of justice and interpersonal relationships, which are crucial for enhancing organizational effectiveness.

Conclusion: The study emphasizes the importance of organizational commitment for effectiveness in healthcare settings. It is recommended that managers implement policies that promote fair relationships and strengthen emotional ties with the organization, as this may enhance the quality of care and productivity. Although limited by the sample size, this research contributes to reflections on the role of organizations in managing employee commitment.

Multimorbidity challenges people-centred care (ID 48)

Prof Dr Ljiljana Majnarić
Faculty of Medicine, University of Osijek, Croatia

Context: Population aging is associated with the burden of older people with multimorbidity. Multimorbidity contributes to patient complexity and inter-individual heterogeneity, challenging person-centred care. The advancement in AI techniques has enabled the shift in research of multimorbidity from disease counting to disease clustering, revealing the range of disease combinations. This research typically utilizes physical diseases for clustering. However, the more chronic diseases older individuals have, the greater their risk of mental disorders. Mental disorders, in turn, diminish these patients' functional abilities and accelerate poor outcomes. However, the specific multimorbidity patterns associated with mental disorders are poorly understood.

Methods: The study sample included 189 older individuals (58% female), aged 60 years and older, with a mean age of 78.47 ± 6.65 years. These participants visited two family doctor teams at the Health Center Osijek for reasons unrelated to this study over six months. Demographic data and physical health diagnoses were obtained from the patients' e-health records. Mental health and cognitive function were assessed using standard tests, including the Geriatric Anxiety Scale, the Geriatric Depression Scale, and the 6-item Cognitive Impairment Test. Using 14 diagnoses, clusters were identified based on the International Classification of Diseases (10th revision). Latent Profile Analysis was employed for the identification of these clusters, with dimensionality reduction applied. Participants from different clusters were compared regarding their mental health and cognitive function using one-way ANOVA, followed by the Games-Howell post hoc test.

Results: The identified clusters were labelled based on the most common diagnoses as follows: Hypertension and Osteoarthritis (H+O), type 2 Diabetes, Osteoarthritis, Chronic Pain, and Sensory Impairment (D+O+CP+SI), Cerebrovascular diseases, Urinary bladder diseases and Constipation (CV+U+C), and Low Comorbidity (LC). Participants from the D+O+CP+SI and H+O clusters showed higher levels of anxiety. Those from the D+O+CP+SI cluster also scored higher on the depressive dysphoria scale, compared to the LC cluster. The D+O+CP+SI cluster had the most significant impact on cognitive ability.

Discussion: Mental disorders, including cognitive impairment, are common in older people with multimorbidity, which implies the common neurobiological pathways for somatic and mental disorders and the need for a more integrated approach to care for these people. Depressive symptoms in the co-existence with cognitive impairment can in particular be expected in the elderly with type 2 diabetes of a long duration or in those with cerebrovascular diseases. This suggests the common neuropathology changes, which align with the concepts of “vascular depression” or “cognitive frailty”. The problem remains which source of data type and which variables to use for clustering to standardize methods across various populations and healthcare settings.

Subspecialty in medical administration as a scalable solution for management training of physicians (ID 50)

Dr Yoel Angel[1,2], Mrs Hadar Goldshtein[3], Dr Nevo Barel[1,2], Prof Gil Fire[1,2], Prof Michael Halberthal[4,5], Dr Adi Niv-Yagoda[6]
[1]Tel Aviv Sourasky Medical Center - Ichilov, Israel. [2]Tel Aviv University, Israel. [3]Ben Gurion University of the Negev, Israel. [4]Rambam Healthcare Campus, Israel. [5]Technion Institute of Technology, Israel. [6]Netanya Academic College, Israel

Context: Since the early days of the Israeli Healthcare System, senior roles in healthcare organizations have been filled by physicians. Recognizing the growing complexity of healthcare administration, in the late 1980's Israel pioneered formal training for physician-leaders. This included at first a postgraduate Medical Administration program, and later a globally unique subspecialty in Medical Administration. The two-year program, built on the foundation of conventional subspecialties and supervised by the Israeli Medical Association, includes practical management experience in two healthcare organizations, an advanced degree, and an oral and written examinations. This study explores trends in this subspecialty over the 35 years since its inception.

Methods: This retrospective study analysed trends in the number and characteristics of physicians with a subspecialty in Medical Administration. Data from the national registry of licensed physicians, accessed via the Israeli Ministry of Health (MoH) in February 2023, included all living physicians with this subspecialty as of December 31, 2022. Extracted variables included name, year of medical licensing, city of residence, and recognized specialties with corresponding dates. Additional data manipulation classified cities by geographic district and calculated professional milestone timelines. Leadership roles were analyzed by sampling websites of 31 public general hospitals, 10 psychiatric hospitals, the four Sick Funds, and the MoH in October 2024, identifying senior leadership and matching names to the registry. Background information was enriched through document searches and interviews with key figures.

Results: A total of 277 physicians were listed as specialists in Medical Administration by December 31, 2022. Between 1987-2022, three periods of physician training were identified: Period A (1987-1991) for "Founders of the Field", Period B (1992-2014) with a median of 4.5 (IQR 4-6) new specialists annually, and Period C (2015-2022) with a significantly higher median of 13 (IQR 10.5-15; $p<0.001$; *Figure 1*). 261 physicians (97.1%) had at least one additional specialty, with Internal Medicine, Pediatrics, Public Health, and Family Medicine being the most common. 61.4% of specialists resided in central Israel, with fewer in northern or southern regions (14.4%). Twenty-one (52.5%) of hospital CEOs, 4 (7.8%) of Sick Fund executives and 13 (35.1%) of MoH executives are specialists in Medical Administration as of 2024.

Discussion: While other countries offer management training for healthcare professionals, none of them is as extensive and standardized as in Israel, the only country to formalize such training in the form of a subspecialty offered by healthcare institutions. The number of new specialists has grown significantly since 2015, driven by regulatory changes (such as mandating Medical Administration subspecialty certification for senior leadership roles), demonstrating the sustainability and scalability of this model, which may serve as a template for other healthcare systems. Nevertheless, representation in executive positions remains uneven, with notable geographic and specialty imbalances. Expanding the integration of specialists from underserved regions and diverse specialties could strengthen healthcare leadership and reduce disparities. Future research should evaluate the performance of organizations led by such trained specialists and examine the broader implications of physician leadership.

Health Management and women doctors to improve health for all (ID 51)

Dr Alessandra Spedicato[1,2], Prof Elena Spina[3], Prof Sandra Morano[1]
[1]Anaao Assomed, Italy. [2]FEMS European Federation of salaried doctors, Belgium. [3]Università Politecnica delle Marche, Italy

Context: Health management, in order to ensure resilient healthcare systems for citizens, communities and healthcare professionals should address policy considering two main factors: the distress and outflow of healthcare personnel from public healthcare systems due to a decreasing appeal on employment; and the feminization of middle management in healthcare. This study explores the experiences, characteristics, and needs of women doctors in healthcare leadership in *Italy, France, Croatia, and the Czech Republic*, offering insights into their common and context-specific challenges. Addressing these challenges is critical to ensuring equity and fostering effective leadership in the healthcare sector.

Methods: This study is part of a broader initiative led by the Women Doctors' Training Area of the Italian Healthcare Sector union Anaao Assomed. A research was conducted with 237 female doctors in leadership positions from four European countries: Italy, France, Croatia an Czech Republic. For the analysis of multiple choice questions, response frequencies were calculated and represented using pie charts or histograms. For the analysis of open ended questions, participants provided responses in their native languages, which were subsequently translated and analysed using MAXQDA software. Interviews captured verbal data focused on leadership experiences, work-life balance, systemic barriers, and recommendations for improvement. The study emphasized thematic analysis to identify recurring patterns and culturally influenced differences. This approach provided an in-depth understanding of the challenges faced by female doctors in leadership, particularly in relation to welfare systems and social and economic contexts.

Results: The survey revealed psychological and attitudinal challenges faced by women doctors in leadership and differences across Countries also attributable to the various social and welfare systems. Respondents frequently expressed feelings of isolation and emotional strain associated with leadership roles, often coupled with a sense of unfulfilled expectations. Many leaders described struggling to reconcile professional responsibilities with personal aspirations, highlighting systemic inequities that exacerbate these tensions. Italian participants emphasized the psychological toll of inadequate welfare support, while French respondents focused on the need for personal well-being and building professional networks as coping mechanisms. In Croatia, the burden of multitasking and unclear role definitions emerged as key stressors, reflecting a need for structural and cultural clarity. Across countries, participants demonstrated resilience and determination but expressed a persistent lack of confidence in their leadership abilities, often seeking training and mentorship to enhance their skills. Despite these challenges, their shared commitment to advancing healthcare leadership underscore the potential for transformative change

Discussion: This study underscores the multifaceted challenges faced by women doctors in leadership, shaped by both systemic inequities and sociocultural factors. The results emphasize the need for tailored leadership training, workplace policies supporting work-life balance, and cultural shifts recognizing diverse leadership styles. The disparities in experiences between countries highlight the critical influence of welfare systems in enabling or constraining female leadership. Addressing these barriers requires coordinated efforts across academia, professional organizations, and policymakers. A more active role of healthcare management "to improve health for all" cannot ignore the consideration of these two factors; only managers who are motivated and prepared for today's challenges shall implement such policies and consider a logic of female management/leadership, where the principles of community and global health could find a fertile ground. Future research should expand to include quantitative data and additional countries to provide a more comprehensive understanding of women's leadership in healthcare and to develop actionable, evidence-based solutions.

Healthcare Process Modelling (HPMo), a new organisational framework enabling outpatient pathways scheduling and fundamentally transforming the care organisation to achieve the ambulatory shift (ID 52)

Dr Virginie Fortineau[1], Dr Thomas Paviot[1], Prof Samir Lamouri[2,3]
[1]Meedia, France. [2]Arts Et Métiers Institute of Technology, France. [3]LAMIH CNRS 8201, France

Context: The ambulatory shift in medical care, as previously seen in surgery, is a key solution for providing quality treatment at an affordable cost to an aging population with an increasing prevalence of chronic diseases. The current approach to organizing appointments and medical care has proven inadequate, as it relies on "Unit Process Appointments" - scheduling patients one at a time. This method is no longer efficient, as *"medical procedures have become more complex, and their associated tests and treatments have become inter-related"*.

Methods: To address these challenges, complex mathematical models and flow monitoring techniques have been proposed, such as simulation or multi-agent based systems. However, these techniques, besides being complex for caregivers, have limitations:

- They lack optimization capability in scheduling because simulations require an unnecessary fixed order of appointments
- They cannot effectively plan and anticipate organization, despite outpatient pathways being highly repeatable and predictable

HPMo offers a fundamentally different approach based on state-of-the-art planning methods and a significant paradigm shift, promoting:

- Care organization based on formalized patient pathways.
- Elimination of ordering constraints based on "habits" to expand scheduling optimization potential.
- Scheduling based on anticipated, optimized, and pre-ordered plannings with appropriate resource allocation, rather than scheduling patients one at a time.
- Anticipated resource dedication (caregiver vacations, imaging appointments, etc.) to plan corresponding care activities.

Results: As part of this approach, we developed a sophisticated scheduling tool called meeDIA-Plan, based on the HPMo method and patient pathway model, which delivers the following operational results:

- Reduced scheduling lead time: all pathway appointments can be provided instantly through pre-determined planning, compared to current 2-4 weeks waiting times under the existing "unit process appointment" method.
- Fully optimized resources providing maximum care capacity with existing assets, leading to increased medical activity and reduced patient waiting lists.
- Reduced patient waiting time during care through pre-ordered planning.
- Improved facility and equipment sizing through pre-ordered planning to ensure comfort and efficiency of care.

Discussion: While optimizing patient scheduling presents mathematical and technical challenges, the greatest hurdle lies in human factors: how to change established practices? The organizational paradigm offered by the HPMo approach differs significantly from current hospital organization. However, with technology and change management, significant results are achievable, leading to promising perspectives. Future research will explore how pre-ordered planning and instant programming can enhance collaboration between primary caregivers and hospitals. For example, pre-ordered scheduling can facilitate primary care patient referrals to hospitals and reduce unnecessary emergency care visits. We will also focus on scheduling complete patient care pathways, encompassing multiple hospital stays, medical appointments, and tests that are interrelated and distributed over time.

Does banning latex from surgery improve patient care and productivity? The insight into the Iceberg makes hidden costs and benefits visible (ID 53)

Prof Dr Dr Wilfried von Eiff
Center for Hospital Management (University of Muenster), Germany

Context: The realization of a latex-free environment in hospitals is disputed under infection experts and purchasing officers. Risk-taking experts are ready to accept higher prices for latex-free products, because of being convinced of the potential to avoid latex-associated allergic reactions in patients (postponement of operations) and medical staff (absence from work). The party of decision-makers with a dominant cost awareness doubt the significance of positive effects a latex-free environment can achieve. It is interesting to note that the internationally coveted certification as a "Magnet Hospital" (Magnet Nursing Management Approach) by the American Nurses Credentialing Center requires a latex-free environment.

Methods: Against that background, a before-and-after comparison with participation of four German hospitals was performed in order to identify the costs and benefits of a latex-free environment. As a proxy, the cost-benefit effects of different types of gloves, latex-based and latex-free, used in operating theatre, intensive care unit and wards were analysed. The performance criteria used were oriented to individual acceptance like "sensitivity and feel", "ease of donning", but also attributed to "test costs", "costs of prevention" and "costs of repair" by application of the Total Cost of Ownership approach (TCO). The study was guided by the research question: "Can latex-free gloves contribute to significantly avoiding severe allergic reactions in patients and staff with the consequence of enhancing safety in medical services and of averting hidden costs of patient complications and personnel shortfalls, and is there an effect relating to a reduction in the spread of allergies in the community?".

Results: The price-driven analysis of 12.000 surgical interventions and 60.000 gloves used demonstrates that latex-based gloves come along with lower "Costs of Purchasing" (41.040 €) compared to latex-free products (70.800 €). Whereas, the TCO analysis brings transparency to the hidden costs of a price-driven product selection. So, the use of latex-based gloves causes non-visible
>Costs of personnel shortfalls: 2.740 €, Costs of lab tests: 5.500 €,
>Costs of latex-associated infections in patients: 16.600 €,
>Costs of productivity loss: 1.960 € and
>Costs of complexity in the purchasing and logistic department: 1.136 €.
At the end of the day the TCO of a latex-free product selection summed up to 68.976 € while a latex-based product selection caused 71.000 € per period. Furthermore, from the epidemiologic point of view the use of latex-free products contributes to avoiding a spread of latex-sensitivity in the community.

Discussion: Changing the procurement strategy from a price-driven philosophy to buying only latex-free medical products leads on one hand to a twofold of purchasing costs. On the other hand, the TCO assessment demonstrates that a switch to a 100% latex-free product portfolio turns out as a cost-neutral investment in patient safety, employees´ health and the avoidance of negative hidden cost effects. Hence, this study substantiates the superiority of implementing a latex-free environment and demonstrates that decision-making on product selection has to be aware of the "Iceberg Phenomenon" making "hidden costs" transparent. This study can also be hold as a blueprint for a value-based health-technology-assessment approach under use of TCO methodology that helps to identify best-in- class opportunities for selected medical products. Finally, it is remarkable that risk factors become more and more importance in decision-making processes pertaining the selection and procurement of medical products.

Higher satisfaction, better performance? A healthcare organisational comparative study (ID 54)

Rana Alotaiby[1], Eva Krenyacz[1], Agnes Devecsesry[2]
[1]Corvinus University of Budapest, Hungary. [2]St John Hospital, Hungary

Healthcare organizations, notably hospitals highly depend on health workers productivity, which is directly influenced by their satisfaction. Elements and values of organization culture also may a play role in influencing health workers' satisfaction as well the leadership style and expected and perceived performance. Despite the extensive research done around job satisfaction, little has been done among the Jordan healthcare organizations to understand the implications of culture and organizational practices. Understanding the employees' motivation levels in different organizational culture would also help developing relevant measures to improve their productivity.

The study examined health worker's satisfaction through a performance perspective in three Jordan hospitals. Quantitative data was collected using the 20 questions of Minnesota Satisfaction Questionnaire (Weiss et al., 1967) added questions from Rajan (2019) questionnaire (about employee turnover and organization performance). 245 healthcare workers data was examined in three hospitals:

Hospital A: large hospital, high indicators yet no outliers in employee dissatisfaction, employee per bed indicator unchanged for 5 years, (predictability)
Hospital B: lowest bed turnover, but doubled (went to half-steam in 2021), lowest inpatient beds, increased staff workload per bed (but to hospital A level), one and a half times the patient care by 2022 (unreacted changes)
Hospital C: small hospital, with a constant occupancy rate, which has shifted from inpatient to outpatient in recent years, but in inpatient care, the workload has been slowly but steadily decreasing over the years (slow transformation)

The analysis is essentially focused on the correlation between the entire data set and the differences between hospitals, with using factor analysis and regression analysis supported by SPSS Statistics 29.

The aggregated data of the hospitals, assessed on a 5-point Likert scale, do not differ in terms of mean and standard deviation from the analyses prepared by different nations (Portuguese, Polish, Hungarian). We think that these data could sign the characteristic of the profession or the characteristics of the healthcare system. The critical value is the compensation and the policy in practice and the staff is satisfied with activity, social service, independence in work, and security of the job and workplace.

Concerning the chosen hospital, Hospitals A and Hospital C exhibited remarkably similar satisfaction levels, despite substantial differences in their institutional characteristics. The t-test proved the similarity, the only significant deviants in MSQ question 3 (The chance to do different things from time to time.). The statistical analysis revealed a significant divergence in the satisfaction indicators of Hospital B compared to the other two hospitals.

When comparing satisfaction with performance, it can be concluded that Hospital B demonstrates a tendency to underestimate its own performance, while simultaneously rating the quality of its output higher than that of the other two hospitals.

Job satisfaction varies among the healthcare employees' own performance-oriented assessment, as supported by the collected and analysed data. Health workers' satisfaction levels differ across the three hospitals health workers' as influenced by communication effectiveness, coordination among employees and between employees and management, availability of rewards and reorganization for good work. Improving communication and reward systems in Jordan can improve hospitals' performance.

Digital transformation and the sustainable and ethical use of Artificial Intelligence in trauma and emergency surgery. Results from a World Society of Emergency Surgery worldwide investigation (ID 56)

Dr Francesca Dal Mas[1,2], Prof Maurizio Massaro[1,3], Prof Justyna Fijałkowska[3], Dr Valentina Ndou[4], Prof Elisabetta Raguseo[5], Prof Stefano Campostrini[6], Prof Fausto Catena[7], Prof Luca Ansaloni[8], Prof Walter Biffl[9], Prof Lorenzo Cobianchi[8,10]

[1]Venice School of Management, Ca' Foscari University, Italy. [2]Collegium Medicum, SAN University, Poland. [3]Department of Management, SAN University, Poland. [4]Department of Engineering for Innovation, University of Salento, Italy. [5]Department of Management and Production Engineering, Politecnico di Torino, Italy. [6]Department of Economics, Ca' Foscari University of Venice, Italy. [7]Department of Medical and Surgical Sciences, Alma Mater Studiorum University of Bologna, Italy. [8]Department of Clinical, Surgical, Diagnostic and Pediatric Sciences, University of Pavia, Italy. [9]Department of Surgery, Denver Health Medical Center, Denver, USA. [10]Collegium Medicum, University of Social Sciences SAN University, Poland

Context: Artificial Intelligence (AI) has the potential to accelerate the implementation of the United Nations Sustainable Development Goals (SDGs) in a variety of industries. In the health sector, AI has the potential to augment clinical decision-making, especially in highly specialized disciplines like trauma and emergency surgery, where several factors, like the patient's identity, the trauma causes, and the care preferences, may be unknown, and time pressure is high. Still, the attitudes of medical professionals, patients, technology providers, developers, and policymakers toward the effective development and use of digital AI-based tools are still significantly impacted by ethical concerns.

Methods: This investigation deepens the ethical challenges of using AI in surgical decision-making in trauma and emergency contexts, including data privacy and transparency, technical robustness and safety, responsibility, and human agency. The study was conducted through a survey endorsed by the World Society of Emergency Surgery (WSES). A full research protocol was developed by the principal investigators, starting from the most recent academic and practice literature. The European Commission's Ethics Guidelines for Trustworthy Artificial Intelligence and the Technology Acceptance Theory were the primary sources to develop the protocol and survey structure. Besides clinicians, experts in social and health statistics, epidemiology, public health and healthcare management, law, innovation, medical ethics, and information technology were invited to join the leading team. The survey protocol was published after a blind review process. The investigation, advertised among WSES 900+ members, collected responses from 650 physicians operating in 72 countries in the five continents.

Results: The findings emphasize the necessity of privacy, transparency, and explainability of data, as well as robust governance, collaborative efforts among stakeholders, and accountability in all decision-making processes to promote the appropriate, sustainable, and responsible use of AI in surgery.

Discussion: The results enabled the development of a conceptual model that reconciles the ethical obligations to safeguard patients and guarantee sustainable healthcare outcomes with the technological advancements of AI. The conceptual model developed from the study may be beneficial to policymakers, health institutions, and universities in order to encourage the sustainable use of AI-based applications in critical health disciplines, such as surgery, and to foster health innovation and digital transformation, bearing in mind the need to meet the SDGs.

The effect of additional documenting and coding of medical practice on Hospital Standardised Mortality Rate (ID 57)

Filip Dumez, Walter Swinnen, MD, Ellen Deschryver, Silke Vanderyse
AZ Sint Blasius, Belgium

Context: Hospital standardised mortality ratios (HSMR) is an international used indicator for quality of care. The difference between hospitals is substantially and persistent. In Belgium hospitals, the HSMR has financial consequences for the hospitals (P4P- programme).

Evolution of HSMR's can reflect improvement in care, but can also be the result of changes in the manner of documenting and coding care practices. Previous studies pointed out the effect of differences in coding of covariates and insufficient registration of the cause of a comorbidity. Furthermore, HSMR differences can be related to patient mix, hospital admission and discharge policies, referral bias and disparity in end-of life care.

Method: In a Belgian hospital a series of measures were commissioned to improve the overall and discipline specific HSMR:

- bi-annual feedback for each disciplines on pathology specific HSMR.
- case reviews during the staff meeting
- systematic morbidity and mortality analysis

The effect of these measures can be biased by coding practice.
Before implementation of these measures above mentioned, we needed reassurance on the quality of our data; resulting in following actions:

- Review of all mortality cases by a medical expert on a monthly basis in 2023
- Enriching the medical documentation of these patients (e.g. additional clinical information, specifying palliative care)
- Re- coding these patients with the new information

The data of a validated model were used to monitor the HSMR trend (3M benchmark portal).

Results: During one year observation 584 patients deceased in hospital (3,2 % of all admissions). 218 patient records (40%) were additionally documented and were reviewed by coding staff. Based on this review, 15% of the deceased patients received a higher SOI score, resulting in a higher ROM. Since the expected mortality rate increases in the higher ROM category, this should affect the hospitals' mortality rate in a positive way. However, we notice no decline in the HSMR since the start of the upcoding initiatives (fig 1 in annex). Optimization of documenting- and coding practices did not result in a change of HSMR. 19 (3%) patients their palliative status was made explicit and added to their codes. Exclusion of palliative patients did show a lower HSMR (fig. 2 in annex).

Conclusion: The absence of the 'upcoding' effect on HSMR was somehow unexpected. This might be due to the fact that the hospital has a very high score on specificity and exhaustivity of the coding practice (3m benchmark Portal 2023). The observed result supports findings of more statistically sound research indicating that HSMR is a valid indicator. It is reassuring that in our hospital the HSMR is to a lesser extent the result of coding practices and that the planned more targeted actions can be appraised according to value. We recommend critical appraisal of clinical documentation and coding practice before initiating other actions.

Challenges in implementation of telemonitoring and how to overcome them (ID 59)

Filip Dumez, Dr Filip Vanrykel, Tom Imberechts
AZ Sint Blasius, Belgium

Telemonitoring can be defined as “a mode of healthcare delivery that gathers and integrates patient data outside of traditional healthcare settings, allowing providers to track, assess, and engage patients regardless of location.” It can be an alternative (but also a complement) to conventional care, with potential social and economic value for both patients and providers.

Literature describes the beneficial effects for patients (improved quality of life, empowerment, compliance, education, symptom control) and health system (reduced cost and workload, increased capacity, continuity of care). Complications are detected earlier and intervention is faster and more appropriate.

Despite these promising results, meta analyses and systematic reviews show mixed results. This can be explained by the variability in implementation methods and the variety of challenging elements affecting implementation.

We can identify challenges own to redesign of care processes (role conflict, unclear responsibility, lack of ownership, insufficient training,…). There are also more specific barriers and enablers that need to be taken into account when implementing Telemonitoring, e.g. data- issues (access, validity, reliability); legal issues, design of relevant clinical and reporting dashboards, escalation protocols, financing mechanisms, digital literacy of caregivers and -receivers, ease of use, norms and attitudes. Thomas et al (2021) inventoried a number of success factors on the different aspects of care: organizational, interpersonal, intrapersonal and interventional (fig1).

Telemonitoring is part of an integrated care pathway and needs to be approached as such. This means seamless alignment with existing care processes.

Taking into account these challenges, telemonitoring requires a comprehensive and structured approach. This was found in the Oxford Telemedicine Program Design Canvas, developed by Verma et al. (2023) (fig2). This canvas can be used as a guide for implementation. It is particularly useful in the conceptual phase since it covers all aspect related to patients, providers, technology, ecosystem; it focuses on desired outcomes and takes costs and revenues into account.

When combined with a project methodology it leads to a swift and all- encompassing implementation of telemonitoring projects for surgical patients. Early results for patients after large bowel surgery are promising (n=72) in terms of satisfaction and reduction of hospital stay. Experience with the design of three other telemonitoring pathways is positive. A scale-up initiative with six other hospitals has started recently with support of the federal government. Hospitals with strong adherence to the methodology make better progress.

Assessment of the relationships between R.I.G.H.T. leader behaviour, organisational silence, work engagement, and extra role behaviours in hospitals (ID 60)

Dr Ahmet Yesildag[1], Prof Ece Ugurluoglu Aldogan[2]
[1]Karadeniz Technical University, Turkey. [2]Ankara University, Turkey

Context: Hospitals operate in challenging environments characterized by insufficient human resources, where employees are often required to perform beyond their defined roles. Such extra-role behaviours are crucial for organizational success and are influenced by leadership behaviours, work engagement, and organizational silence. This study aimed to examine the impact of leadership behaviours on extra-role behaviours and to explore the mediating roles of work engagement and organizational silence in this relationship. The R.I.G.H.T. leadership model, a transformational leadership approach emphasizing psychologically healthy workplaces, was adapted into Turkish and tested in the hospital context to address these objectives.

Methods: This correlational and cross-sectional study was conducted in two phases. In the first phase, the R.I.G.H.T. leadership model, which focuses on Recognition, Involvement, Growth and Development, Health and Safety, and Teamwork, was adapted into Turkish. Data were collected from 176 physicians and nurses at a university hospital, demonstrating the scale's validity and reliability in terms of structural and content aspects. In the second phase, the adapted model was tested with 307 physicians and nurses working in a public training and research hospital and a private hospital in Trabzon province. Participants completed the R.I.G.H.T. Leadership Scale, Dyne Organizational Silence Scale, UWES Work Engagement Scale, and Spector's Extra-Role Behaviour Scale, all measured using a 7-point Likert scale. Hypotheses were analysed using the PROCESS Macro plugin for SPSS, with descriptive statistics and group comparisons conducted in SPSS. Validity tests for the scales were performed using SPSS AMOS.

Results: The results indicated that perceptions of leadership behaviours were positively associated with work engagement and extra-role behaviours (r: 0.322) and negatively associated with organizational silence (r: -0.153). Leadership behaviours had a direct positive effect on extra-role behaviours (b: 0.168). However, this direct effect became insignificant when work engagement and organizational silence were included as mediators, increasing the explained variance in extra-role behaviours (R^2: 0.26). While work engagement and organizational silence partially mediated the relationship, the hypothesized serial mediation effect was not confirmed ($p > 0.05$). Demographic analyses revealed variations in work engagement, organizational silence, and extra-role behaviours based on age, perceived income, tenure, and job satisfaction. Physicians reported more negative perceptions of leadership behaviours compared to nurses. Work engagement levels were significantly influenced by perceived job satisfaction and tenure.

Discussion: The findings highlight the critical role of leadership behaviours in fostering extra-role behaviours in hospital settings. These behaviours influence extra-role behaviours indirectly by enhancing work engagement and reducing organizational silence. The study underscores the importance of recognizing employees' talents, involving them in decision-making, and supporting their growth and development to increase work engagement. Adopting the R.I.G.H.T. leadership model is recommended for hospital administrators to create a psychologically healthy work environment. Training programs and policies emphasizing leadership behaviours can help motivate employees to go beyond their job descriptions, benefiting their colleagues, patients, and institutions.

ID 67 missed

67	Employee silence about healthcare job satisfaction: Interpreting the gap between top and middle managers	Eva Krenyacz

Understanding how smoke-free campus initiatives influence user behaviours: a logic model associated with this policy (ID 68)

Etienne Gnonlonfin[1], Prof Karine Gallopel-Morvan[2], Prof Eric Breton[1]
[1]University of Rennes, CNRS, Inserm, Arènes - UMR 6051, RSMS - U 1309, France. [2]University of Rennes, CNRS, Inserm, Arènes - UMR 6051, RSMS - U 1309, France

Context: Smoke-free campuses (SFC) prohibit smoking and vaping on all university grounds and for all users. They include activities such as support for smoking cessation. While studies have demonstrated their effectiveness in reducing smoking prevalence, passive smoking, and denormalising tobacco use, little has been said on the way SFC activities generate their transformations. We report on a theory-based process evaluation identifying the transformation leading to the SFC expected outcomes. These transformations are represented by a logic model, which provides a visual representation of the relationships between the resources, activities, outcomes, and impacts of the SFC, along with the underlying assumptions.

Methods: We conducted a retrospective qualitative study on the first SFC implemented in France by the EHESP School of Public Health. Guided by Mayne's (2017) theory of change framework, which includes ten dimensions of an impact pathway (e.g., activities; reach/reaction of the campus users; changes in capacity including knowledge, attitudes, skills, aspirations, and opportunities; change in behaviour, and well-being), we uncovered the causal model and hypotheses underpinning the effect of this SFC. Our dataset included 128 internal documents (e.g., minutes of meetings, administrative documents of the EHESP), semi-structured interviews with stakeholders (n=15) involved in the development and implementation of the SFC, and direct non-participant observations of the programme activities on campus and smoking practices (n=20 hours). Content analysis was conducted using NVivo© version 14.

Results: While the objectives of the EHESP SFC are similar to the ones documented in the literature (i.e. to influence the behaviours of smokers, former smokers, and non-smokers, and improving the quality of life and well-being on campus), we found that this SFC is also driven by the goals of enhancing the institution's reputation as a public health leader and to encourage the dissemination of SFC policies across France through former employees and students trained at the school.

According to the interviewees in this research, to achieve these goals, activities such as communication, student ambassadors, and cessation support for smokers inform users about the smoking ban and elicit positive reactions, such as acceptability of the SFC and its perceived utility. These reactions are expected to facilitate capacity changes, including increased awareness among smokers about their dependence, support for the policy, and motivation to quit, while improving stress management and acceptance of non-smoking norms, which are associated to behavioural change (reduce or quit smoking).

The functioning of the SFC is based on key assumptions: the availability and use of cessation support services, the denormalization of tobacco use through reduced visibility of smoking on campus, the perceived costs in time and steps in reaching the smoking shelters, and the active involvement of all users in ensuring compliance with the SFC policy.

Discussion: This research identifies some of the transformations that activities of the EHESP's SFC can generate in students and staff in order to fulfil its outcomes. However, its findings have limited external validity as they focus only on the EHESP SFC. Further research, especially quantitative studies, is needed to test the proposed model and confirm the findings. Understanding how a SFC brings about these changes is crucial for expanding the model and adapting it to other universities or environments such as smoke-free hospitals and healthcare settings.

Preparing future nurses for paediatric end-of-life care: bridging emotional resilience and professional competence (ID 69)

Prof Dr Stefanie Scholz, Sarah Puschmann
SRH University of Applied Sciences, Germany

Context: Caring for dying paediatric patients is one of the most emotionally challenging experiences for nursing students, often resulting in significant psychological strain. Unlike adult end-of-life care, paediatric cases involve unique complexities, such as supporting grieving families and processing the emotional weight of a young life ending. Many nursing students lack the necessary theoretical knowledge and practical exposure to cope with these challenges effectively. Addressing this gap is essential to support the future nursing workforce's emotional well-being and ensure high-quality paediatric end-of-life care. This study explores the expectations, fears, and experiences of nursing students and identifies strategies to enhance their preparedness through tailored educational and practical interventions.

Methods: A comprehensive, mixed-method approach was adopted to explore the multidimensional aspects of this issue. First, a systematic literature review was conducted using PubMed and CINAHL databases with keywords such as "nursing student," "feelings," "dying children," and "impact," alongside their synonyms. From an initial pool of 201 articles, five studies were selected based on their relevance and methodological rigor. These studies provided insights into the emotional and psychological impact of paediatric end-of-life care on nursing students and highlighted existing gaps in training programs. To complement the literature review, empirical data were collected through semi-structured, guideline-based interviews with seven generalist nursing students from three different training stages (first, second, and third year). These interviews explored personal experiences, emotional reactions, coping mechanisms, and perceived training needs in paediatric end-of-life care. Open-ended questions allowed participants to articulate their emotions and perspectives in depth, capturing the nuanced and subjective nature of their experiences. Data were analysed thematically to identify common patterns and unique insights.

Results: The findings illustrate the overwhelming emotional impact of encountering paediatric death for the first time. Nursing students reported feelings of sadness, grief, and fear, compounded by powerlessness, anger, and denial. These emotions were often intensified by the relational dynamics of paediatric care, including interactions with grieving parents and siblings. Students also identified challenges in maintaining professional boundaries, balancing closeness with emotional detachment, and effectively communicating with families during end-of-life scenarios. Despite these difficulties, many students demonstrated resilience by employing various coping strategies. These included seeking emotional support from peers, mentors, and family members; engaging in reflective practices such as journaling or prayer; and finding solace in spirituality or personal hobbies. Students emphasized the need for more practical simulations, structured mentorship, and access to psychological support during training. They also called for enhanced curricular content integrating paediatric-specific end-of-life care. These findings highlight a significant gap between theoretical knowledge and real-world preparedness,

Discussion: The study results underscore the urgent need for targeted educational interventions to better prepare nursing students for paediatric end-of-life care. Practical, resilience-focused training and emotional support from mentors can significantly reduce the emotional burden on students and improve their professional competency. Institutions and educators must adopt comprehensive training programs that integrate both theoretical knowledge and practical experience to equip the future workforce with the skills needed to navigate this challenging area of care. By addressing the emotional and professional challenges of paediatric end-of-life care, this study highlights a critical area for investment in workforce training. The insights provided serve as a foundation for developing impactful, resilience-promoting educational models that support nursing students in delivering compassionate, effective care while safeguarding their emotional well-being.

Assessing the impact of AI and technological applications on medical professionals and students: a case study of NSIA-LUTH Cancer Centre (NLCC), Lagos, Nigeria (ID 70)

Temitope Bello
University of Chester, United Kingdom

Background: The integration of Artificial Intelligence (AI) and technology has significantly transformed the professional development of medical practitioners and students. Medical professionals (including students) now leverage conversational AI, intelligent learning systems, and automated knowledge assistants to acquire new knowledge, understand complex medical concepts, and improve their work efficiency. These AI-driven tools assist in continuous learning, medical research, and decision-making, ultimately enhancing their professional competency. Despite these advancements, there remains limited research on applying established evaluation models to assess the actual benefits of AI adoption in supporting the learning and development of medical professionals. While many studies discuss AI's potential, a structured framework is necessary to understand its impact on knowledge acquisition, skill enhancement, and professional growth. By applying the modified DeLone and McLean IS Success Model to evaluate the implementation of AI tools at NSIA-LUTH Cancer Centre (NLCC), this study aims to systematically assess the impact of generative AI on various aspects of medical education and practice. These include analysing improvements in clinical decision-making skills, procedural skills, and patient-centred communication skills, as well as evaluating potential enhancements in overall patient care quality and outcomes.

Objective: To explore and evaluate the relationships between various factors influencing the benefits of AI in professional development, considering both traditional dimensions new dimensions relevant to AI-driven learning environments. By modifying the model, this research aims to provide a comprehensive assessment of AI's impact on the professional development of medical students and practitioners.

Proposed Methods: This study employs a mixed-methods approach at the NSIA-LUTH Cancer Centre, Nigeria, targeting healthcare professionals using AI-driven tools for professional development. Data collection involves an online questionnaire with closed and open-ended questions, distributed via convenience sampling to approximately 50 participants. The questionnaire will assess various dimensions of AI adoption and effectiveness in professional development, including system quality, information quality, service quality, perceived usefulness, and user satisfaction. Analysis will be performed by combining quantitative methods (descriptive statistics, regression analysis, and statistical modelling of the modified Delone and McLean IS Success Model) with qualitative thematic analysis of open-ended responses. Ethical considerations will include informed consent, data protection, and adherence to institutional guidelines, with no patient data involved in the study.

Expected Contributions and Implications: This research aims to empirically validate and extend the DeLone and McLean IS Success Model by incorporating AI-specific factors relevant to professional development among medical professionals. The study is expected to provide valuable insights into how AI enhances knowledge acquisition, learning efficiency, and skill development in medical settings. Findings will contribute to identifying best practices for implementing AI-driven tools in healthcare education and professional development. Additionally, the results may inform hospital policies and strategies for integrating AI-based technologies to enhance professional growth and competency, potentially leading to improved patient care and healthcare outcomes. This research aims to bridge the gap between theoretical models and practical applications of AI in medical education and professional development. The study will contribute to the growing body of knowledge on innovative approaches to enhancing healthcare delivery and education, particularly in resource-constrained environments.

Foundations to frontiers: charting the evolution of healthcare operations management and the patient journey (ID 72)

Dr Rossella Pellegrino[1], Prof Corrado Cuccurullo[2], Prof Stefano Villa[1]
[1]Università Cattolica del Sacro Cuore, Italy. [2]Università della Campania-Luigi Vanvitelli, Italy

Context: This study conducted a systematic analysis of key literature in healthcare Operations Management (OM), charting its progression from manufacturing to healthcare, by addressing the following questions: (i) what insights can be gained from a bibliometric systematic literature review of OM within the healthcare sector, particularly regarding the growth and impact of publications, key authors and institutions, and emerging research themes?; (ii) how has OM evolved longitudinally within the healthcare sector, from its inception to its contemporary applications, and what are the key thematic shifts observed?

Methods: The study applied a hybrid bibliometric and content analysis approach, utilizing Bibliometrix and its web-app, Biblioshiny (Aria, Cuccurullo, 2017), which offer extensive bibliometric features (Moral-Muñoz et al., 2020).
Data Collection: Data were sourced from the Web of Science Core CollectionTM, covering over 3,300 publishers and 12,000 journals (Booth et al., 2012). The query (TS=("patient* flow*") OR TS=("patient* logistic*")) targeted journals in Health Care Sciences Services, Management, and Operations Research Management Science. Using the PRISMA framework (Page et al., 2020), 4,169 articles were identified and refined to 604 English-language original research papers.
Data Analysis: Three key steps were followed. First, the histograph method, developed by Garfield, mapped citation distributions, identifying seminal works and trends. Second, thematic evolution mapping traced research trajectories and topic lifecycles, highlighting opportunities. Third, thematic clusters from these methods were analysed through content analysis (Gaur & Kumar, 2018), offering a nuanced understanding of topic dynamics and research progression.

Results: The thematic map of scientific production, derived from keywords in selected articles, highlights the evolution of OM in healthcare over three decades. In the first decade, OM expanded from manufacturing to service production, focusing on resource scarcity and efficiency. Key themes included "hospital utilization," "determinants," and "service." In the second and third decades, the focus shifted towards effectiveness and quality, with these concepts evolving into central, cross-domain themes. Lean production methodologies, Six Sigma, and Discrete Event Simulation became central for process improvement and waste reduction. Research also emphasized patient profiling, reducing readmissions, and optimizing resource allocation, with themes such as "prediction" and "classification." Despite advances in the fourth industrial revolution, telemedicine remains a niche topic. The emergency department continues to attract significant academic interest due to its crucial role in healthcare access and its impact on resource coordination across departments.

Discussions: The study's findings led to a theoretical framework on the evolution of OM forecasting future trends. Early OM research focused on strategic decision-making, resource organization, waste reduction, and productivity improvement, driven by resource scarcity. The initial models concentrated on individual units like outpatient departments and operating rooms. Over time, OM integrated tools like Lean and Six Sigma, and adopted simulation modelling, shifting from a focus on single units to a broader, interconnected view of hospital operations. This system-wide approach emphasized the analysis of patient pathways. Recent studies have focused on patient-centric care, exploring personalized medicine and patient profiling to improve care tailored to individual needs. The integration of advanced technologies such as big data and artificial intelligence has been key in supporting these developments, helping predict patient needs and enhancing the overall effectiveness of healthcare systems. The evolution reflects a shift towards more personalized, efficient, and data-driven healthcare management.

Assessing the financial performance of teaching hospitals: insights from Bulgaria (ID 73)

Assist. Prof Mincho Minev, Assoc. Prof Lyubomira Koeva - Dimitrova, Prof Todorka Kostadinova
Medical University of Varna, Bulgaria

Context: Hospitals' financial stability is essential for their sustainable development. Hospitals with poor financial performance cannot allocate sufficient capital to invest in new equipment and provide competitive remuneration to their staff members. These factors limit hospitals' ability to develop their portfolios and deliver high-quality health services to their patients. In our study, we analyze the financial performance of Bulgaria's leading state-owned teaching hospitals. They are among the country's biggest hospitals, emphasizing the importance of their financial stability.

Methods: Our study sample includes 11 multi-profile state-owned teaching hospitals in Bulgaria. We analyzed the data from their annual financial reports covering 2017 to 2023. This seven-year period is sufficient to identify the trends in the examined indicators. The period also includes the COVID-19 pandemic, allowing us to assess the impact of this significant healthcare crisis's impact on the studied hospitals' economic resilience. We evaluated their financial performance using various financial metrics, most commonly used in the literature: liquidity (Current Ratio), capital structure (Debt to Equity ratio, both adjusted and non-adjusted for government funding), capital allocation (Capital expenditures to Sales), efficiency (Asset Turnover) and profitability (Net Profit Margin).

Results: There is a significant increase in the average current ratio for the sample (from 0.93 in 2017 to 2.02 in 2023), with only two hospitals registering a worsening in their liquidity. The group's average Debt to Equity ratio also increases from 0.40 (in 2017) to 2.03 (in 2023). The increase in the aggregate capital expenditures for the period is almost threefold, with a significant increase in the average CapEx to Sales ratio from 4.81% (in 2017) to 7.87% (in 2023). The economic efficiency, measured by the Asset Turnover ratio, is slightly improved. The average value of this coefficient for 2017 is 1.30 and reaches 1.64 for the year 2023. The average net profit margin increased from negative 2.02% in 2017 to negative 0.24% in 2023, with only three hospitals registering worsened profitability over the period.

Discussion: Despite the improvement in the liquidity over the period, six of the hospitals registered a current ratio by the end of 2023 below 2, which signals potential hardship in the management of the working capital. Although the group's average Debt to Equity ratio increased, its value for six studied hospitals decreased or remained unchanged. The increased capital expenditures could be one of the catalysts for future improvement in the financial performance. Results indicate that despite the increase in the Asset Turnover ratio, the teaching hospitals in Bulgaria struggle to reach high profitability levels. Our study shows a general improvement in the financial performance of the teaching hospitals in Bulgaria but also highlights the need for a targeted approach in certain areas, such as profitability and economic efficiency. The results can be used as a benchmark for the other hospitals in Bulgaria and serve as a basis for international comparison.

Africa's brain drain: a systematic review of drivers, theoretical perspectives, and healthcare workforce challenges (ID 74)

Dr Gregory Orewa[1], Dr Nero Edevbie[2], Dr Ifeyimika Ajaiyeoba[3], Sofia Smeigh[1], Dr Juliet Osuji[4]

[1]University of Texas at San Antonio, USA. [2]Dillard University, USA. [3]University of Wisconsin-Parkside, USA. [4]North Carolina Agricultural and Technical State University, USA

The migration of skilled professionals, commonly referred to as “brain drain,” is a rapidly unfolding event, particularly within the healthcare field in Africa. This phenomenon poses significant challenges to the region's development and global inequality. Brain drain depletes human capital necessary for socio-economic growth, threatens healthcare systems, and impacts economic stability. Despite efforts to address this issue, shortages of healthcare workers persist across the continent. Countries like Nigeria, Ghana, and Egypt are heavily affected, and the resulting cycle of understaffing, stress, and emigration exacerbates these challenges. This study analyzes factors driving brain drain within African healthcare, exploring its multifaceted impacts and providing actionable recommendations using theoretical frameworks such as the push-pull theory.

Introduction: The migration of skilled professionals in Africa’s healthcare sector depletes the human capital required for socio-economic growth and threatens healthcare stability (Docquier & Rapoport, 2012). Despite targeted efforts, shortages of healthcare workers persist, particularly in countries like Nigeria, Ghana, and Egypt (Kokutse, 2023). This study aims to analyze the factors driving brain drain in the healthcare sector, applying push-pull theory and synthesizing key themes from existing literature to provide recommendations for addressing the issue.

Methods: This study followed PRISMA 2020 guidelines to conduct a systematic literature review. Searches across eight databases identified studies on brain drain in African healthcare. From an initial 3,601 articles, 27 met the inclusion criteria. These studies were thematically coded to identify key drivers, focusing on their connection to African healthcare contexts and theoretical insights such as push-pull migration factors.

Results: Five themes emerged as drivers of brain drain: economic factors, poor working conditions, limited career development opportunities, political instability, and family/social considerations. Economic challenges, such as low wages, were prevalent in 56% of studies. Poor working conditions, including resource constraints, appeared in 30%, while career development limitations were noted in 33%. Political instability and safety concerns also drove emigration. Family and social considerations, including reunification and improved quality of life, influenced decisions to migrate.

Theorizing Using Push and Pull Theory: Push factors like societal unrest and economic hardships, combined with pull factors such as better opportunities abroad, explain migration patterns. Unique African dynamics, including “conditioned defiance” arising from corruption and mistrust, further influence decisions (Hope, 2000). Cultural values emphasizing family loyalty also shape migration choices (Ayittey, 2006), highlighting the complex socio-economic and cultural conditions within Africa.

Discussion: Brain drain in African healthcare is driven by adverse push factors and alluring pull factors. “Conditioned defiance” underscores mistrust of institutions, while familial ties and cultural collectivism further influence migration. Addressing these challenges requires improved wages, better working conditions, and career opportunities. Future research should adopt interdisciplinary approaches and examine leadership’s role in retaining professionals to strengthen Africa’s healthcare systems.

Profit over care: a systematic review of private equity's impact on US nursing homes (ID 75)

Dr Gregory Orewa[1], Dr Aizhan Karabukayeva[2], Dr Rohit Pradhan[3], Dr Itopa Jimoh[4], Dr Philip Cendoma[4], Dr Robert Weech-Maldonado[4]

[1]University of Texas at San Antonio, USA. [2]University of Oklahoma Health Sciences, USA. [3]Texas State University, USA. [4]University of Alabama at Birmingham, USA

Abstract: Over the past two decades, private equity (PE) firms have increasingly acquired Nursing homes (NH) in the United States, leveraging short-term investment models focused on operational restructuring and real estate monetization. While these approaches boost initial profitability, they raise concerns about care quality, workforce stability, and long-term viability. This systematic review, guided by agency theory, analyzed 12 quantitative studies (2000–2024) examining financial, quality, and workforce impacts. Our results showed financial gains were offset by higher debt, reduced liquidity, lower care quality, and workforce disruptions. Policies emphasizing sustainable, resident-centered care and transparency are critical to addressing the trade-offs between financial efficiency and resident well-being.

Introduction: PE acquisitions of NH have risen, driven by lucrative healthcare opportunities and an aging population (Braun et al., 2021). PE's short-term investment models often prioritize cost-cutting through operational restructuring and real estate monetization (Feldman & Kenney, 2024). While financial performance may initially improve, concerns about care quality, workforce stability, and sustainability persist. Our review evaluates PE ownership's impact on cost, care quality, and workforce dynamics, emphasizing the trade-offs between financial goals and resident well-being.

Conceptual Framework – Agency Theory: Agency theory explains conflicts between principals (owners) and agents (managers), leading to inefficiencies (Jensen & Meckling, 1976). The PE model often relies on equity-based incentives to align the interests of owners and managers, encouraging managers to prioritize shareholder returns (Rogers et al., 2002). In NH, such incentives may conflict with ethical obligations to provide high-quality care, as cost-cutting measures often reduce resources for residents and staff, potentially compromising care outcomes. This framework provides a lens to evaluate the inherent trade-offs in PE ownership.

Method: Following PRISMA 2020 guidelines, this review focused on quantitative studies (2000–2024) examining the impact of PE ownership on NH—a comprehensive search of various databases identified 343 articles. After removing duplicates and applying eligibility criteria, 12 studies were included. Only peer-reviewed, non-descriptive studies with data on financial, quality, and workforce outcomes were considered. Discrepancies during the review were resolved by consensus.

Results

PE-owned NH showed improved initial profitability but faced increased debt and reduced liquidity. Quality metrics declined, with increased deficiencies and lower star ratings, though some improvements, such as reduced catheter use, were observed. Workforce disruptions included reduced skilled nursing hours, increased lower-skilled staff reliance, and high turnover, undermining care continuity.

Discussion: PE ownership often prioritizes financial gains, leading to workforce instability and care quality declines. Stricter regulations, transparency in financial practices, and policies promoting sustainable, resident-centered care are needed. Future research should focus on metrics emphasizing resident outcomes and workforce impacts to better align operations with quality care.

Costs and health outcomes of a multidisciplinary team in primary care (ID 76)

Dr Elisa Jokelin[1], Dr Laura Piirainen[1], Dr Erja Mustonen[2], Assoc. Prof Paulus Torkki[1]
[1]University of Helsinki, Finland. [2]Ministry of Social Affairs and Health, Finland

Context: The primary social and health care system in Finland faces significant challenges, including increasing disparities in health and well-being among population groups, lack of access to services, and unsustainable cost structures. The Social and Health Care Reform in 2020 aimed to address these issues by reorganizing services into multidisciplinary teams that provide easy access and better coordination. This study presents the costs and health outcomes of a novel multidisciplinary team model in primary care.

Methods: The benchmark-controlled study was conducted in the Western Uusimaa Wellbeing services county, comparing five intervention health centres with three comparator centres. The intervention health centres have implemented the team model 2021-2023, which includes teams of 8-12 professionals working collaboratively. The model is based on the Chronic Care Model, Advanced or Open Access, and Lean Management and the performance is assessed using Quadruple Aim. The team model aims to provide same-day appointments, proactive care, and continuity of care. Data on health outcomes, continuity of care, and preventable hospital admissions for type 2 diabetics, coronary heart disease patients and hypertonia arterialis patients was collected from the electronic health record system. Costs in primary and secondary care for these patients were calculated.

Results: Results for the study are being analysed in December 2024 and January 2025 and will be presented in time with the conference in June 2025. 12083 patients were identified.

Discussion: The study aims to fill the research gap on the effects of multidisciplinary team models in primary care in Finland. The results will provide valuable insights for policymakers and healthcare providers, helping to design more effective and sustainable primary care services. The study will also contribute to the broader understanding of how multidisciplinary teams can improve health outcomes and reduce costs in primary care settings.

Examining the role of digital health technologies in supporting managerial processes in Belgian public hospitals: a replication study (ID 77)

Prof Marianna Mauro, Dr Monica Giancotti, Roberta Muraca, Dr Giorgia Rotundo
University Magna Graecia, Italy

Context: Digital transformation in healthcare has been driven by the use of a multitude of digital tools and technologies since the mid-20th century (Dal Mas et al., 2023). The integration of digital technologies into healthcare management offers numerous benefits, enhancing clinical, managerial, and administrative processes (Okolo et al., 2024). Digital health technologies have been linked to cost-reduction, quality-improvement, and patient-experience benefits (Okolo et al., 2024). Despite these advancements, evidence on the role of digital health technologies in supporting healthcare managerial processes remains limited (Mauro et al., 2024). This study explores emerging digital technologies and their application in managerial processes, offering evidence from the Belgian healthcare context. The research questions addressed are: *RQ1)* Which digital technologies are emerging to support managerial processes in healthcare organizations? *RQ2)* What are the main drivers and barriers to the adoption of digital technologies for managerial support processes in healthcare organizations?

Methods: This research replicates a Delphi-based study conducted in Italian public hospitals (Mauro et al., 2024): a survey of nine experts from Belgian public hospitals was conducted to identify emerging digital health technologies and assess their role in managerial processes. The Unified Theory of Acceptance and Use of Technology (UTAUT) framework was employed to evaluate factors influencing adoption and implementation of digital health technologies (Frishammar et al., 2023). The methodology emphasizes capturing local contextual factors, ensuring the findings are tailored to the Belgian healthcare environment.

Results: The study identified Artificial Intelligence, Big Data and Internet of Things as the most prevalent emerging technologies in managerial processes in Belgian public hospitals. These technologies were primarily driven by proactive managerial leadership and significant financial investments. However, adoption was hindered by challenges such as a lack of specific technical skills and limited economic resources.

Discussion: Our research offers insights into how digital technologies can support healthcare management, filling a gap in predominantly clinical-focused literature. The results provide valuable guidance for policymakers to address the challenges of digitalization in managerial processes - such as skill shortages and financial constraints. Despite limitations such as sample size and contextual focus, the study serves as a valuable starting point for a broader exploration of the applications of digital technologies in managerial processes across diverse healthcare systems.

Learning under pressure: how healthcare professionals in youth care learn to deal with the tension between system pressure and professional autonomy (ID 80)

Dr Maarten Janssen
Erasmus University - Center for Healthcare Management, Netherlands

Context: The Dutch youth care sector is under significant pressure due to staff shortages, increasing service demands, and financial constraints. As waiting times grow, the well-being of children and families deteriorates. Meanwhile, professionals work hard to deliver the best possible care. Guidelines, rules, and laws are essential in helping these professionals provide care, however, professionals also perceive the system's regulations, guidelines, and laws as restrictive. In this ongoing research project, we explore how youth care professionals can navigate the tension between professional autonomy and system /pressure. Furthermore, it explores how organizations can cultivate a culture of continuous learning on this tension.

Methods: This research involves four Dutch youth care organizations, each forming a Community of Practice (CoP) with professionals, patients, parents, organizational stakeholders, and researchers. In six facilitated sessions per CoP, participants collaboratively explore specific tensions between professional autonomy and systemic demands. The sessions are guided by qualitative researchers and emphasize integrating experiential, practical, and theoretical knowledge to identify strategies for managing these tensions. Research methods include participatory observations, interviews with professionals, organizational actors, patients, and families, and document analyses. Insights are synthesized into organizational learning histories, which serve as case studies for theory building. The research draws on professional and organizational learning theories to analyze how knowledge and practices evolve within these COP's. This participatory approach allows organizations to co-create actionable strategies while embedding reflective learning processes into their culture

Results: The CoPs identified specific manifestations of tension between professional autonomy and systemic demands, revealing how these dynamics play out in practice. Results will show how the specific issues manifest itself in practice and will teach us about the interplay between professional autonomy and regulations in general. Focus is on uncovering practical strategies for addressing—not resolving—the tensions, as they are inherent to the system. Promising strategies are further developed and tested in pilots within the participating organizations. An evaluation process with youth, parents, professionals, and managers is set up to assess their effectiveness in managing the tension between professional autonomy and systemic rules. The project also generates knowledge on managing and fostering continuous learning as results help in the search for how to cultivate a culture of learning. Specific outputs include actionable organizational strategies and recommendations for creating conditions conducive to effective learning across the sector

Discussion: This research aims to understand how youth care organizations can sustain a culture of continuous learning amidst evolving tensions between professional autonomy and systemic regulations. We would like to learn about how organizational structures and cultures can support this learning as the tension between professional autonomy and regulations will inevitably evolve. Challenges include tailoring solutions to organizational contexts and integrating them into existing learning frameworks. Stakeholder discussions ensure the findings are validated and actionable, with efforts made to generalize insights for use beyond the COP's.

Reflective research meetings will address emerging challenges, such as managing the complex relationships between the involved knowledge institutions, youth care organizations, and families. Ultimately, the project seeks to empower organizations to adaptively manage tensions while fostering collaborative and reflective learning environments. By addressing this the research also contributes to a broader understanding of how to sustainably enhance youth care services in dynamic, high-pressure environments.

Towards a hybrid patient pathway combining in-person and remote care: understanding when and how teleconsultation is appropriate and beneficial (ID 81)

Amélie Loriot
Paris Dauphine - PSL University, France

Context: European healthcare systems are currently facing significant challenges that threaten accessibility and quality of care. Facing growing staff shortages and a rise in chronic illnesses, healthcare services are struggling to meet patients' care needs. These pressures have led to increasing healthcare access inequalities and a decline in the perceived quality of care. In response, private and public initiatives are emerging, driving a movement toward the digitalization of healthcare. This dynamic places digital transformation at the heart of health policy priorities at both European and national levels. Among the many technological innovations that have transformed how people access healthcare services, teleconsultation has emerged as an option in numerous medical specialties and clinical situations. Its applications are diverse, offering multiple benefits in terms of convenience, continuity of care, and accessibility. However, teleconsultation has its limitations and may not be suitable for all medical situations. This study, part of a doctoral thesis, aims to explore the contexts in which teleconsultation serves as an appropriate and beneficial mode of interaction.

Methods: This study is based on a qualitative research design. 40 semi-structured individual interviews were conducted with patients and healthcare professionals across various fields. Respondents were selected using convenience sampling, and informed consent was obtained. The interviews were transcribed and analyzed using NVivo software, following a thematic analysis methodology.

Results: We identified three categories of factors influencing the feasibility, relevance, and benefits of teleconsultation. Key determinants include the nature of the medical issue, access to a high-quality digital device, and the patient's physical involvement during the consultation. These foundational criteria are further complemented by factors affecting the appropriateness of teleconsultation, such as the patient's cognitive abilities, autonomy, digital literacy, and prior relationship with the healthcare professional. Finally, when patients choose teleconsultation for reasons of convenience or due to difficulties related to geographical or temporal access to care, this mode of interaction proves to be particularly advantageous. To support decision-making, we developed a decision tree designed to help patients evaluate whether teleconsultation is the most suitable modality in a given situation or whether an in-person or hybrid alternative would be more appropriate. Moreover, our findings highlight that teleconsultation is even more beneficial when integrated into a collaborative and comprehensive approach involving key stakeholders such as medical assistants, nurse practitioners, and pharmacists. Additionally, integrating questionnaires such as PROMS (Patient-Reported Outcome Measures) and PREMS (Patient-Reported Experience Measures) into teleconsultation processes proves particularly valuable. These tools enhance the personalization of care and improve the quality of remote healthcare delivery.

Discussion: While teleconsultation represents a promising advancement, its effectiveness remains closely tied to the medical context. It is not suitable for all clinical situations or patient groups and cannot be considered a universal solution. Therefore, adopting a nuanced approach is essential. However, fragmented care pathways cannot address the current challenges facing healthcare systems. Developing "integrated" and "hybrid" patient pathways—centred on seamless coordination, the complementary expertise of various healthcare professionals, and a balance between in-person care and teleconsultations enriched by patient-reported questionnaires—emerges as a particularly promising strategy. From this perspective, our research presents a decision-making tool to guide the choice of the most appropriate consultation modality. It also provides insights into how healthcare systems can improve access to care while enhancing efficiency and quality in an increasingly digitalized environment.

Feasibility and acceptability of mobile-assisted screening and brief intervention for multiple health behaviours in medical settings (ID 83)

Camille Forcier[1], Dr Aymery Constant[1,2], Florine Grisard[1], Elise Clair[1], Dr David Val-Laillet[1], Prof Ronan Thibault[1,3], Prof Romain Moirand[1,4]

[1]INRAE, INSERM, Univ Rennes, Nutrition Metabolisms and Cancer, NuMeCan, France. [2]EHESP, France. [3]Department of Endocrinology-Diabetology-Nutrition, Home parenteral nutrition Centre, CHU Rennes, France. [4]Department of Liver Diseases and Addictology Unit, CHU Rennes, France

Context: Each interaction between patients and healthcare providers presents a valuable opportunity to promote positive behavior changes and support healthier lifestyles. Consequently, we developed a mobile Screening and Brief Intervention (mSBI), designed to screen for and intervene towards multiple lifestyle behaviors, using personalized feedback. This study aimed to assess the feasibility of implementing the mSBI during consultations for chronic conditions, collect user feedback to inform potential refinements, and explore patient health behaviors alongside their willingness to initiate changes.

Methods: A multidisciplinary team worked with a mobile app development company to design the app's algorithm. It includes a validated Food Frequency Questionnaire, the Alcohol Use Disorders Identification Test – Consumption (Audit-C), the International Physical Activity Questionnaire (IPAQ), and a smoking assessment. Based on user input, the app provides color-coded feedback on adherence to 18 health guidelines. The subsequent in-person brief motivational intervention aims at setting behavioral objectives to improve adherence to guidelines. Trained non-medical research counselors provided the mSBI to patients attending visit in Liver Diseases and Endocrinology-Diabetology-Nutrition departments of a University Hospital. Data on patients' socio-demographics, behaviors, and app acceptability were collected while counselors documented feasibility through observations and reports.

Results: A total of 259 participants, aged 51 ± 17 years, were included (53% of women). The mSBI lasted 20 minutes in average, and 92% of patients successfully completed the screening with minimal assistance. Medical doctors played a pivotal role in referring patients to the mSBI, facilitating its adoption and minimizing adverse events. On average, participants adhered to 11 out of 18 recommended health guidelines, with highest rates for fat and processed foods (89%) and lowest rate for fruits and vegetables (13%). Most patients found the personalized feedback both clear and useful. Nearly half of them intended to modify their behavior, especially women, those who found the feedback helpful, and those interested in using the feedback at home.

Discussion: The mSBI appears a well-accepted and feasible preventive care, but relies on physician referral after the medical visit. It also requires adjustments for patients with limited health and nutritional literacy. To reach population from remote, rural or deprived areas, the intervention was embedded integrated into an outreach program currently under investigation.

Clinical coordination between care levels and influencing factors: an exploratory analysis in 41 areas in Catalonia, Spain (ID 84)

Franco Amigo[1], Ingrid Vargas Lorenzo[2], María Luisa Vázquez Navarrete[2], Elvira Sánchez[3], Alex Escosa[4], Montserrat Oliveras[5], Francesc Cots[6], Pere Plaja[7], Antonio Sánchez Hidalgo[8]

[1]Department of Population Health Sciences, Duke University School of Medicine, USA. [2]Health Policy and Health Services Research Group. Consorci de Salut i Social de Catalunya, Spain. [3]Serveis de Salut Integrats Baix Empordà, Spain. [4]Badalona Serveis Assistencials, Spain. [5]Institut Català de la Salut, Spain. [6]Parc de Salut Mar, Spain. [7]Fundació Salut Empordà, Spain. [8]Consorci Sanitari de Terrassa, Spain

Context: Clinical coordination between primary care (PC) and secondary care (SC) is essential for improving quality of care and efficiency. Little is known about how factors related to the organization of services, the interaction between professionals at different levels, and the use of coordination mechanisms affect the different type of clinical coordination – informational and clinical management- and their dimensions. The aim of this study is to analyze these relationships across different areas of the Catalan national health system.

Methods: Cross-sectional study (May 2022–April 2023) based on an online survey of PC and SC doctors using the COORDENA-TICs questionnaire. Outcome variables included representative items for each dimension of the coordination experience - transfer of patient information between levels (coordination of information), agreement with the treatment prescribed by the other level and definitions of joint care plans (consistency of care), consulting doubts in the follow-up of patients by the PC doctor and sending recommendations by the SC doctor (adequate follow-up between levels), waiting times for referral (accessibility between levels), and general perception of coordination. Explanatory variables included organizational support, knowing doctors of the other care level and frequent use of ICT-based coordination mechanisms (shared EMR of Catalonia, center-specific shared EMR, and virtual consultations through EMR). Responses were aggregated at the healthcare area level to represent the percentage of doctors who agreed with the statement. Pearson correlation analyses explored associations.

Results: 2,277 responses (17.5% response rate) were collected from 41 areas comprising primary healthcare areas and their referral acute hospital. Shared information on patient care was significantly associated with organizational support for coordination ($r=0.51$, $p<0.01$). Agreement on treatment plans correlated with organizational support ($r=0.23$, $p=0.01$), doctors knowing each other ($r=0.32$, $p=0.04$), and virtual consultations through EMR ($r=0.44$, $p<0.01$). Joint care plan definitions were linked to knowledge between doctors ($r=0.34$, $p=0.03$), the center's Shared EMR ($r=0.31$, $p=0.05$), and virtual consultations through EMR ($r=0.33$, $p=0.03$). Recommendations from hospital doctors were negatively associated with Catalonia's Shared EMR ($r=-0.31$, $p=0.05$), while primary care queries showed a positive correlation with it ($r=0.39$, $p=0.01$). Waiting times for hospital referrals were linked to organizational support ($r=0.42$, $p=0.01$) and Catalonia's Shared EMR ($r=0.43$, $p=0.01$). Lastly, overall coordination perception was positively associated with organizational support ($r=0.53$, $p<0.01$), doctors knowing each other ($r=0.35$, $p=0.02$), and virtual consultations through EMR ($r=0.43$, $p=0.01$).

Discussion: The study highlights the critical role of organizational support and inter-professional knowledge in improving care coordination between PC and SC. Organizational support was a consistent factor, associated to better shared patient information, treatment agreement, and overall perception of coordination. Mutual knowledge is associated with items of consistency of care - joint care planning and agreeing on treatment- suggesting the importance of fostering direct communication to strengthen collaboration, especially in the care of patients with complex needs. Virtual consultations and shared EMRs facilitated information exchange, yet also highlighted potential challenges, such as negative correlations with hospital doctors' recommendations. Implementing these coordination mechanisms based on ICT requires a better understanding of their impact on workflows and effective integration strategies. Future research in progress will focus on evaluating associations while adjusting for organizational and sociodemographic characteristics of both doctors and patients within each healthcare area.

Exploring the role of temporal structures in experiences of chronically ill patients and their relatives (ID 85)

Prof Dr Paul Gemmel[1], Dr Selien Vancaillie[1], Prof Dr Bert Meijboom[2], Prof Dr Melissa De Regge[1,3]
[1]Ghent University, Belgium. [2]Tilburg University, Netherlands. [3]Ghent University Hospital, Belgium

Context: The way patients experience healthcare provision is substantially influenced by time related aspects. The importance of temporal structures in hospitals has been recognized, but there is a call for further studies addressing the way patients experience them. Beside objective characteristics like duration and pace, this experience can also be influenced by subjective factors such as prior visits to e.g. a chemotherapy unit, interaction with caregivers at the hospital, and the imagined future of being frequently confronted with these sessions. Our paper investigates how chronically ill patients and their relatives experience such time-related factors.

Methods: An exploratory-descriptive qualitative research design (EDQ) was used. EDQ research is considered suitable to study areas within healthcare practice that have previously received little or no attention. Data was collected through face-to face interviews with chronically ill patients (i.e., oncology, Crohn's disease, ulcerative bowel disease, kidney failure with dialysis) (n=52) supplemented with patients' diaries (n=9), interviews with one of their close relatives (n=6), employers (n=2) and one occupational health expert. The interviews ranged in length from 60 to 154 minutes. Abductive thematic analysis was conducted using NVivo, following Braun and Clarke's six-phase model. The study is grounded in the theories of intersubjective time.

Results: Our empirical findings showed that time plays an important role in the experiences of chronically ill patients during the care process. Patients reported that sometimes they clashed with temporal structures from different organizations. For example, appointments had been scheduled without taking into account daily morning traffic jams or without considering the opening hours of the patient children's nursery. Our results demonstrated that some patients adapt to the hospital's temporal structure (entrain), whereas other patients ask for a change in the appointment time (resist). Remarkably, when physicians do not align with the temporal structures of hospitals, as they often start late or run over time, patients adjust their expectations because they interpret this as a consequence of the physician's workload. Furthermore, most patients reported being accompanied by a relative during treatment and hospital visits. The interviews highlighted how these relatives had to cope with temporal structures imposed by their employer.

Discussion: Chronically ill patients encounter multiple temporal structures in their care process and interpret them individually. The individual temporal schemata of patients and their close relatives are shaped by the temporal structures of various organizations they interact with and by how they perceive and navigate them. Moreover, caregivers have individual temporal schemata of their own. This all leads to a complex network of intersubjective time relationships. This goes largely beyond the one-to-one patient–physician encounter. Further research could explore intersubjective time in all relationships. This would require pursuing a multilateral approach in which time perceptions and experiences of all actors involved are explored. How temporal schemata and structures are experienced by patients and relatives may cause effects on their (psychological) well-being, particularly for patients with chronic diseases involving periodic treatments. For hospitals, this implies that designing temporal structures such as appointment systems should involve more than optimizing the hospital's internal processes.

Governance of Innovation in Healthcare organizations in the Netherlands: strategies, challenges and practices from over >150 organisations (ID 86)

Dr Maarten Janssen
Erasmus University - Center for Healthcare Management, Rotterdam, Netherlands

Context: European healthcare systems are under immense pressure. Staff shortages, financial cutbacks, increasing demand and multimorbidity and new technologies put pressure on the sector and the quality of care. Effective innovation management—the process of introducing and implementing new technologies, processes, and solutions—is essential to ensure innovations positively impact care delivery and quality (Janssen, 2015). It offers the potential to address systemic challenges while optimizing costs (e.g., McDermott et al., 2021). There is, however, a need for more empirical research on how healthcare organizations manage innovation and how the governance of innovation is put to practice.

Methods: For this study 176 assignments, submitted by participants in a Dutch postgraduate MBA-health program (2018–2025), are analyzed. In the assignments, the participants examined how innovation was managed within their own organizations, offering detailed descriptions of innovation processes and their alignment with theory on innovation governance. These assignments represented diverse healthcare organizations, including hospitals (49), mental healthcare (61), care for disabled people (12), elderly care (20), primary care (3), and others (23), such as knowledge institutes and supervisory authorities, such as the healthcare inspectorate. A secondary content analysis was conducted using the situated novelty framework (Janssen, 2015), focusing on how governance structures and processes shaped innovation outcomes. The analysis highlighted structural, strategic, and cultural factors influencing the way innovation is managed and provides first-hand insights into the governance of innovation within healthcare organizations in the Netherlands.

Results: The analysis of over 150 assignments revealed key insights into how healthcare organizations manage innovation. Over half of the organizations systematically allocates and embeds the responsibility for innovation which results in an increasing focus on cooperation and continuous improvement. However, results also show how organizations maintained a linear perspective on innovation, leading to critical challenges: (1) often no clear distinction is made between improvement, innovation, and change; (2) often we observed a weak alignment with organizational strategies; (3) an overrepresentation of interventions at the fuzzy front end of the innovation process and less managerial focus on the later stages of innovation process and (4) insufficient consideration of what innovations replace. These results how healthcare managers struggle with transforming strategic thinking into practical implementation. One could say it illustrates how governance practices even hinder the structural embedding and long-term impact of innovations, by neglecting both structural and cultural aspects of it.

Discussion: This study explores how innovation is managed across various healthcare settings, providing insights into governance processes and the role of managers in fostering meaningful, innovation in healthcare. As such, this research sheds light on the innovative capacity of healthcare organizations and the practical challenges of it. It demonstrates that while structural aspects of innovation governance— e.g. roles and responsibilities—are often well-defined, softer dimensions like cultural readiness, reflection, and strategic alignment remain underdeveloped. These insights help refine the situated novelty approach (Janssen, 2015), extending it into a more holistic framework. The revised framework consists of three additional dimensions: (1) the interplay between innovation transitions, (2) the specific skills required for effective innovation governance, and (3) the importance of reflecting on the unintended negative effects of innovation. The refined framework contributes to our understanding of innovation governance and equips healthcare organizations with insights that enhance their capacity to foster valuable innovations.

Coordinating health care pathway. Sociology of collective action in the field of physical activity for health (ID 88)

Nathan Ramos
EHESP, France

Context: Since 2019, the French government has been implementing a new coordination structure, the *maison sport-santé* (literally, it means physical activity for health center). This public policy is aimed at people who are not practicing enough physical activity and at patients suffering from chronic illness. Beneficiaries are offered a personalized program designed to help them re-engage in physical activity over a long term period. *The maison sport-santé* is designed to interact and coordinate sports, social and health organisations and professionals, to offer a global and integrated health approach to users.

Method: A qualitative approach was adopted to investigate the issues involved in coordinating physical activity pathway, and thus coordinating social actors from the field of sports, health and social. The aim of this work is to analyse a public policy through a micro-level perspective, in order to gain a detailed understanding of its practical implementation. Furhermore, it studies the way in which the *maison sport-santé* develop strategies to create cooperation and coordination based on an integrated and personalized health pathway for the user. Over a two-year period, non-participant observations and 34 semi-structured interviews were conducted. Three monographs of different structures were also carried out. Analysis of meeting reports and official documents contextualised the interviews and observations.

Results: Although the *maison sport-santé* are tasked with coordinating the physical activity pathway, it turns out that they are more cooperating with their partners on small projects rather than fully coordinating all the social actors. As a result, these structures have difficulty gaining recognition as the legitimate central organisation in the field of physical activity for health. They face numerous professional struggles and organisational conflicts. The *maison sport-santé* produce a narrative based on the common good and service user to encourage cooperation between social actors, to regulate conflicts and the work of their service providers. This form of coordination directly calls into question the organisation of work in the field of health and its components, i.e. the social sector and physical activity. The budgetary and human resources constraints faced by the *maison sport-santé* vary according to their social network and the support they receive from local policies.

Discussion: This study analyses the local implementing of a public health measure through the perspective of meanings produced by local actors and of collective action. It brings some insights about the local implementation of a people-centred policy. If this research focused on the main social actors of the public policy (the local government, the *maison sport-santé* and their partners), it would be interesting to extend the analysis to all social actors in the ecological systems (professional associations, sports federations, etc.). In addition, the analysis of the actions organised around the *maisons sport-santé* reveals trends in the way public health policies are governed. It would be useful to develop an analysis of the transfer of a public service to local, sometimes private organisations. These points of improvement are currently being pursued as part of a thesis within the EHESP doctoral network in public health.

The use of artificial intelligence in healthcare to promote sustainable development goals: a bibliometric review and a future research and policy agenda (ID 89)

Alberto Cavazza[1], Dr Francesca Dal Mas[2,3], Prof Stefano Campostrini[4], Prof Paolo Biancone[5], Ginevra Degregori[5], Prof Valerio Brescia[6,7]

[1]Department of Law, University of Milan - Bicocca, Italy. [2]Venice School of Management, Ca' Foscari University, Italy. [3]Collegium Medicum, SAN University, Poland. [4]Department of Economics, Ca' Foscari University, Italy. [5]Department of Management V. Cantino, University of Turin, Italy. [6]Department of Economics, Management and Quantitative Methods, University of Milan, Italy. [7]Department of Management, SAN University, Poland

Context: The United Nations' Sustainable Development Goals (SDGs) see health as the protagonist of SDG #3, which is designed to guarantee the health of all individuals. Innovative solutions are required to reach the goal, as many barriers are present, also following the outcomes of the COVID-19 pandemic. The current literature agrees that technologies such as Artificial intelligence (AI), the Internet of Things, Virtual Reality, and Big Data Analytics offer promising opportunities to improve healthcare delivery and support achieving SDGs' objectives. When it comes to AI, literature underlines a gap in comprehending its actual impact on healthcare and contribution to the SDGs.

Method: This study aims to address such a gap by conducting a bibliometric analysis on Scopus, the largest scientific dataset. More in detail, emphasis was placed on articles labelled under the disciplines of business management and medicine, addressing the implications of AI-based healthcare applications and their impact on the SDGs. The initial queries produced 5,300 results, which were subsequently refined to a final sample of 1,020 articles through systematic filtering and abstract screening. The software Leximancer was employed to analyse results and identify critical themes and clusters associated with the role of AI in healthcare.

Results: Five primary clusters of AI applicability in healthcare were identified. The initial cluster underscored the importance of AI in enhancing healthcare systems and decision-making processes, emphasizing the importance of collaboration between human healthcare providers and AI tools. The second cluster concentrated on women's health, with AI assisting in identifying gender-specific hazards and developing customized interventions. A third cluster was established to investigate diagnostic innovations, which involve improving medical diagnoses through machine learning and deep learning algorithms. The fourth cluster deepened the social determinants of health, illustrating how AI can mitigate disparities by analysing socioeconomic factors. The fifth cluster focused on the role of AI during the COVID-19 pandemic, illustrating its potential for outbreak prediction, resource optimization, and vaccine development.

Discussion: As a result, AI's integration into healthcare is consistent with SDG #3 and its associated objectives, including the reduction of health inequalities and the enhancement of universal health coverage. It also promotes equitable access to healthcare and addresses gender-specific health requirements, thereby supporting other SDGs, such as SDG #5 (Gender Equality) and SDG #10 (Reduced Inequalities). Future research should concentrate on the personalization of AI models, the mitigation of biases, and ethical AI implementation. Therefore, healthcare professionals should be trained to effectively utilize AI tools to optimize their benefits and improve healthcare outcomes. These endeavours will make a substantial contribution to the realization of SDG #3 and the promotion of a global health system that is both sustainable and equitable.

Fostering wellbeing in healthcare organisational systems: health coaching new competencies (UD 91)

Dr Stefano Luca Patania, Dr Claudia Crescenzi, Dr Francesco Di Coste, Dr Tiziana Pellicciaro, Dr Alessandro Testa
Associazione Italiana di Health Coaching, Italy

Traditional coaching models are to some extent inconsistent in health/well-being management, so Health Coaching is of increasing interest. Conscious lifestyles aimed at maintaining one's psycho-physical health are needed to get personal and organizational wellbeing. The Italian Health Coaching Association (AIHC) wanted to refute the coaching professional foundations, to implement health as *"a process of total physical, mental and social well-being"* (WHO 2011). As a first step, during the 2022 AIHC Lab Meeting, a Health Coach (HC) and Wellbeing Operator Identity was theorized. Subsequently, AIHC Scientific Committee started sociological research. Personal development patterns that could indicate some ontological and methodological root were investigated to re-establish health coaching techniques. This published research identified Italian Pragmatism and Erich Fromm social philosophy as health coaching model foundations.

AIHC has today arrived at defining the Health Coaching Competencies. A working and research group was created to draw up the guidelines relating to skills. These were generated under the aegis of the President of the AIHC Association, and in collaboration with the research carried out by the AIHC Scientific Committee. The Presidency, Editorial and Scientific Committee worked in a joint effort for 16 months on the drafting, revision and philological accreditation of the new skills system. The working group, made up of professionals in the field of Wellbeing, was multidisciplinary, with members belonging to the world of business, training, coaching, neuroscience and healthcare.

According to the new AIHC competencies system, the HC acts through training, coaching and support in the healthcare system. Care relationship improvement is the final goal. The HC aims to a greater degree of adherence by the patient to follow the medical prescriptions, be they pharmacological or dietary with periodic monitoring tests, so the lifestyle is improved.

All practical activities and exercises conducted by HC, whether sensorial, emotional, cognitive or spiritual, are based on a conversational protocol that allows individuals and groups to:
a) work on oneself to achieve freely chosen sustainable objectives
b) promote a positive conceivability of reality (frame of abundance), objectively balancing risks and opportunities
c) choose improvement options to move from a starting situation to one of an improved well-being
d) gain spaces of well-being within which one can perceive one's quality of life as improved
e) make "learnings", thanks to which they can become responsible protagonists.

The AIHC Health Coaching competencies innovation is, above all, ontological and sociological, fostering a permanent well-being. Evidence emerged on the one hand from the Scientific Committee activity, on the other from the well-known knowledge of behavioural economics, state of flow and co-generation of performance and well-being.

A humanistic interpretation of the people management dictated by an ethical pragmatism is pivotal.

Health inequities in the distribution of communicable and non-communicable diseases among adults in the city of Pécs, Hungary, 2024 (ID 92)

Addisu Alemayehu Gube, Dr Szimonetta Lohner, Dr Jozsef Vitrai
University of Pécs, Hungary

Context: Health inequalities between citizens of different European countries and between socially advantaged and disadvantaged groups are seen as challenges to the EU's commitment to solidarity, social and economic cohesion, human rights, and equality of opportunity. It reduces economic and social productivity and leads to higher healthcare and welfare costs. Health equity is part of UN Sustainable Development Goals (SDGs): SDG 3 which states "Ensure healthy lives and promote well-being for all at all ages" and SDG 10 which states "Reduce inequality within and among countries" and it is key to achieving many other SDGs. Health outcomes and health inequalities are influenced by the social, economic, and environmental determinants of health: the conditions in which we are born, grow, live, work, and age. This study aimed to assess inequity in the distribution of specific communicable and non-communicable diseases among the adult population of Pécs City, Hungary.

Methods: This is an ecological study combined with health inequity analysis, and the study population was adult patients living in the city of Pécs who were treated for circulatory, neoplasm, or respiratory diseases in 2019. Hospitalization and local socioeconomic data by Zip codes were obtained from the National Health Insurance Fund of Hungary and the Hungarian Central Statistical Office. Diseases were classified according to the International Classification of Diseases, 10th revision (ICD-10). The difference and ratios of proportions of the treated diseases were calculated along with the concentration index (C). Zip codes were ranked into categories 1 to 5 based on socio-demographic variables, education, employment status, and apartment ownership. A P-value of less than 0.05 was used as the cut-off point for statistical significance. IBM SPSS version 25 and STATA version 14.0 software were used for data analysis.

Results: All 36 Zip codes in Pécs City were included in the study. Analysis based on employment status showed a higher prevalence of neoplasms in areas with higher unemployment (C = -.0528; CI 95% = -.0975, -.0080). In terms of apartment ownership, neoplasms (C = -.0742; CI95% = -.1102, -.0382) and circulatory diseases (C = -.0280; CI95% = -.0520, -.0039) were more prevalent in zip codes with fewer apartment owners.

Conclusion: The study identified significant inequity in the distribution of neoplasms and circulatory diseases among the adult population of Pécs, especially in areas where the low socio-economic segment of the population lives. Efforts should be made to improve access to health care for marginalized populations, provide targeted interventions to address the specific needs of high-risk groups, and establish multi-sectoral collaboration.

Taking action to improve pharmacy professionals' health and wellbeing for patient safety (ID 95)

Ivana Zimonjić[1,2], Dr Lazar Dražeta[3], Dr Valentina Marinković[1], Dr Marina Odalović[1]
[1]University of Belgrade, Serbia. [2]Galenika ad Beograd, Serbia. [3]Singidunum University, Serbia

Context: Community pharmacy professionals face increasing challenges in providing pharmaceutical care and managing pharmacy activities. The introduction of advanced services demands greater accountability for patient outcomes and the development of additional skills. Discussions are growing around the impact of adverse events on pharmacists, named as the second victim phenomenon, including anxiety, patient-related concerns, doubts about competence, avoidance of risky procedures, and disengagement from primary healthcare roles. Identifying effective strategies to support pharmacists during patient safety incidents is crucial, emphasising the need for educational initiatives and support programmes to enhance their resilience, professional satisfaction, and patient safety.

Methods: To identify common incidents in community pharmacies, their circumstances, and their impact on pharmacists and patients, a study was conducted using the nominal group technique with 27 experienced pharmacists. Following this, the Second Victim Experience and Support Tool Revised (SVEST-R) questionnaire was validated and adapted by 350 pharmacy professionals in Serbian. A multidisciplinary research team, including pharmacists, psychologists, and human resources experts, conducted the study. Subsequently, focus group discussions with 25 pharmacists explored perceptions of educational needs and supporting programmes regarding patient safety incidents, as well as the evaluation of previously attended programmes. Statistical analysis was performed using SPSS software, while audio transcripts from focus groups were transcribed verbatim, coded, and thematically analysed using MAXQDA software.

Results: Medication dispensing incidents were most common (63%), with 44.4% involving incorrect medication. Of these, 50% were near misses, 25% caused no harm, and 16.7% were harmful. Anxiety about patient care, prospects, and career aspirations was prevalent, with inadequate counselling as the primary cause. Fear of future consequences was reported by 49.5%, 22.6% considered leaving their job, and 72.6% desired peer support. Notably, 28.9% improved work quality and procedures after incidents. Participants perceived integrating soft skills training, incident categorisation, and response protocols into education and continuous professional development (CPD) programmes as essential. Among participants, 80% engaged in support programmes, including "Galenika Academy" (60%), the XVI "Marketing in Pharmacy Conference" (24%), and the "Pharmacist Safety as a Prerequisite for Patient Safety" meeting (16%). A significant relationship was found between programme participation and skill improvement (76%, $p<0.001$) and programme recommendation (80%, $p<0.001$).

Discussion: Pharmacists recognised the second victim phenomenon in practice but were unaware of the term. Incidents often occur under compromised practice standards, such as overcrowding, understaffing, and storage of similarly named or packaged medications close together. The consequences primarily included a reduced ability to deliver high-quality services. Peer support was identified as the most desirable form of assistance. A significant number of participants enhanced their resilience and procedures following incidents. Recommendations included the integration of soft skills training, incident categorisation, and standardised response procedures, as well as the empowerment of individuals and the profession. These measures were seen as crucial for improving healthcare quality, patient safety, pharmacist motivation, and sustainable pharmacy operations. Notably, most of the participants engaged in some form of support program reported improved competencies and would recommend such initiatives to colleagues for further development.

The taboo impact of patients' death on the mental and emotional health of cardiac physicians: an issue for public health and care quality (ID 97)

Prof Thibaud Damy[1], Dr Rebecca Dickason[2], Prof Erwan Flécher[3], Dr Frédéric Pochard[4], Dr Sophie Provenchère[5]

[1]French Referral Centre for Cardiac Amyloidosis, Cardiology Department, Henri-Mondor, GRC Amyloid Research Institute, Amyloidosis Mondor Network, Henri-Mondor Teaching Hospital, AP-HP, France. [2]IGR-IAE, Univ. Rennes, CNRS, CREM – UMR 6211, France. [3]Cardiothoracic surgical department, CHU Rennes, France. [4]Famirea Medical Intensive Care Unit, CHU Saint Louis, AP-HP, France. [5]Departement of Anesthesiologia and Intensive Care, Hopital Bichat, AP-HP, France

Highlights: This study highlights the significant emotional toll that patient deaths exert on CPs, revealing a strong association between high emotional impact and MHDs such as PTSD, anxiety, depression, and burnout. 26% of respondents reported severe emotional impact (EIofPDs ≥8), correlating with heightened risks of mental health symptoms. Risk factors included being female, a cardiothoracic surgeon, or having experienced personal trauma. Despite support from colleagues and family, institutional support was lacking. Addressing this issue requires fostering organizational resilience, implementing psychological support systems, and training physicians to manage emotional stress, ensuring both physician well-being and optimal patient care.

Context: Cardiac physicians (CPs) frequently report mental health disorders (MHDs) which are often attributed to work overload or organizational challenges. Despite the frequent occurrence of acute or planned death in cardiac patients, the impact of these deaths on MHD among CP and risk factors remains largely unexplored.

Materials and methods: This cross-sectional survey involved French CPs (statistics performed with SPSS 13.0 software). The primary objective was to assess the Emotional Impact of Patient's Death score (EIofPDs), via a self-reported 10-point Likert scale, examining its association with Mental Health Disorders and risk factors. The questionnaire consisted of 3 sections: (1) background information concerning physician demographics and working conditions, (2) evaluation of the Emotional Impact of Patient's Death score (EIofPDs) and of the rate of support received by their families, colleagues and institutions concerning the impact of these deaths - physicians were also asked which compensatory behaviors they may have tried (substance use, psychotropic drugs, psychological support), (3) three gold- standard, validated measurement tools for anxiety and depression (Hospital Anxiety and Depression Scale, HADS), post-traumatic stress syndrome (Impact of Event Scale-Revised, IESR) and Burn-out (Maslach Burnout Inventory, MBI).

Results: 747 CPs completed the survey: 75% were cardiologists, 12% anesthesiologists, 8% surgeons and 5% cardio-pediatrists, their mean age was 44.5years±12.3 and 43% being women. CPs were divided into quartiles of EIofPDs, with Q4 having the highest impact (≥8/10, 26%). Increased EIofPDs was associated with a higher prevalence of MHD with Q4 participants reporting 52% anxiety, 42% depression, 60% PTSD, 51% severe burn-out. This group also reported increased conflicts with colleagues and greater psychotropic or toxic drugs uses than other quartiles. High EIofPDs (Q3-Q4 vs Q1-Q2) was significantly associated with being a cardiothoracic surgeon (OR:3.131), a woman (OR: 1.78) and having a personal history of trauma (OR: 1.145).

Discussion: This study highlights the significantly high level of emotional impact that patient deaths have on cardiac physician mental health. To our knowledge, this is the first study to evaluate this relationship between emotional impact and mental health disorders and to identify the risk factors of type of death and cardiac physician type. The emotional impact of patient's death is linked with a hidden psychological morbidity among cardiac physicians potentially affecting personal performance, well-being and patient care quality. This professional and institutional taboo is a public health issue that should be addressed by providing relevant support and training.

Council of Europe’s guidelines to harmonize the Medication Review Process in Europe (ID 98)

Silvia Ravera[1], Dr Martin Henman[2]
[1]EDQM, France. [2]Trinity College, Ireland

Context: The European Directorate for the Quality of Medicines & HealthCare (EDQM), part of the Council of Europe, promotes access to high-quality medicines and healthcare across Europe, aligning with the values of human rights, democracy, and rule of law. In response to varied medication review (MR) practices among member states, the Council adopted Resolution CM/Res(2020)3 in 2020, encouraging a harmonised, pharmacist-led MR process to improve patient outcomes and healthcare efficiency. This guidance aims to unify MR practices across Europe to support safe, effective medication management.

Methods: To develop this harmonized approach, a multidisciplinary working party under the EDQM’s Committee of Experts on Quality and Safety Standards in Pharmaceutical Practices and Pharmaceutical Care (CD-P-PH/PC) was established. This working group, which included pharmacists, academics, and national authority representatives, collaborated on drafting the guidelines. Methods included a series of in-person and virtual meetings, iterative circulation of draft texts for feedback, and structured consultations with stakeholders across Europe. Input was gathered systematically to address the diverse needs of member states while focusing on quality and safety standards in the MR process. This collaborative approach was integral to creating comprehensive guidelines that could be applied across varied healthcare systems.

Results: The finalised guidelines, published in November 2024, consist of nine chapters that establish a unified framework for MR development and support. They provide detailed instructions for conducting MR, including data collection, storage protocols, and required training for pharmacists to ensure a consistent level of expertise across regions. The guidelines also incorporate resources and tools to support MR integration into European healthcare systems effectively. This structured approach to MR offers a standardized process that enables pharmacists and healthcare professionals to implement MR in a systematic, quality-focused manner. Ultimately, these guidelines are expected to reduce medication errors, enhance patient safety, and improve therapeutic outcomes across member states.

Discussion: The publication of these guidelines marks a significant milestone in advancing pharmaceutical care and medication safety in Europe. By establishing a standardized MR process, the EDQM addresses critical gaps in the consistency and quality of medication reviews across member states. However, implementation challenges may arise due to regional differences in healthcare infrastructure and resources. Addressing these disparities will require ongoing support, particularly for training and capacity building in lower-resource settings. Future evaluations will assess the impact of these guidelines on healthcare outcomes and may lead to further refinements. These guidelines are a foundational step toward cohesive, high-quality pharmaceutical care across Europe, ultimately contributing to patient safety and responsible medication use.

Wellbeing: a systematic review of the international institutional literature and a novel framework proposal (ID 99)

Prof Stefano Campostrini[1], Dr Francesca Dal Mas[2,3], Dr Gaia Bertarelli[1], Mr Alberto Cavazza[4], Dr Mattia Stival[1], Prof Francesco Moscone[1], Prof Giacomo Pasini[1], Dr Rebecca Lundin[1], Dr Michele Bertani[1], Prof Michele Marzulli[1]

[1]Department of Economics, Ca' Foscari University, Italy. [2]Venice School of Management, Ca' Foscari University, Italy. [3]Collegium Medicum, SAN University, Poland. [4]Department of Law, University of Milan - Bicocca, Italy

Context: Well-being is a key value in the political agenda of countries and international institutions. Several renowned frameworks co-exist, primarily focusing on access to resources like employment, education, and social protection. Still, there seem to be some gaps, especially in setting a common definition of the term, evaluating governmental investments, and using new technologies to facilitate the outcomes.

This study establishes a conceptual framework and central indicators to assess well-being, including societal and economic dimensions and cultural tensions. The framework is intended to assist countries and regions in evaluating progress, promoting the development of policy agendas from a health promotion perspective.

Methods: The study, employed by a highly multidisciplinary team, starts with a systematic review of official well-being measurement frameworks set by countries and international organizations. A coding protocol is used to map dimensions such as health, income, and societal well-being. Documents are analyzed using the software Nvivo. Key nodes used in the analysis include the presence of a unique definition of well-being, the suggested set of indicators, the proposed frameworks and their features, governance gaps, cross-sectoral coordination, cultural adaptability, stakeholder engagement, equity, technological integration, and eventual post-COVID-19 impacts and policies.

After mapping the institutional literature, a tentative new framework and list of measurement indicators is proposed employing a multidisciplinary focus group.

Results: The initial results indicate that there is a substantial degree of variation in the definitions of well-being and the strategies used to measure it across various cultural and governance contexts. Few frameworks comprehensively address governmental investments in well-being or align with sustainability objectives such as Agenda 2030. The tentative framework deriving from the results tries to consolidate the most recurrent concepts and bridge the existing gaps, especially those related to topical trends such as sustainability and digital technologies.

Discussion: The proposed framework provides strategic guidance for countries to monitor and promote well-being, thereby addressing critical deficiencies effectively. The practical utility of well-being metrics is improved by emphasizing cross-sectoral governance, cultural adaptability, and sustainability. Future lines of research should include the refinement of indicators, particularly for societal and economic dimensions, and the integration of emerging technologies to facilitate access to resources, data capture, and policy evaluation.

Multi-criteria decision-making approaches for the reimbursement of orphan drugs: a bibliometric analysis (ID 102)

Ferit Sevim[1,2], Assoc. Prof Dr Çağdaş Erkan Akyürek[2]
[1]Karadeniz Technical University, Turkey. [2]Ankara University, Turkey

Context: This bibliometric analysis seeks to systematically identify and examine the articles that have significantly impacted the application of Multi-Criteria Decision-Making (MCDM) approaches to the reimbursement of orphan drugs. Focusing on high-impact articles, this study aims to offer a comprehensive overview of seminal works in the field, serving as an essential resource for researchers, academics, and healthcare policymakers. The analysis will highlight the most influential contributions, facilitating a deeper understanding of decision-making frameworks employed in orphan drug reimbursement processes. In doing so, this bibliometric review aims to assist professionals in navigating the complex landscape of reimbursement strategies for orphan drugs, contributing to advancing knowledge and practices in this critical area of healthcare policy.

Methods: The study adhered to the three stages of the bibliometric mapping method, a widely utilized bibliometric analysis approach: study design, data collection, and data analysis. During the data collection phase, the Web of Science database—one of the most frequently used bibliographic resources—was employed in line with a predetermined search strategy. No restrictions were applied regarding time frame or language in the search process. As a result, a total of 256 records were identified. For the data analysis phase, the R-based bibliometrix software was utilized to perform the necessary analyses.

Results: The analysis revealed that the annual scientific production on the subject has shown an upward trend since 2009, with an annual growth rate of 14.26% and an average article age of 6.84 years. The average number of citations per document was found to be 17.6, while the rate of international co-authorship stood at 31.37%. Based on Bradford's Law, the *Orphanet Journal of Rare Diseases* emerged as the most influential core source, with 41 publications. Collaboration between countries was most frequent between the United Kingdom and Italy (n=14). In terms of citations, the leading countries were the Netherlands (n=825), the United States (n=601), and the United Kingdom (n=549). The three most frequently used keywords were "rare disease(s)" (n=96), "orphan drug(s)" (n=83), and "reimbursement" (n=47), followed by "health technology assessment" (n=22).

Discussion: The reimbursement of orphan drugs through Multi-Criteria Decision-Making (MCDM) approaches is a vital research area in healthcare policy, addressing the complexities of rare disease treatment. This bibliometric analysis highlights the growing significance of MCDM methodologies, evidenced by the increasing number of publications and their citation impact. The global nature of the research, marked by collaborations between countries like the United Kingdom and Italy, underscores international efforts to enhance decision-making frameworks. These studies aim to improve fairness, efficiency, and effectiveness in orphan drug reimbursement, providing critical insights for researchers, policymakers, and healthcare professionals. By illustrating the expanding body of knowledge and the collaborative approach to refining MCDM applications, this analysis serves as a strategic resource to navigate challenges in rare disease treatment. Ultimately, it offers a comprehensive view of the current research landscape and future directions in this field, supporting advancements in healthcare policy and decision-making for rare diseases.

Accounting for the common good: insights from a case study on the public cost of implementing a telemedicine service in cardiology (ID 104)

Dr Paolo Candio, Prof Caterina Pesci, Prof Diego Ponte, Prof Andrea Francesconi
University of Trento, Italy

Context: The New Public Management represented a revolution as it introduced financial accounting norms from the private sector. The consequent adaptation of the accounting system required some rethinking and reshaping of several key accounting notions, notably that of cost. Technological advancements can shape the way a cost is identified, measured and valued. Digitalization is one of these impactful changes. The pursuit of refining a notion of cost that is both relevant and comprehensive enough to capture the consumption of different societal resources—financial, social, and environmental— is challenging in the public sector whose mission is tied to the common good.

Methods: Focusing on the public healthcare sector, this article elaborates on a conceptual framework developed for management decision making, offering insights into how to define the key elements of such comprehensive notion of cost through the lens of sustainability, using a case study on the implementation of telemedicine services in a public hospital in Rovereto (Italy). Organisation and service level data were collected via semi-structured interviews and analysis of archival documents provided by hospital administrators. The costs associated with the telemonitoring service were divided into the three pillars of sustainability: economic, social and environmental.

Results:

Economic costs
In terms of direct costs:

- Remote monitoring device and IT
- Medical and support staff, consisting of telemonitoring nurse specialist, nurse training period, time to manage transmission and physician time
- Operational space (dedicated office / room and accessories)

Whereas, indirect costs are related to the use of the hospital structure (percentage of: cleaning, utilities expenses, depreciation of assets).

Social costs
Our data reveal a consistent decrease in hospitalization and death rate, as well as some relief to caregivers who do not have to leave their activities/jobs to regularly accompany the cared to the hospital.

Environmental costs
Additional energy consumption should be considered and compensated by the reduction of pollution related to transportation costs that especially in contexts where there are patients living in remote areas that must travel several kilometers to reach the hospital.

Discussion: The proposed framework aims at offering a more comprehensive representation of the consumption of resources when an innovation is introduced in the public health sector where it is essential to evaluate the results of the implementation of new digital technologies and initiatives by adopting a holistic point of view able to consider multiple impacts and stakeholders. The development and refinement of the proposed conceptual framework for the accounting of the sustainability costs for the public sector will pave the way for more structured reporting of the broader consequences of replacing current health services with digital technologies, hence facilitating transparency and accountability in public sector decision-making.

Continuity of care - How to go forward? (ID 107)

Anu Vehkamäki[1], Inka Sylgren[2], Märt Vesinurm[1], Prof Paulus Torkki[2], Prof Risto Rajala[1]
[1]Aalto University, Finland. [2]University of Helsinki, Finland

This study examines continuity of care (CoC) using a model that describes three interrelated dimensions: (1) relational continuity, which entails ongoing relationships between patients and healthcare professionals; (2) informational continuity, which focuses on using existing patient data to guide future care decisions; and (3) management continuity, which refers to consistent and adaptable care as patients' needs change. Only relational continuity has been widely studied, and it has been associated with better health outcomes such as reduced hospitalisations, emergency department visits, complications, and even lowered mortality rates. Management and informational continuity remain understudied.

We conducted an inductive qualitative research drawing on data collected from two distinct healthcare settings in Finland – a large Nordic private provider, and a public home care organisation. The data collection was facilitated through two focus groups, one in each setting (private n=7; public n=9), and semi-structured interviews in the private setting (n=9) focusing on chronic care. The informants were healthcare professionals working in key roles in their prospective organisations such as chief and senior physicians, and service and development managers. First-order concepts were identified from the data reflecting the informant perspectives. We conducted several workshop rounds lasting over a year with the research group to organise the codes into second-order themes which were further distilled into aggregate dimensions. The themes and dimensions were researcher interpretations of the collected informant data. A data structure and a conceptual model depicting the interconnectedness of the data was formed from the analysis.

Our findings highlight critical operational domains within healthcare systems to improve CoC, with an emphasis on chronic care. These findings are organised into three principal aggregate dimensions: (1) system architecture, defining the underlying structure of how providers are situated within the system facilitating coordination as patients move in the care process; (2) care pathway design, depicts an organisational level where best care practices are operationalised to deliver care services to patient groups; and (3) care process management, entails managing the individual patient pathways and delivering personalised care. We propose a conceptual model where system architecture and care pathway design act as key drivers of CoC, moderated by care process management. Effective care process management can be achieved through relational strategy leveraging relational continuity and tacit knowledge, and codification strategy focusing on standardised knowledge explicit knowledge through user-friendly information systems.

This study aimed to deepen our understanding of improving CoC in chronic care. We theorise two causal propositions: between system architecture and CoC, and care pathway design and CoC. We suggest that care process management moderates these relationships through two distinct approaches: a relational strategy and a codification strategy. One single approach for improving CoC cannot address varying patient needs. Ensuring optimal CoC requires targeted strategies, and future research should explore which patient groups under what conditions benefit most from relational strategies versus codification strategies. While relational strategies already have established measures, such as the Continuity of Care Index (COCI) and Usual Provider of Care (UPC), codification strategies lack equivalent tools. Developing measures to operationalise codification strategies will enable research into how both approaches can complement each other to enhance CoC. By understanding these distinctions, healthcare systems can better tailor strategies to improve patient outcomes and operational efficiency.

Evaluating the effectiveness of split-flow models in reducing emergency department overcrowding: insights from a benchmark analysis of 39 Italian Eds (ID 108)

Dr Giulia Interlandi[1], Prof Stefano Villa[1,2], Dr Maria Paola Caria[2]
[1]Università Cattolica del Sacro Cuore, Italy. [2]Centro di Ricerche e Studio in Management Sanitario (CERISMAS), Italy

Context: Several emergency department (ED) interventions aiming to reduce overcrowding rely on patient streaming (Anwar et al., 2021) or segmentation (Bish et al., 2016), directing patient groups to tailored care processes. The "split-flow" model exemplifies this approach, creating a “fast track” for lower acuity (Elshove-Bolk et al., 2007; Garrett et al., 2018). Variations of this model include segmentation by complexity rather than acuity (Ieraci et al., 2008; Kaushal et al. 2015) and separating high- and low-variability patients (Arya et al., 2013; Kaushal et al. 2015). This study aims to assess whether "split-flow" models can relieve the problem of ED overcrowding.

Methods: A benchmarking analysis was conducted to evaluate patient flow management across 39 Italian emergency departments of different capacities, geographical locations and territorial contexts. Quantitative data were collected from the standardized data flow routinely reported by each emergency facility to the Italian Ministry of Health. Specifically, data were collected for each patient, including personal characteristics, timetables, type of discharge, etc., to calculate performance indicators, such as throughput times (waiting times, length of stay, boarding times). Qualitative information on organizational models and patient management processes was collected using an ad-hoc survey. Student's T-test and Chi-square tests were run to study the possible association between some ED performance indicators and the use of “split-flow” models.

Results: The main results showed that (i) the presence of a first-aid point in the proximity of the ED was negatively related to the percentage of non-urgent cases accessing the ED, (ii) the presence of an ambulatory for minor codes within the ED was negatively related to ED length of stay, (iii) among patients classified with minor codes, those treated in the fast-track pathway experienced a significantly shorter length of stay compared to those in the standard pathway, (iv) the implementation of the “frailty score” in II Level DEA ED was associated to a reduction in the usually observed difference between elderly and non-elderly patients median length of stay, and the same was true for the implementation of the “silver code” and the presence of a “interdepartmental geriatrician”. Overall, implementing “split-flow” models proved to be effective in reducing ED length of stay, used as a measure of ED overcrowding.

Discussion: This study contributes to the literature about patient flow management in the emergency department by suggesting the effectiveness of "split-flow" models in reducing ED overcrowding. By analysing data from 39 EDs of various capacities, the research offers a comparative perspective on how segmentation based on acuity or complexity can optimize resource allocation and reduce the length of stay. The study underscores the interplay between ED performance and external healthcare structures, such as the proximity of primary care facilities, providing insights into how broader healthcare system dynamics impact ED efficiency. By highlighting the role of functional segmentation, particularly for vulnerable populations such as the elderly, it demonstrates that targeted interventions, including the implementation of "frailty scores", "silver codes," and interdepartmental geriatricians, can effectively address length of stay disparities and enhance equity in care delivery.

Impact of menopausal symptoms on the turnover of working women in Japan: report from the baseline survey of a large panel study (ID 112)

Dr Makiko Arima[1], Dr Yoshikuni Edagawa[2], Dr Kohta Suzuki[3], Dr Nahoko Shirato[1], Dr Chikako Kawahara[4], Yoshie Miwa[5]
[1]Showa University, Japan. [2]Graduate School of Technology Management Ritsumeikan University, Japan. [3]Aichi Medical University, Japan. [4]Teikyo University, Japan. [5]Women's Healthcare Awareness & Menopause Network Society, Japan

Context: Women in their late 40s and 50s often experience menopausal symptoms, which affect their productivity. Career continuity problems have been reported due to these symptoms in this generation [Arima et al., 2022]. In Japan, this generation of women has a large population and a high labor force participation rate [Ministry of Internal Affairs and Communications Japan, 2022]. However, menopause is considered a taboo in Japanese workplaces. In this study, we reported on the status of menopausal symptoms among working women in Japan and examined the relationship between menopausal symptom turnover and work environment.

Methods: A web-based cross-sectional survey was conducted among 4000 working women aged 40 to 60 throughout Japan. The participants were from panels registered with a survey company. This study was conducted in March 2024 as a baseline study for a panel study on the impact of menopausal symptoms on labor productivity. The present study showed the baseline survey results of the panel study followed over 6 months from May 2024 to October 2024. The survey included questions on the extent of menopausal symptoms and consideration of leaving work because of menopausal symptoms. Furthermore, this study was conducted as part of the FY2020 AMED (Japan Agency for Medical Research and Development) public funding project, "Study on the relationship between Simplified Menopause Index (SMI) evidence and labor productivity". This study was approved by the Ethical Review Committee of Showa University (No. 2023-299-A).

Results: Of the 4000 respondents, women in their early 50s had the highest response rate at 29.1% (Table 1). Furthermore, 3.6% were full-time employees in managerial positions, and 29.8% were full-time employees in general positions. The most common occupation among the participants was general clerical work at 36.3%. For menopausal symptoms currently felt (multiple answers), "stiff shoulders", "back pain", and "get tired easily", were frequently cited. As for the question "Is your workplace an environment where you feel comfortable discussing menopausal symptoms and women-specific health issues?", 25% said yes, 44.1% said no, and 31% did not know. As for the question if they considered leaving their job because of menopausal symptoms, 4.1% said yes. The regression analysis showed that the parameters "severity of menopausal symptoms" and "availability of a conducive workplace environment" had a significant impact on considering leaving a job because of menopausal symptoms.

Discussion: Our study suggested that there is a lack of a conducive workplace environment to discuss menopausal symptoms for female employees in Japan. Our study also implied that in order to prevent consideration of leaving a job because of menopausal symptoms, it is essential to receive appropriate medical care and create a positive workplace environment where it is easy to discuss menopausal symptoms. It is also important to normalize the conversation about this issue in the workplace. As this generation of women plays an important part in Japan's social economy, workplace measures are particularly needed for this generation at the organizational level. Our study would enable us to make proposals for the development of a conducive working environment for women with menopausal symptoms, enabling the promotion of health management in the future. From the panel survey followed by the baseline survey, we will clarify the details of the situation.

Advancing diabetic retinopathy screening: bridging the gap between primary detection and secondary care (ID 113)

Dr Olena Chernenko[1], Dr Andrii Korol[2], Kyrylo Goncharuk[1]
[1]CheckEye LLC, Ukraine. [2]State Institution "The Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine", Ukraine

Diabetic retinopathy (DR), a leading cause of preventable vision impairment worldwide, remains a major challenge in managing diabetes mellitus (DM). Although CheckEye, an AI-powered platform, offers a scalable solution for early detection of DR, it represents just the initial stage in addressing a patient's care needs. Understanding what happens after screening is crucial, as it determines whether patients receive timely diagnostics and treatment. This insight led us to focus the next phase of the CheckEye project on evaluating post-screening outcomes and identifying key barriers in patient care pathways to enhance the continuum of care for DR management.

Methods: In 2024, over 2,721 patients underwent DR screening using the CheckEye platform across seven regions of Ukraine. For the next phase of the project, we are conducting a follow-up study to assess:

- The proportion of patients reaching secondary care facilities for confirmatory diagnostics.
- The percentage of patients initiating treatment, categorised by DR stage (non-proliferative, proliferative).
- Barriers reported by patients and primary care physicians to effective follow-up and care.

The study includes patients who were screened at least three months prior to the survey and incorporates cross-sectional surveys with family physicians to validate their perceptions of patient adherence to referral pathways. It is currently underway and scheduled for completion by March 2025.

Anticipated Findings: The follow-up study aims to uncover critical gaps between screening and secondary care interventions. Preliminary findings up today include:

1. Patient-related barriers:
   - Logistical challenges, such as distance to secondary care medical facilities, lack of transportation, and absence of physical assistance for patients with restricted mobility. These challenges are expected to highlight systemic limitations in healthcare infrastructure, particularly in the context of the ongoing full-scale war in Ukraine and the recent transformational changes within the system.
   - Perceived lack of time, which may indicate limited patient awareness regarding the progression of DR, the importance of timely follow-up care, and the need for motivational communication from physicians.
2. Physician-identified challenges:
   - Patient behaviour. Physicians highlighted non-compliance due to the absence of symptoms in the early stages as a significant barrier to effective follow-up.
   - Communication gaps. The lack of systems to track whether referred patients' complete follow-ups was identified as a major limitation, hindering family physicians' ability to monitor and manage patient care pathways effectively.

Discussion and future perspectives: Preliminary insights suggest the need for addressing disconnects between primary-level DR screening and secondary-level care. These findings will inform the development of structured interventions, including:

1. **Establishing follow-up systems** to strengthen connections between primary and secondary care providers.
2. **Enhancing patient education programs** to improve awareness of DR and promote the establishment of clear patient pathway scenarios in cases where DR signs are identified during screening.

3. **Developing referral tracking mechanisms** in collaboration with family physicians. To support this, we plan to advocate for the integration of DR screening into national healthcare protocols and conduct pilot projects in partnership with the Ministry of Health of Ukraine.

Conclusion: Organized screening for DR is a critical first step, but ensuring its success requires building robust pathways between primary screening and secondary care. By addressing logistical, educational, and systemic barriers, we aim to create a comprehensive, adaptable model for DR management that can be scaled across diverse healthcare systems.

Evaluating Indonesia’s health service delivery: a qualitative study using the WHO health system performance assessment framework (ID 114)

Dr Mohammad Kurniawan[1,2], Dr Nico Gamalliel[1], Dr Risyad Abiyyu Siregar[1], Deandra Ardya Regitasari Sutoyo[1], Putri Prathiwi[1], Dr Ahmad Fuady[1,3]

[1]Indonesian Medical Education and Research Institute, Universitas Indonesia, Indonesia. [2]Department of Neurology, Universitas Indonesia, Indonesia. [3]Department of Community Medicine, Universitas Indonesia, Indonesia

Context: Indonesia, the world’s largest archipelagic state and fourth most populous country, faces complex challenges in developing its health system. While the country continues to combat the burden of communicable diseases and malnutrition, shifts in lifestyle and rising life expectancy are contributing to an increasing prevalence of non-communicable diseases. Current health service delivery in Indonesia faces multifaceted challenges, which could hinder progress toward a healthier population. Unfortunately, the evidence of health system performance assessment in Indonesia is scarce. Hence, this study aims to evaluate the Indonesian health service delivery using the World Health Organization’s Health System Performance Assessment (WHO HSPA) Framework.

Methods: This qualitative study was conducted from April 2024 to December 2024. We evaluated health service policies using the WHO HSPA Framework for Health Service Delivery, focusing on the perspectives of stakeholders other than government officials. The two subgroups of the framework were used as the focus of this study: quality, and governance of health service delivery. Data collection was carried out through semi-structured focus group discussion (FGD) and in-depth interviews (IDIs) to gather insights from participants regarding the current state of Indonesia’s health service delivery and their recommendations. Participants were selected based on their background (e.g., academicians, practitioners, professional organizations, community, and patient groups) and geographical representation (e.g., Western, Central, and Eastern parts of Indonesia). All data were transcribed and underwent thematic analysis based on predetermined themes from the WHO HSPA framework for health service delivery, following the Steps for Coding and Theorization (SCAT) approach.

Results: A total of twenty-one participants were involved in this study, with sixteen participating in the FGDs and five in the IDIs. Participants reflected on the strengths, gaps and challenges, and proposed solutions for Indonesia's current and future health service delivery. The most frequently addressed elements by the participants were governance (55 mentions), access (32), and effectiveness (30) of service delivery. Other evaluated aspects based on the framework are user experience (17), efficiency (14), equity (14), and safety (11). Administrative barriers, siloed approach followed by poor implementation in health governance at subnational and national levels, inequities in health workforce and infrastructure rooted in geographical challenges, fragmented and lack of continuity of care were among the considered factors to pose challenges in health service delivery. Proposed solutions are centred on ensuring political commitment and good governance of health service delivery from national-, subnational-, to facility-level, development of integrated, patient-centred and preventive-oriented care.

Discussions: Our findings indicate the need to improve the governance and quality of Indonesia’s health service delivery. Persistent challenges between the current evaluation and previous reviews of Indonesia's health system underscore the necessity for comprehensive assessments and the development of measured action plans. Several problems (e.g., the influence of governance on health service delivery) were also seen in other LMICs, which adds an important understanding of pattern similarity. Persisting challenges also present related to the effective and efficient implementation of the universal health coverage system (JKN) and the influence in delivering evidence-based, quality health service, implying the need to find the balance between access and other elements of quality service delivery e.g., effectiveness, user- and provider-experience. The use of a qualitative approach in health system/service delivery assessment in this study presents a novel perspective, highlighting overlooked issues from the bottom-up point of view on health service delivery.

Promoting farmers' capacity to improve their mental health: the CAGRIMENT project (ID 115)

Dr Florian Manneville[1], Dr Laetitia Ricci[2], Alfousseyni Coly[2], Dr Abdou Omorou[1,2]
[1]Université de Lorraine, UMR 1319 INSPIIRE, France. [2]CIC-EC 1433, CHRU, Inserm, Université de Lorraine, France

Background: Farmers are a population particularly at risk of developing mental health problems. This may be the result of a multitude of factors (e.g. climatic hazards, health context, work overload, financial difficulties, isolation). Detailed knowledge of these determinants among French farmers is not currently available, and needs to be investigated in order to identify the levers that can be mobilised for public health action.

Objective: The aim of this project is to apply a public health approach (diagnosis, identification of determinants and levers, co-construction of actions) with a view to promoting the mental health of farmers.

Methods: The project will consist of a mixed longitudinal observational epidemiological study (quantitative and qualitative methods). It will take place over two years and will comprise two work packages (WP).

- WP1 will consist of a one-year follow-up of farmers in North-east France with three measurement time (baseline, 6 months and 1 year). Online self-report questionnaires will be administered at the three-measurement time to assess farmers' mental health, difficulties, control over life events, knowledge and use of existing measures to improve/prevent their mental health, and farmers' characteristics (quantitative method). Twenty semi-structured interviews will be carried out with farmers, and three focus groups will be held with associations and trade unions on the value that farmers attribute to mental health, their difficulties and the strategies put in place to prevent/improve their mental health (qualitative method). WP1 was launched on December 9th with almost 500 completed questionnaires responses at baseline (400 expected at 1 year).
- WP2 will last one year and will involve co-constructing actions or adjusting existing actions to promote farmers' mental health. The actions will have to mobilise the notion of farmer empowerment (i.e., a process by which farmers acquire greater control over decisions and actions affecting their mental health). To achieve this, an implementation committee will be set up, made up of a multi-disciplinary group of experts on the project theme (e.g., farmers, associations, trade unions, mutual benefit organisations, health professionals, researchers specialising in the evaluation of public health actions) in order to benefit from the experiential knowledge and skills of each in their discipline. The aim of this committee will be to define the conditions under which actions to promote the mental health of farmers should be developed and implemented in the light of existing determinants, facilitating factors and constraints, in order to bring about convergence on the actions to be proposed or adjusted.

Discussion: This project will provide an overview of the needs, demands and responses concerning farmers' mental health in France. The project will also identify ways of improving the response to this health problem, with a view to empowering farmers.

The role of Fab Labs in managing sustainability challenges in hospitals – The case of the French FabLab Héphaïstos AP-HP, Paris (ID 117)

Prof Nathalie Sampieri-Teissier[1,2], Guillaume Eckerlein[3], Claire Fauchille[4]
[1]Aix Marseille University, France. [2]CRET-LOG, France. [3]Paris Saclay AP-HP, France. [4]Humaniteam, France

Fab Labs (Fabrication Laboratory) have been initiated by the Massachusetts Institute of Technology (MIT) in the 90s. This concept, based on spaces dedicated to innovation, co-creation and fabrication, has been formalized (Gershenfeld, N. A., 2005) and widely disseminated all around the world. The Massachusetts Institute of Technology (MIT) charter then has identified 10 main principles, such as universal access, open-source philosophy, collaboration, culture maker or sustainability. They typically contain a range of computer-controlled machines, including 3D printers, laser cutters, and milling machines, allowing users to produce "almost anything".

This concept has attracted many researchers from a variety of academic fields (education, sociology, technology, design…). In management, the main topics addressed concern mainly entrepreneurship and innovation, knowledge sharing, governance and business models. Few deals with the impact and the role of Fab Lab on sustainability, in particular there is a lack of studies exploring the link between Fab Lab and environment (decarbonation, for example).

This academic gap finds a resonance in the healthcare system. Indeed, while the healthcare sector, and hospitals in particular, are major sources of greenhouse gas emissions (the health care sector is responsible for as much as 4.6 percent of total GHG, Commonwealth Fund, 2022), there is still few initiatives to reduce this impact.

Combining these findings, we question the link between Fab Lab and sustainability, both on economic, social and environmental fields in healthcare context.

To answer this research question, we mobilize the experience of a FabLab implemented in a hospital. Following the Yin's case study approach, we specifically use a single-case design to explore the management phenomenon in depth. The selected case is not only exemplary in illustrating best practices within its field, but also revelatory, shedding light on underlying mechanisms and dynamics that remain insufficiently documented in existing literature.

The FabLab is named Hephaestus, from the Greek mythology, who is the god of artisans, blacksmiths, carpenters, craftsmen, fire, metallurgy, metalworking, sculpture and volcanoes. It has been created in 2019 and implemented in a huge hospital in Paris (France) composed by seven sites (APHP Paris-Saclay University Hospital Group). It has been created in 2019 and has already produced more than 500 projects. It is dedicated to the creation of solutions to make hospital users' life easier whether they are patients, healthcare workers or any hospital staff. The FabLab's approach is inspired by the agile methodology, lean management and design thinking to stimulate usage-driven innovation. Previous academic research shows how the lab contributes to develop innovation in the hospital.

This research project opens the way to a whole range of questions that will be discussed and explored in greater depth. While FabLab's have mainly focused on the innovations, does highlighting the impact of these innovations in terms of sustainable development change the way they are managed? Does it modify the role that a FabLab can play in hospital Supply Chain and logistics? While several researchers criticize the negative impact of innovation proliferation on the environment, does the specificity of the FabLab can modify the way we can run sustainable innovations?

Good practices in the promotion of hand hygiene and menstrual health in schools in the pan-European region (ID 118)

Viktorija Kokštytė[1], Dr Kristina Motiejūnaitė[2], Dr Kristina Poderienė[2], Dr Živilė Kairiūkštienė[2], Ingrida Skridailienė[1], Valentina Grossi[3], Jovana Dodos[4]

[1]National Public Health Centre at the Ministry of Health, Lithuania. [2]Lithuanian Sports University, Lithuania. [3]WHO European Center for Environment and Health, Germany. [4]WHO European Center for Environment and Health, Switzerland

Context: Growing up in a clean and safe environment is every child's right. Adequate access to timely education and provisions for hand hygiene and menstrual health contributes to a healthier start in life and a healthy development. However, pupils across the WHO European region still face challenges when attending school. Lithuania, as an outcome of its commitments under the UNECE-WHO/Europe Protocol on Water and Health and in cooperation with the WHO European Centre for Environment and Health, collected information on good practices implemented at the national and sub-national level that aim at ensuring healthy school environments through provisions for hand hygiene and menstrual health.

Methods: Data was collected through a desk review, electronic questionnaire in English and Russian, and consultation with representatives of national governments, educational institutions, and public health professionals. A number of thematic dimensions had been pre-selected to guide the development of the data collection tools and the analysis process. These elements are clustered into two categories: i) elements of the enabling environment (legal framework, policy enforcement, cross-sectoral action, monitoring and evaluation, and financing) and ii) areas of actions (provisions, education, operation and maintenance etc.) In total, this study analysed examples of good practices from 21 countries of the WHO European Region;. 11 countries completed the electronic questionnaire; The interviews were conducted between February and May 2024

Results: The study found that the Pan-European countries have different experiences of hand hygiene and menstrual hygiene. This depends on funding, political will, local initiatives, cultural aspects, infrastructure, educational programmes. While hand hygiene products are available in most countries, menstrual products are difficult to access. Positive examples exists, as countries where schools make menstrual products accessible and free of charge to students and school staff. All countries which participated in the survey had legislation on hygiene in educational institutions. While the majority of respondents indicated that effective governance is key to ensuring and promoting menstrual hygiene in schools, they also indicated that they do not have sufficient funding for menstrual health/education in schools. Some countries reported initiatives funded by the educational institutions themselves or by municipalities, or one-off project funding. The collected case studies showed that while progress is being made towards greater recognition of menstrual health and hygiene, there is still room for improvement.

Conclusions/Discussion: The case studies considered suggested a number of key factors to be prioritized by countries in future improvement efforts to ensure good hand and menstrual hygiene in school settings. These include but may not be limited to clear legislation, adequate funding for schools, regular assessment and monitoring of the school environment, and timely dedicated education. Adequate and sustained financing is critical to support implementation. In its absence, targeted grants can highlight the benefits of improved hand and menstrual hygiene for health and learning outcomes. Collaborative efforts and sufficient investment are key to ensuring schools foster healthy and inclusive environments for all.

Participation and perceptions of healthier SG (ID 119)

Dr Ian Yi Han Ang[1], Shumian Yeo[1], Dr Cynthia Chen[1,2,3], Linda Wei Lin Tan[1], Prof Xueling Sim[1], Prof Alec Morton[1,4,5]

[1]Saw Swee Hock School of Public Health, National University of Singapore, Singapore. [2]Department of Non-Communicable Disease Epidemiology, The London School of Hygiene & Tropical Medicine, United Kingdom. [3]Schaeffer Center for Health Policy and Economics, University of Southern California, USA. [4]Department of Management Science, School of Business, University of Strathclyde, United Kingdom. [5]Health Services and Systems Research, DUKE-NUS Medical School, National University of Singapore, Singapore

Context: Healthier SG (HSG) was launched in Singapore in July 2023 with the aims to improve consistency of health screening and vaccinations, and to promote lifestyle behaviours that support chronic disease prevention and management. Singaporeans and permanent residents (PRs) aged ≥60 years (July 2023) and subsequently ≥40 years (January 2024) were eligible to enrol. Through both public and private primary care, nationally recommended adult screening (hypertension, hyperlipidaemia, diabetes, and colon, breast and cervical cancers), vaccinations (influenza and pneumococcal), and a first health planning consultation with a physician are fully subsidised. Enrolees also receive monetary incentives for completing the first health planning consultation.

Methods: This study was designed to understand the participant characteristics that could affect participation and the perceptions of this new national health initiative. Cohort participants of the Singapore Population Health Studies (SPHS) were surveyed from June to September 2024. These participants were all Singaporeans or PRs, and of the 2987 participants, 1948 were aged ≥40 years and hence eligible for HSG. Participants answered questions about their participation in HSG, use of various healthcare services, and perceptions of HSG. Logistic regression was used to determine the effect of age group, gender, ethnicity, and housing type (a proxy for socioeconomic status) on enrolment and uptake of various components that fall within HSG.

Results: 927 (47.6%) eligible respondents had enrolled in HSG. Older age groups (50 to <60, 60 to <70, 70 to <80 years) were more likely to enrol than 40 to <50 years. Malays and Indians were less likely to enrol than Chinese. Enrolment did not differ by gender and housing types. 580 (62.6%) enrolees have nominated a preferred doctor for their health planning consultation and follow-through, while 174 (18.8%) enrolees have set goals in their health plans. Almost all (97.2%, n=901) enrolees had some form of screening in the last 3 years, with 7.3-11.5% indicating they would not have gone for a particular screening without HSG. 339 (36.6%) enrolees had the flu vaccine in the past year, while 217 (73.3%) enrolees ≥65 years had the pneumococcal vaccine. 530 (57.2%) and 578 (62.4%) enrolees agreed/strongly agreed that they were satisfied with HSG and that HSG will help them improve their health, respectively.

Discussion: HSG is a major national health initiative designed to reduce financial barriers and increase uptake of disease screening and prevention services in Singapore. About half of those eligible for HSG have enrolled in the first year of implementation, but outreach efforts can be enhanced in certain demographic subgroups. Some of these cohort participants who enrolled in HSG self-reported being likely to have done the screening components because of HSG, the overall engagement with physicians on health plans were low. A limitation was that these were active participants in a longitudinal cohort study and could already be more attuned to the benefits of preventive care. While removing financial barriers and using monetary incentives to extrinsically motivate uptake of disease screening and prevention services might be limiting in some individuals, it is important to further evaluate such national health initiatives to strategically improve them for wider uptake in the population.

Integration of cancer care services: an in-depth case study of the National Cancer Institute's strategies and practices (ID 120)

Dr Valdas Pečeliūnas[1,2], Vilma Jeršovienė[1], Vilma Srogė[1], Mr Marius Čiurlionis[1,2]
[1]National cancer centre, Lithuania. [2]Vilniaus Universitetas, Lithuania

Background: Historically, the oncology care system has been marked by fragmented specialized healthcare facilities with no unified framework for diagnosis and treatment. In response to the European Commission's Cancer Plan and national policies advocating for multidisciplinary approaches to cancer care, the National Cancer Institute (NCI) has undergone integration into the University Hospital system. This strategic transformation aims to establish a unified oncology care model encompassing advanced diagnostic capabilities and comprehensive treatment services. Despite the inherent complexities of this restructuring, the NCI has upheld rigorous clinical standards while driving innovation within its service offerings. The integration initiative was guided by a systematic strategy that included precise objectives, stakeholder communication, and robust staff support mechanisms.

Methods: The integration strategy commenced with an in-depth analysis of international and national legislative environments, followed by a detailed action plan. A SWOT analysis was performed to ascertain potential risks and opportunities, and Key Performance Indicators (KPIs) were established to gauge the integration's effectiveness. Key stakeholders—including patient advocacy groups, governmental entities, and the scientific community—were engaged throughout the process. Ongoing communication and feedback channels were instituted to navigate challenges as they arose, facilitating efficient progress.

Results: Integrating the NCI's clinical operations into the University Hospital framework laid the groundwork for a unified, patient-focused oncology care system. This restructuring successfully fulfilled the Organization of European Cancer Institutes (OECI) standards for comprehensive cancer care. Transparent communication and proactive staff involvement fostered trust and engagement during the transition. Additionally, developing a support structure for staff played a pivotal role in alleviating resistance and ensuring smooth adaptation to the changes. Regular feedback mechanisms were critical for the early detection of issues, enabling timely course corrections throughout the integration process.

Conclusion: Strategic change management methodologies largely facilitated the effective integration of the NCI into the University Hospital. Essential components such as a clear vision, meticulous planning, risk assessment, and continuous KPI monitoring were fundamental in realizing the integration objectives. This transformation underscored the significance of communication and stakeholder engagement, ensuring the integration met immediate and long-range goals for an integrated cancer care model.

Care about IT: health technology related micro credentials to bridge the gap between healthcare and IT (ID 121)

Minna Ikiviita, Jenni Suonpää, Jenna Pesola
Turku Vocational Institute, Finland

The Care about IT project aims to increase the use of health and welfare technology solutions and develop health and education practices in the Netherlands, Italy, Finland and Estonia. Care about IT is an Erasmus+ funded CoVE (Centre of Vocational Excellence) project. The project will continue until June 2027.

During the project, the following actions will be carried out: developing micro credentials for health technology education, increase awareness of training and jobs in the sector, developing new innovations in a multidisciplinary hackathon and building a CoVE network of health technology companies, workplaces and educational institutions.

The micro credentials (MCs) produced by the project will be developed through multi-professional teaching (nursing and IT) and collaboration with technology companies. The MCs curricula will include teaching materials based on the perceptions of social and health care actors and technology companies on skills needs. The pedagogical framework of the Care about IT project is Challenge Based Learning (CBL).

The Care about It project has so far developed the first MC on ethics in health technology. The MC teaching materials are free to test, and the MC will be developed based on feedback from testers. The following MC topics were selected based on a survey of social and health care actors and technology companies carried out at the beginning of the project. The topics of the following competences will be introduction to health technology, multidisciplinary skills in health technology, 21st century skills, creative and critical thinking in health technology.

The first results of the Care about IT project highlight the potential of MC to meet the evolving needs of the health technology sector. The development of the first MC course on health technology ethics has provided valuable insights into the integration of ethical issues into the use of technology. Feedback from testers has helped to refine the curriculum and ensure that it meets the practical needs of both educators and practitioners.

Future MC courses will focus on key skills such as multidisciplinary collaboration, 21st century skills and creative and critical thinking. These areas are crucial in preparing a workforce capable of dealing with the complex issues of health technology. The project will emphasise challenge-based learning, which fosters an environment where students can engage in real problem solving, thus improving their employability in the labour market.

Fostering resilience in healthcare: factors impacting organisational resilience (ID 122)

Assoc. Prof Neringa Gerulaitiene, Assoc. Prof Viktorija Varaniūtė
Kaunas University of Technology, Lithuania

Context: The healthcare sector faces a wide spectrum of challenges, from daily pressures to extraordinary crises, making resilience crucial for maintaining patient care and staff well-being. Resilience in healthcare refers to the ability to adapt, recover, and thrive amid adversities while delivering essential services. Organizational and individual resilience is vital for navigating healthcare's complexities, impacting patient outcomes, crisis management, and institutional performance. Despite its importance, research on resilience factors remains fragmented. Effective leadership, transparent communication, supportive culture, adaptive resource allocation, and employee well-being initiatives are essential for fostering resilience, particularly during crises like COVID-19, ensuring adaptability in healthcare. The paper aims to identify main factors impacting organizational resilience in healthcare settings.

Methods: The research follows an abductive approach by utilizing a dual-method research comprising an extensive literature review and qualitative interviews conducted in a Lithuanian tertiary-level healthcare institution. A comprehensive literature review was conducted using WoS databases to establish a theoretical foundation. The process involved keyword searches, exclusion of irrelevant or duplicate articles, and snowballing through full-text analysis. The qualitative and quantitative synthesis resulted a final list of 35 articles. Qualitative interviews were conducted using a semi-structured guide developed from the literature review. Ten participants from a Lithuanian public tertiary healthcare institution were interviewed, including administrative staff, and clinical staff. Thematic analysis using Maxqda'24 was employed to identify 1) factors influencing resilience and well-being among healthcare staff; 2) challenges related to well-being; 3) insights and recommendations for improving workplace resilience and mental health in healthcare settings.

Results: The literature review highlights key factors influencing resilience in healthcare, focusing on individual and organizational dimensions. The literature analysis allowed us to define streams of organizational factors influencing resilience in healthcare (Figure 1). The interviews' results highlight the main factors impacting healthcare staff well-being. Positive factors include communication, support, feedback, recognition, proper planning, clear procedures, training, and infrastructure. Communication fosters teamwork, reduces conflicts, and enhances motivation. Emotional and professional support mitigates burnout and promotes cooperation. Recognition acknowledges effort, fostering job satisfaction and resilience. Negative factors include poor communication, excessive workload, inadequate schedules, lack of infrastructure, and bureaucratic inefficiencies, which cause stress and burnout. Research results also revealed possible solutions, which include fostering collaboration, enhancing physical and emotional well-being, implementing a no-violence policy, and improving workplace environments through fitness facilities and support systems.

Discussion: This study highlights critical factors influencing resilience in healthcare, aligning with and extending existing literature. Communication emerged as a key driver, fostering trust, coordination, and operational harmony, both during crises and daily operations. Leadership, particularly adaptive leadership, was found essential for implementing strategic interventions and nurturing individual resilience, supporting findings by Thomas and Suresh (2023) and Forster et al. (2023). Workload was identified as a major stressor linked to burnout, underscoring the need for strategic resource allocation and organizational support systems, consistent with Fiabane et al. (2021) and Kakemam et al. (2024). An enabling culture, characterized by psychological safety, collaboration, and mutual trust, was pivotal for resilience, complementing findings by Bruria et al. (2022). Recognition and feedback mechanisms were shown to reduce turnover and enhance morale. Finally, this study contributes not only to academic discourse but also provides actionable recommendations for healthcare managers and policymakers.

Improving multi-disciplinary confidence in managing anaphylaxis through simulation training in ophthalmology (ID 125)

Dr Sam Myers
Moorfields Eye Hospital, United Kingdom

Context: Fluorescein angiography (FFA) is a common diagnostic procedure used in ophthalmology to assess retinal diseases, but it carries a rare risk of anaphylaxis (1 in 1000 cases). Effective management of this emergency is critical to prevent fatal outcomes, yet delays in treatment often result from a lack of preparedness and confidence among staff. Research shows that simulation-based training enhances emergency responses by improving knowledge, skills, and team communication. This project aimed to implement multi-disciplinary team (MDT) simulation training to improve staff confidence in recognising and managing anaphylaxis, thereby enhancing patient safety and preparedness in ophthalmology clinics.

Methods: A multi-disciplinary simulation training programme was introduced in an ophthalmology clinic in a central London hospital to address gaps in staff confidence when managing anaphylaxis during FFA procedures. The training involved doctors, nurses, optometrists, and administrative staff. Participants were provided with pre-reading materials outlining the recognition and management of anaphylaxis. Realistic emergency simulations were conducted, where participants self-delegated roles, such as calling for help, retrieving the resuscitation trolley, and administering adrenaline. Pre- and post-session questionnaires assessed participants' knowledge and confidence levels in managing anaphylaxis

Results: Pre-simulation questionnaires revealed gaps in anaphylaxis knowledge: doctors answered correctly 65% of the time, nurses 44%, optometrists/orthoptists 21%, and administrators 12%. Post-simulation knowledge scores significantly improved, with doctors scoring 94%, nurses 92%, optometrists/orthoptists 85%, and administrators 52%. Confidence levels also increased notably: pre-simulation confidence was 85% for doctors, 58% for nurses, 10% for optometrists/orthoptists, and 5% for administrators. Post-simulation confidence scores rose to 100% for doctors, 90% for nurses, 69% for optometrists/orthoptists, and 47% for administrators. These results highlight the effectiveness of simulation training in improving both knowledge and confidence across all MDT roles.

Discussion: Improving staff knowledge and confidence in managing medical emergencies is key to enhancing patient safety. This project demonstrated that simulation-based training is an effective way to increase preparedness for anaphylaxis, a rare but life-threatening complication in ophthalmology clinics. By practicing realistic emergency scenarios, staff were able to overcome hesitations and gain practical experience in a safe environment. The sessions also strengthened team communication and role clarity, reducing delays in emergency response. Embedding simulation training into routine practice can help sustain this improvement, ensuring long-term preparedness. Future plans include expanding the programme across multiple clinics and integrating it into staff induction to create a culture of safety and continuous learning.

Strategic planning: importance, challenges and perspectives for healthcare governance in a context of integration of care (ID 126)

Claudia Almeida[1,2], Prof Rui Santana[1,2]
[1]NOVA National School of Public Health, Portugal. [2]Comprehensive Health Research Centre, Portugal

The recent creation of Local Health Units (LHUs) in Portugal, units that bring together different types of care in the same functional organisation, represents a significant move in the reform of the health system, aimed at promoting a more integrated and efficient healthcare delivery. In this context of change, strategic planning is extremely important, as it allows the new structures develop a clear and coordinated vision for the future, aligns objectives and priorities, defines measures that respond to the needs of the population they serve, and ensures synergy between the various types of care that compose these local health units.

Strategic planning also plays a vital role in managing future uncertainties and challenges, such as an ageing population, epidemiological developments, climate crises and the impacts of possible conflicts. By systematically analysing the internal and external environment, identifying opportunities and threats, and developing robust action plans to meet these challenges. In addition, strategic planning is fundamental to the evolution of the LHU model itself, providing a clear path for implementing any changes and adaptations that ensure the continuity and quality of the care provided.

Given the times of change and the importance of strategic planning, the aim of this study is to analyse and understand the dynamics of strategic planning in the LHUs in the process of planning and implementing strategic plans, exploring both their importance and the challenges faced during that process, as well as finding the strategic priorities of local health units in Portugal.

This research work is based on a survey disseminated to the boards of directors of the LHUs, complemented by a set of interviews carried out with a sample of members of the boards of directors of these local health units. The topics covered included:

- The process of drawing up and sharing strategic plans;
- The role of the teams responsible for implementation and the barriers they face;
- The adequacy of resources, partnerships and continuous evaluation mechanisms;
- Lessons learnt and practical results achieved;
- Priority actions and medium-long term actions;
- Challenges, threats and opportunities.

The preliminary data indicates a gap in the standardisation of practices and the incorporation of continuous feedback into the development and monitoring of strategies.

In short, this diagnosis will help identify priority areas for intervention and strengthen the alignment of LHUs with the principles of effective governance and strategic leadership, enabling them to respond to the demands of a constantly evolving health system.

Healthier teams, safer care: a summary of workforce-driven insights for quality of care (ID 127)

Anna Klesmite-Bluma, MD, David Berhanu, MD, Miglė Trumpickaitė, MD, Álvaro Cerame, MD
European Junior Doctors Association, Belgium

Context: Across Europe, significant deficits in Quality of Care (QoC) and patient safety persist, with up to 10% of patients experiencing adverse events. Workforce shortages, exacerbated by aging populations and deteriorating working conditions, are increasingly recognized as critical bottlenecks in achieving high-quality care. Burnout, long working hours, and poor well-being among health professionals are linked to increased medical errors and worse healthcare outcomes. Addressing these challenges requires a focus on workforce well-being, standardized training, and equitable distribution of healthcare professionals.

Methods: The European Junior Doctors' Association (EJD) and WHO/Europe co-organized an event to explore strategies for bridging workforce issues and improving QoC. The "Healthier Teams, Safer Care" event brought together junior healthcare leaders from 15 countries alongside WHO/Europe experts. Through capacity-building sessions, policy dialogues, and group discussions, participants explored the connection between workforce conditions and quality of care and patient safety +- outcomes. Examples from participant workplaces and legislative frameworks were shared, with a focus on the importance of workforce well-being indicators, including working hours, burnout, retention rates, and task-shifting practices. Evidence-based recommendations were made, such as implementing fatigue management strategies and integrating QoC and patient safety principles into postgraduate training (PGT) and Continuous Medical Education (CME). Digital tools, such as AI-driven systems and telemedicine triage, were examined for their potential to optimize workflows and minimize inefficiencies.

Results: Participants reached a consensus on the importance of fostering a supportive, non-punitive culture to enhance error reporting and patient safety practices. Standardized indicators, including the monitoring of working hours, burnout and retention rates, were recommended to assess workforce well-being and its impact on QoC. Key strategies included eliminating 24-hour shifts and introducing evidence-based fatigue management inspired by the aviation industry. Training was emphasized as crucial for fostering teamwork and collaboration. Mental health strategies focused on addressing workplace stressors and providing 24-hour crisis support systems. Digital tools, such as AI-driven patient information systems, were identified as transformative in reducing inefficiencies, while task-shifting was proposed to distribute workloads effectively.

Discussion: The findings highlight the critical role of workforce well-being in delivering safer, higher-quality healthcare. Addressing inefficiencies through standardized indicators and evidence-based strategies can help mitigate workforce shortages and improve retention. Task-shifting and digital tools provide solutions for reducing physician burden and optimizing care pathways. Preventive mental health measures, including education and crisis support systems, offer impactful interventions to enhance worker resilience. These insights align with the WHO/Europe report, emphasizing the need for harmonized workforce metrics and targeted policy reforms. Stakeholders are encouraged to prioritize workforce safety, invest in better working conditions, and foster medical training to ensure competency and alignment with best practices. Ultimately, the well-being of healthcare professionals is pivotal to achieving QoC and patient safety, underscoring the urgency of systemic reforms across European health systems.

Retention crisis: analysing strategies to retain Junior Doctors in Europe’s underserved regions (ID 128)

Anna Klesmite-Bluma, MD, David Berhanu, MD, Miglė Trumpickaitė, MD, Álvaro Cerame, MD
European Junior Doctors Association, Brussels, Belgium

Context: Europe faces a healthcare workforce crisis, with medical deserts in underserved regions intensifying the shortage of healthcare professionals. Various European countries have implemented distinct strategies to retain junior doctors, aiming to improve healthcare access and address workforce distribution challenges. These strategies include mandatory service, financial incentives, mentorship programs, and regulatory reforms aimed at aligning workforce training with underserved areas of healthcare needs. These findings are crucial for shaping policies that address the growing healthcare workforce shortage in medical deserts and guide future retention strategies.

Methods: This study analyses retention strategies in 7 countries: Croatia, Greece, Latvia, Romania, Slovenia, Spain, and Portugal through case studies. Data were collected from national reports, legislation, and healthcare system reforms to analyse the effectiveness of various retention strategies. The research focused on workforce retention, mandatory service, mentorship, career pathways, and financial incentives. The comparative approach allows for an in-depth understanding of the strengths and weaknesses of different national strategies, offering valuable insights for cross-border policy recommendations.

Results: Croatia’s new Law on Healthcare has shown promising results, improving residency conditions through mentorship and funding. In contrast, Greece and Latvia face challenges in implementation, with Greece’s rural service reform still in the pilot phase and logistical and financial gaps in Latvia’s residency conditions. Romania and Slovenia experience difficulties in post-residency employment, with Romania’s competitive job market limiting permanent positions and Slovenia’s service requirements inadequately supported by financial incentives. In contrast, Spain and Portugal’s financial and professional incentives for rural service have yielded better retention outcomes.

Discussion: The analysis highlights diverse retention strategies, each with strengths and limitations. Across these diverse retention models, the study underscores the importance of motivation-driven strategies—such as mentorship, financial support, and work-life balance—especially in light of Europe’s growing medical deserts. Croatia’s mentorship model offers a promising approach to improving training quality, while Greece and Latvia face barriers in logistics and finances. Romania and Slovenia’s competitive job markets and service requirements contribute to dissatisfaction and migration. Spain and Portugal’s financial incentives for rural service have been more successful in retaining professionals. These findings emphasize the need for comprehensive policy solutions that combine professional development, financial support, and work-life balance to address workforce shortages and retain healthcare professionals in underserved regions.

The rethinking of processes and structure for an inclusive care model expectations of trans* people (ID 130)

Esther Franquet Barnils, Mireia Plans Marcobal, Piedad Arias Barroso, Dr María Emilia Gil Girbau
Fundació Puigvert, Spain

Context: Healthcare institutions aim to provide high-quality, personalized care through active user participation. Patient experience includes clinical, emotional, psychological, and logistical aspects, shaping care perception. Improving this experience is a strategic priority. This study explores the experiences of patients referred from TRANSIT Units to the Reproductive Medicine Service, identifying key care moments and co-creating improvement proposals with patients. Co-creation, a horizontal process where professionals and users collaborate, generates value through diverse opinions and equitable participation, fostering innovation and improving healthcare delivery.

Methods: The qualitative study was conducted using two main methodologies: focus groups and co-creation workshops. Participants were contacted by phone by an advanced practice nurse, who explained the study and invited them to participate voluntarily. On the first day, the study was presented, the information sheet was read, questions were addressed, and participants who agreed to take part signed the informed consent form. Then, the first focus group was held, lasting 2 hours, with a maximum of 8 participants and 2 passive observers. The objective was to identify key moments in the care process and assess positive and negative experiences. The results were validated during a 2-hour co-creation workshop applying *Design Thinking*. The same participants collaborated to develop improvement proposals and create an Improvement Plan for the evaluated care process.

Results: This study, aimed at healthcare professionals and trans* individuals, identified barriers and key areas to improve inclusive healthcare. Only 13% of the surveyed professionals responded, highlighting the need for training in inclusive language and treatment, as well as a cultural shift regarding gender diversity and sexual orientation. Through focus groups and co-creation workshops, trans* individuals shared experiences and proposals to optimize care. Key recommendations include: specific training in reproductive techniques, removing binary gender codes from health cards, and providing support during surgical procedures. A notification system for referrals, personalized care for intimate processes like transvaginal ultrasounds, and psychological support were also proposed. Priorities include incorporating inclusive language into documentation, improving hormonal medication guidelines, and adapting physical spaces. The proposals have been submitted to general management for implementation.

Discussions: Health professionals identified key areas for improvement in the care of trans* people. They emphasized the need for specific training to enhance inclusive and respectful care. A cultural change within the health system was deemed essential to foster acceptance and understanding of gender diversity. Another priority was giving greater visibility to trans* patients within hospitals to promote inclusivity and representation. The development of specific protocols tailored to the needs of trans* individuals was also highlighted as a crucial step. Lastly, professionals suggested the implementation of non-binary infrastructures, such as inclusive waiting rooms and facilities, to create a more accommodating and affirming environment for all patients. These measures aim to improve both the quality and perception of care provided to trans* individuals in healthcare settings.

The effectiveness and economic evidence of organisational and management interventions to promote mental wellbeing and resilience in elderly care workers – a systematic review (ID 131)

Anna-Kaisa Vartiainen[1], Assoc. Prof Daniel Adrian Lungu[2], Dr Elisa Rissanen[1], Dr Tanja Schroeder[3], Dr Luca Pirrotta[4], Luca Scopis[4], Assoc. Prof Maren Sogstad[5], Assoc. Prof Kristian Odberg[5], Dr Arne Hole[6], Dr Juana María Delgado Saborit[6], Assoc. Prof Nicola Belle[4], Dr Louise Ellis[3], Prof Siri Wiig[2], Dr Eila Kankaanpää[1]

[1]University of Eastern Finland, Finland. [2]University of Stavanger, Norway. [3]Australian Institute of Health Innovation, Macquarie University, Australia. [4]Sant'Anna School of Advanced Studies, Italy. [5]Norwegian University of Science and Technology, Norway. [6]Jaume I University, Spain

Context: The increasing number of older adults presents significant challenges for healthcare systems. Within this context, three key stakeholders play pivotal roles: elderly care workers, leaders, and informal caregivers. Each of these groups are ensuring the quality of care, safety and wellbeing of older adults, but their contributions often come at a personal cost. They are facing challenges impacting their mental wellbeing and resilience, necessitating targeted organizational and management interventions. This systematic review aims to evaluate the effectiveness and economic evidence of organizational and management interventions designed to promote mental wellbeing and resilience among elderly care workers, leaders, and informal caregivers.

Methods: The protocol of the review is registered in PROSPERO (CRD42024551372). Systematic search was conducted 31 May 2024 on the CINAHL, PsycINFO, Scopus, Web of Science, and PubMed databases. Search was limited to publications from the year 2000 on. We concentrated all management and organizational intervention studies focusing on elderly care workers, leaders and informal caregivers, and aiming to promote mental wellbeing and resilience of the workers. We included randomized controlled trials and observational studies with both intervention and comparison groups. We included studies with an economic outcome that combines costs and effectiveness (any outcome, i.e. incremental cost-effectiveness ratio, ICER). The methodological quality of the studies was assessed in duplicate by two independent reviewers with a registered checklist. Extracted data was summarized and described, to answer the review question using narrative and numeric tables. Studies concerning informal caregivers are separately reported.

Results: The final searches yielded altogether 5,700 articles. After duplicate removal, and title/abstract screening, full text was investigated from 46 articles. The final number of articles included in the review was 15. Of those, 7 explored the interventions of elderly care workers and 8 explored informal caregiver interventions. Most interventions were targeted at individual workers rather than organizational practises. Among the elderly care worker interventions summarized, only a few demonstrated a positive effect on promoting mental wellbeing. Notably, mindfulness, breathing exercises, and Acceptance and Commitment Therapy (ACT) were found to be beneficial promoting wellbeing, although there was a lack of pure comparators in two of these studies. In contrast, a higher proportion of informal carer interventions showed positive outcomes related to mental wellbeing. Effective strategies included support and counseling, practical skills training, awareness and knowledge improvement, individual coping therapy, and computer-assisted care management protocols. The review found only one economic evaluation study.

Discussion: This study highlights the varied impacts of different interventions aimed at promoting the mental wellbeing in elderly care and informal care setting and the lack of economic evidence of these interventions. Studies underscore the importance of tailored elderly care workers and leader support interventions to promote mental wellbeing. While it is relatively straightforward to identify problems within the caregiving field, finding evidence-based solutions remains challenging. This review indicates that interventions targeted at individuals are more common, yet there is a notable scarcity of system-level interventions or comprehensive research on such interventions and the effectiveness is limited. Addressing this gap is crucial for developing strategies for leaders that can create systemic improvements in elderly care workers and informal caregiver support. The EU funded Support4Resilience (S4R) project is developing and implementing a Toolbox for healthcare leaders to support them in promoting mental wellbeing and resilience of their workers in elderly care context.

Perceptions of French parliamentarians regarding the alcohol industry, alcohol policy control and minimum unit pricing (MUP): an exploratory qualitative study (ID 132)

Dr Ana Millot[1], François Topart[2,1], Prof Janet Hoek[3], Prof Karine Gallopel-Morvan[1]
[1]Univ Rennes, EHESP, CNRS, Inserm, Arènes—UMR 6051, RSMS—U 1309, France. [2]Comité national contre le tabagisme, France. [3]Department of Public Health, University of Otago, New Zealand

Context: Alcohol consumption is associated with significant health risks and contributes to 800,000 deaths each year in Europe, the region with the highest alcohol intake worldwide. Minimum unit pricing (MUP), a cost-effective measure to reduce alcohol-related harm adopted in Scotland and Ukraine, sets a minimum unit price per unit (thus preventing the sales of cheap high alcohol beverages). Despite the prevalence of higher-risk alcohol consumption in France (22% of adults exceeded low-risk drinking guidelines in 2021), MUP has not been adopted. Failure to adopt this policy may reflect alcohol industry (AI) lobbying. To address this question, we explored how policymakers perceive alcohol policies and the AI. Specifically, we probed how French parliamentarians perceive 1) alcohol policies, 2) the AI, and 3) claims made by the AI against MUP.

Methods: Our sample comprised 25 French parliamentarians (16 senators, 9 deputies) with varied profiles (political party, gender, wine-growing department or not); we interviewed participants in 2022 using in-depth interviews. The interview guide covered the AI, alcohol policies such as the MUP, and reactions to the AI's arguments against the MUP, including that the MUP is “ineffective”, “increases illicit trade” and “penalizes the poorest consumers”. We conducted a thematic content analysis using NVivo14 software.

Results

1. Most French parliamentarians acknowledged the challenge of balancing health considerations alongside the economic and cultural importance of wine when making policy decisions. Among the policies discussed to prevent alcoholism, participants saw targeted education campaigns (aimed at high-risk populations) as most effective. Views on pricing policies varied and some participants contested this approach.

2. Participants saw the AI as a legitimate stakeholder and felt consultation with AI representatives was essential to an informed democratic process. Furthermore, parliamentarians from wine-growing regions reported meeting with AI representatives.

3. Most participants agreed with arguments the AI has used to oppose an MUP policy. They highlighted concerns about illicit trade, questioned a MUP’s likely effectiveness, raised concerns about negative effects on the AI, and suggested a MUP would impose a disproportionate burden on the most vulnerable consumers. They supported alternative strategies, such as targeted education campaigns for high-risk populations.

Discussion: This research contributes to the scare literature discussing policymakers’ perceptions of alcohol policies and the AI. We identify a misalignment between French parliamentarians’ perceptions of effective alcohol policies and scientific evidence. The education programmes favoured by the AI are less effective than population-based policies, such as MUP, yet participants supported the former approach over more comprehensive and evidence-based measures. These findings highlight the need for public health actors to educate and inform policymakers about evidence-based measure, such as the MUP, to reduce alcohol-related harm. Efforts are needed to shift the positive perceived norms surrounding the AI, similar to the successful reframing of the tobacco industry. In particular, health researchers and advocates must address the AI's economic arguments, which policymakers currently privilege over social arguments, including protecting young people and other vulnerable populations.

The vaccination issue in health workers: nudging as a strategy to manage hesitancy and reflections on decision-making autonomy (ID 133)

Dr Erica Albizzati, Maria Pagani, Dr Claudio Trotti
Centro Ortopedico di Quadrante, Italy

Context: Vaccination of healthcare workers is a key tool to implement biohazard prevention strategies in the workplace, as well as to contribute to the quality of care and patient safety (Barchitta M. *et al.,* 2019; Burls A. *et al.,* 2016). Even though, vaccination coverage remains low and testifies to the attitude of hesitancy towards vaccinations on the part of this category (Sassano M. *et al.,* 2019). In recent years, nudging approaches would appear to be more effective in encouraging vaccination than other strategies, such as compulsory vaccination (Renosa M.D.C. *et al.,* 2021).

Methods: The main objectives of this project are to evaluate the effectiveness of nudging in counteracting vaccination hesitancy, and to analyse the impact of nudge on the autonomy of individuals. The stated objectives will be achieved by means of a scoping review (Pubmed, Embase and grey literature).

Results: The cognitive heuristics and bias to which cognitive processes are physiologically subjected, due to the operating limits of the automatic System 1 (Kahneman D., 2010), can make the decision-making process poor and not characterised by a maximisation, in terms of utility and satisfaction, of the final choice; nudges, on the other hand, can guide people's behaviour, respecting their autonomy (Thaler R.H. and Sunstein C.R., 2008). In literature (Munscher *et al.,* 2016) numerous forms of nudging to act on the hesitancy of healthcare professionals are reported: mobile vaccination stations within departments; peer vaccination; awards for the department with the highest vaccination rate and/or with the highest increase over the previous year; arrows and posters to increase visibility of vaccination sites throughout the hospital. Hospitals that have promoted major campaigns based on nudges have seen their vaccination rates double (De Vries R. *et al.,* 2022), with a good degree of acceptance.

Discussion: Some authors (De Ridder D. *et al.,* 2021) point out that, from an ethical point of view, nudges allow healthcare workers who are positively oriented toward vaccination but hesitant to act in line with their perceptions, while those with firmly opposing convictions are not swayed. These findings agree with the concept of liberal paternalism related to nudging forms (Thaler R.H. and Sunstein C.R., 2008), which can push individuals to make better choices considering their own values. Within healthcare workers this argument becomes even more significant when taking into consideration the principles characterizing the code of ethics of their profession. Therefore, nudging appears to be a promising public health strategy to promote vaccination of healthcare workers and overcome hesitancy by using tools and measures of great sustainability and feasibility by virtue of their simplicity.

AI & identikit of infectious risk: a powerful alliance for the hospital management of at-risk patients (ID 135)

Dr Claudio Trotti, Maria Beatrice Pagani, Dr Erica Albizzati
Centro Ortopedico di Quadrante, Italy

Context: The project aims to integrate Artificial Intelligence (AI) algorithms into the processing of hospital data through Machine Learning (ML) to improve procedures, and prevent cases of infection among patients by identifying, already in the pre-admission phase, the characteristics of the surgical patient that expose to the greatest risk of developing surgical site infections (Guerra R., 2024).

Methods: The main tool used for this project is ML, a branch of AI that allows computers to learn from data without being explicitly programmed. The database provided to the machine is: the historical archive of corporate hydroalcoholic gel consumption from 2021 to 2023; substantiated antibiotic requests from each inpatient stay from 2021 to 2023; data on Surgical Site Infections (SSI) and their protocols from 2013 to 2024; the random sample of prosthetic patients sent to the regional portal; the volumes of prosthetic and spinal surgeries performed from 2021 to 2023 with follow up of any infection found; microorganisms monitored report from 2021 to 2023; protocol for antibiotic resistance surveillance of some microorganisms isolated from the analytical laboratory.

Results: Identifying common patterns, however complex or non-apparent, that reveal a patient's propensity to an infectious event, or the ability to associate them with a cluster of patients characterized by a set of complex features, leads to reduction of complications after surgery, greater efficiency and effectiveness in healthcare assistance and treatment processes, allowing rapid recovery and reduction in Length of Hospitality Stay (LOS). The qualitative improvement of pathways also translates into economic benefits: if a patient with a high infection risk index is identified from pre-admission, more suitable pathways and protocols can be adopted, avoiding unnecessary treatments and services.

Discussion: ML algorithms support hospital resources by:

- offering a diagnostic tool that significantly speeds up diagnosis times related to the infection risk of treated/admitted patients;
- identifying the patient's belonging to a specific cluster, which can be associated with customized services and procedures that are less time-consuming and cost-effective;
- gathering significant economic and sustainability benefits for all parties involved.

The introduction of AI for pre-admission screening to identify surgical site infection risks can significantly reduce the incidence of these infections. Studies have shown that implementing AI and ML algorithms in pre-admission processes can lead to a reduction in SSIs by approximately 30-50% (De Simone B. et al., 2020).

Enhancing diversity and inclusion in paramedic education: exploring educator and learner perspectives on asset-based initiatives (ID 141)

Prof Amanda Rodrigues Amorim Adegboye[1], Karina Graham[1], Dr Ufuoma Jone[1], Dr Tracey Rehling[1], Prof Julia Carroll[2], Prof Rosie Kneafsey[1]
[1]Coventry University, United Kingdom. [2]University of Birmingham, United Kingdom

Context: The paramedic profession in the UK faces challenges in diversity and inclusion, with ethnic minority representation significantly low among students, educators, and professionals. This study explores the views of paramedic educators and learners on these issues and evaluates the application of the ABCD (Asset-Based Community Development) framework as a tool for improving engagement and empowerment of ethnic minority students.

Methods: A mixed-methods approach was used, comprising interviews with seven educators, a focus group discussion with four ethnic minority paramedic students, a workshop with 36 third-year paramedic learners, and a survey of 225 students. The data was collected in a public university in the UK. Data were analysed using descriptive statistics and thematic analysis to capture diverse perspectives on diversity, inclusion, and systemic barriers in paramedic education.

Results:
Educators: Predominantly young (57.1% aged 25-34), White (85.7%), and male (57.1%), with limited teaching experience (43% having 1-2 years of experience). While most educators reported unknowingly applying elements of the ABCD approach, challenges such as curriculum design, lack of team diversity, and institutional support were highlighted. Facilitators included peer mentoring, educator training and student engagement. Educators had a positive view of asset-based pedagogies and believed that it could enhance satisfaction and retention.
Students: Survey findings revealed a lack of ethnic diversity (78.7% White, 6.2% Black, 8.9% Asian), with 14.7% reporting witnessed discrimination. Most respondents were born in the UK (91.6%) and spoke English as their first language (93.3%). A majority (56.9%) identified as non-religious, with Christians making up 26.7%. Students perceive a lack of ethnic diversity in both the paramedic profession and teaching staff, citing key barriers such as limited outreach, role models, and cultural factors.
While awareness of ABCD was low (6.6%), 67.9% perceived its potential benefits in supporting ethnic minority students. Students highlighted inadequate cultural sensitivity, insufficient mentorship, and financial pressures as barriers to their academic and professional progression.
Qualitative Themes: Communication gaps, inconsistent mentorship, cultural insensitivity, and practical challenges such as financial constraints and demanding shift schedules were significant barriers. Ethnic minority students faced cultural isolation and a lack of representation, emphasising the need for inclusive support systems.

Discussion: Addressing diversity in paramedic education requires targeted recruitment, culturally responsive teaching practices, mentorship programs, and improved communication between universities and placement sites. The findings underscore the need for systemic changes to create an equitable learning environment that supports the diverse needs of learners. The ABCD framework shows promise in fostering inclusivity and enhancing student engagement but requires institutional commitment and resources for sustainable implementation.

Outpatient endovascular revascularisation disparities in France from 2015 to 2022: impact of COVID-19 on the trend at the hospital and geographical levels (ID 143)

Dr Virgile Korsec[1,2], Dr Yann Gouëffic[3], Nolwenn Le Meur[1,4]
[1]Ecole Des Hautes Etudes en Santé Publique, France. [2]CHU, France. [3]Department of Vascular and Endovascular Surgery, Groupe Hospitalier Paris Saint-Joseph, France. [4]ARENES UMR CNRS 6051 INSERM U1309, France

Context: Endovascular repair for lower limb peripheral artery disease (LLPAD) became the treatment of choice in high income countries since 2010. This mini-invasive approach is safe, allowing outpatient interventions and offers comfort for the patient. Despite these advantages, the outpatient rates have only slowly increased in France from 2015 to 2019. In 2020, the COVID-19 pandemic crisis has forced health care services to reorganize and may have impacted this evolution. The objectives of this study are to assess the evolution of the outpatient rates of endovascular interventions and evaluate the potential effects of COVID-19 on the general trend to better account for organization levels' interplay.

Methods: Data were extracted from the French hospital discharge information system over the 2015-2022 period. Spatial autocorrelation between departments was analysed using Moran's I test. Spatial and temporal trend was measured using the Mann-Kendall test and described using mapping. Poisson multilevel models were computed to identify the determinants of the evolution of the outpatient rates of endovascular interventions. The dependant variable (or outcome) was the number of outpatients for endovascular interventions. The log of the total number of patients was used as offset to express the results as rates. The independent variables progressively included were the year, the hospitals, the departments, and the COVID-19 incidence by department. The year and the COVID-19 incidence were used as fixed effects. Hospitals and departments were used as random effects and the COVID-19 incidence was also tested as random slope. The models were compared based on the explained variances, the marginal and the conditional R-squared.

Results: Over the 8-year period, 28,108 and 311,528 interventions in outpatient and inpatient settings were performed, respectively. We observed a spatial and temporal evolution toward more outpatient interventions (Moran's Index= 0.41 in 2022 $p<0.001$). The proportion of outpatient interventions increased on average by 1.3% over time. The proportions of hospital opening outpatient wards increased over the period, with a noticeable growth in 2019. We did not show a significant impact of COVID-19 on the general positive trend of outpatient rates. Standard deviation indicates higher heterogeneity of the outpatient proportion between the hospitals (SD=7.715) than within hospitals of the same department (SD=1.6). The conditional R^2 of 63% highlights the importance of considering the hospital level and the department level in the model. The geographical levels explained more of the attributed variations between rates than the years and COVID incidences.

Discussion: Hospital levels play a predominant role in the outpatient versus inpatient rates of LLPAD patients who underwent endovascular interventions between 2015 and 2022 in France. The consistent increase in outpatient care after 2020 suggests a relatively minor role of the COVID-19 crisis in the general trend.

Analysis of multidisciplinary tumour boards (MDTs) in Austria: are there differences in the quality of presented patient information within the same organisational setting?(ID 144)

Andrea Schweiger[1,2], Prof Dr Guido Offermanns[1,2], Alexandra Kratki[2,1]
[1]Karl Landsteiner Institute for Hospital Organization, Austria. [2]University of Klagenfurt, Austria

Introduction: Multidisciplinary tumour boards (MDTs) are considered the gold standard as crucial part in cancer treatment. The routine processes of MDTs require a lot of resources, and evidence for their effectiveness is discussed controversially from a management and science perspective. To evaluate the performance of MDTs, it is methodologically and ethically difficult to find a suitable comparison group, even within the same organizational setting. This study investigates significant MDT differences and investigates the disparities in the quality of presented patient information among MDTs in Austria.

Methods: The online survey was conducted in nine MDTs with different tumor entities in an academic hospital in Austria between January and August 2023. To assess differences in MDT structures and processes, the Austrian Tumor Board Survey (ATS) was used, which contains nine scales on the effectiveness of MDTs, including the quality of presented patient information. 81 health professionals completed the online survey (response rate 45.7%). Two MDTs with insufficient size were excluded from the study, so 72 questionnaires and seven MDTs were finally analyzed. To facilitate group comparisons, the Kruskal-Wallis test and pairwise U-tests with Bonferroni correction were used. Semi-structured interviews were conducted with tumor board members to analyze the differences in the quality of presented patient information.

Results: The results show a significant result using the Kruskal-Wallis test ($H(6) = 20.38$, $p < .05$), indicating differences between the individual MDTs in the quality of presented patient information. Pairwise Bonferroni-corrected tests were performed to identify the specific group differences, which showed significant differences between colon (CRC) and oncological rehabilitation ($z = -3.58$, $p < .05$, $r = .84$) as well as between gastrointestinal cancer and oncological rehabilitation ($z = 3.09$, $p < .05$, $r = .67$). Compared to colorectal and gastrointestinal MDTs, oncological rehabilitation had significantly higher scores in the quality of presented patient information.

Conclusion: The study revealed differences in the quality of presented patient information in MDTs under similar organizational settings. The differences found are due to different internal processes identified by the qualitative analysis. The findings suggest that not all MDTs provide the same quality of presented patient information, which may result in patients having to be re-presented or treatment initiation being delayed. The results highlight the value of a more structured approach to information quality, and deriving best practices for providing comprehensive information, including comorbidities or medical history by using checklists, ensuring the attendance of the case manager or the availability of clinical information relevant for decision-making. However, the question of whether a procedure is appropriate for each tumor entity remains unclear. A pilot study is recommended to determine which best practice procedures are appropriate in which MDT.

The role of standardised management practices in improving quality of care: evidence from healthcare chains (ID 145)

Dr Corentin Le Bot[1], Prof Rozenn Perrigot[1], Prof Nicolas Sirven[2]
[1]University of Rennes, France. [2]University of Rennes - EHESP, France

Quality of care is of paramount importance for private sector hospitals to differentiate their supply of care. Amongst the debated strategies to achieve this goal is the sharing of managerial practices (Bloom & Sadun, 2014; McConnell et al., 2013). In fact, healthcare organizations worldwide have largely engaged in cooperation and networking behaviours during the last decades, mainly through mergers. As such, networks owned by private-equity funds now dominate healthcare industries in most developed countries. They rely on standardized management practices across their facilities in order to improve their efficiency. These include standardizing the use of medical consumables between facilities and centralising their purchasing, optimizing the use of staff and premises, as well as developing centralized ancillary services and amenities (*e.g.*, private rooms, premium catering, internet access) that generate additional revenues.

Although hospital mergers are often driven by the goal of rationalizing resources and reducing costs (Craig et al., 2021; Schmitt, 2017), their impact on quality of care remains debated. A recent systematic review by Mariani et al. (2022) highlights that mergers produce mixed results in terms of quality of care. Moreover, whilst the role of standardized managerial practices has been largely overlooked, healthcare networks have been the subject of growing criticisms. These networks frequently rely on leveraged buyouts (LBOs) to finance external growth, pushing them to prioritize rapid profitability in newly acquired facilities. This financial pressure can sometimes compromise the quality of care provided. For example, in 2022, France's leading nursing-home group, ORPEA, faced a major scandal when managerial practices, designed and enforced by the network's top management, were linked to mistreatment of residents across its facilities.

Our research attempts to clarify the link between standardization of managerial practices via network integration and quality of care by examining: *whether network integration improves quality of care (H1)*, *whether network integration fosters the standardization of managerial practices (H1a),* and *whether standardized managerial practices improve quality of care (H1b)*. To do so, we design a mixed empirical study on the French private hospital sector, where networks hold most of the market. Firstly, we rely on data from the French National Health Data System (SNDS) to examine how being integrated to a network may impact quality of care (*e.g.*, hospital occupancy rates, readmission rates, average length of stay) through a Difference-in-Differences (DiD) method. Then, we rely on a series of qualitative semi-directive interviews with professionals from hospital networks (*e.g.*, Head of Quality and Risk Management, Head of Information Systems, Head of Purchasing) or managers from merged hospitals to explain the role of management practices standardization in improving quality of care.

Fighting health crisis with solidarity: managing the surge of severe patients at the start of the COVID pandemic (ID 146)

Dr Olivier Grimaud[1], Anne Girault[1], Paula Cucharero Atienza[1], Emmanuelle Leray[1], Sahar Bayat[1], Dr Jean-Marc Philippe[2], Prof François Braun[3], Prof Julien Pottecher[4]
[1]Univ Rennes, EHESP, CNRS, ARENES - UMR 6051, France. [2]General Directorate for Health (DGS)-French Health and Social Affairs Ministry, France. [3]CHR Metz-Thionville, France. [4]Anesthesiology and Critical Care, Hopitaux Universitaires de Strasbourg, France

Context: During the first SARS-CoV-2 epidemic wave, the afflux of critically ill patients with COVID-19 overwhelmed intensive care units (ICU) in the East and Paris regions of France. In a remarkable effort of solidarity, hundreds of patients were transferred by air and train towards ICUs in less affected regions and countries. The scale and intensity of this operation, and the use of various vectors, including high speed trains, make it an unprecedented event. Using a mixed method approach, the Transcov project, was set up to assess its impact.

Methods: Forty semi-structured interviews were carried out with clinical and administrative staff involved in the transfers. The aim was to better understand the organisational conditions of inter-regional transfers and to underpin how actors managed to collaborate in such an extreme context. The quantitative component consisted in a retrospective cohort involving transferred patients and up to four control patients admitted in the same ICU at the same period. Clinical parameters were extracted from ICU medical records. The main outcome variable was 28-day ICU case fatality.

Results: Results from the interviews suggested that prior experience in transfer proved useful to collaborate effectively. Although clinicians had to adapt rapidly, existing procedures proved a solid foundation on which to build. The main challenge was the high volume of transfers to be organised in a short span of time. The transfer operations required coordination of a wide range of actors at both the local and national levels. New intra- and inter-organisational cooperative relationships emerged, facilitated by a context of trust and shared vision.

502 transferred and 1280 control patients were enrolled in the cohort. Apart from lighter weight, transferred patients were comparable to controls with respect to age, COVID severity and co-morbidities at ICU admission. Transferred patients remained ten days longer in ICUs and, compared with controls, more of them suffered thromboembolic events, hospital acquired infections and neurological consequences. However, 28-day ICU case fatality was five time lower among transferred.

Discussion: The Transcov project was set up with an a priori hypothesis that mass-transfers could have put evacuated patients at risk. Results from the cohort are clearly reassuring since the balance of benefits and risks clearly pleads in favour of transfer. It is unlikely that the selection of healthier patients for transfer explains the entirety of their much lower ICU mortality. An alternative explanation is that transferred patients benefited from being extracted from overburdened care teams. Future health crises may lead to a similar abrupt local rise in ICU care needs. Our findings suggest that administrative and clinical teams can effectively and safely organize mass transfers of critically ill patients. Trust, solidarity and collaboration between healthcare providers across regional and national borders made this possible and probably saved many lives in France in the spring of 2020.

Advancing equity and inclusion in UK ambulance services: evaluating diversity, career progression and allyship (ID 148)

Monique Hyllam[1], Dr Ufuoma Jones[1], Dr Tracey Rehling[1], Prof Julica Carroll[2], Prof Amanda Rodrigues Amorim Adegboye[1]
[1]Coventry University, United Kingdom. [2]University of Birmingham, United Kingdom

Context: Ethnic minorities are significantly underrepresented among paramedics in the United Kingdom (UK), with their numbers lagging behind other allied healthcare professions. This disparity is particularly concerning as it fails to reflect the diverse population served by the National Health Service (NHS).

While some progress has been made, persistent inequalities remain, particularly in leadership roles and higher pay bands. Increasing diversity within NHS workforces is critical not only to uphold equity principles but also to address health disparities by ensuring staff better represent the communities they serve.

The West Midlands Ambulance Service (WMAS), which employs over 7,000 staff to serve a population of more than 6 million people, exemplifies these challenges. Only 10% of its workforce identifies as Black or from other ethnic minority groups, and less than 5% of leadership roles are held by individuals from these backgrounds. This stark underrepresentation highlights the need for targeted initiatives to promote equitable career progression and leadership opportunities.

This study evaluates WMAS staff perspectives on diversity, inclusion, and equity in career advancement. It also examines the potential benefits and challenges of implementing an allyship framework to foster inclusivity and improve representation.

Methods: A mixed-methods service evaluation was conducted using an online survey (n = 442) and semi-structured interviews (n = 27) across various staff roles. This abstract focuses solely on quantitative survey data, which included closed- and open-ended questions, with some responses measured on a Likert scale ranging from "strongly disagree" to "strongly agree."

Results: Survey participants were predominantly White (71%), with ethnic minority groups underrepresented in senior roles. A majority of respondents (72%) identified barriers to career advancement, with ethnic minority staff particularly emphasizing limited guidance and mistrust in promotion processes. While 69% of respondents reported overall career satisfaction, ethnic minority staff expressed lower satisfaction and perceived less support for their professional growth.

Only 30% of participants believed their teams reflected the diversity of the local population. However, 76% expressed strong support for implementing an allyship framework to foster greater inclusivity and collaboration.

Discussion: The findings underscore the urgent need for systemic changes to improve equity and representation within WMAS. Key recommendations include unconscious bias training, targeted recruitment strategies, and initiatives to diversify leadership. Engaging with local communities was also highlighted as essential for building representative teams.

Disparities in satisfaction and structural barriers underscore the importance of addressing these issues through meaningful, long-term interventions. WMAS plans to adopt an allyship framework, leveraging collaboration to drive improvements in diversity, equity, and inclusion across the organization.

Innovative organisational models for cardiovascular screening in schools: bridging equity and sustainability (ID 149)

Dr Francesca Moschetti, Dr Francesca Pennucci, Dr Chiara Notarangelo, Prof Alberto Giannoni, Prof Sabina Nuti
Health Science Interdisciplinary Research Center, Sant'Anna School of Advanced Studies, Italy

Context: Youth sudden cardiac death (SCD) is a critical public health issue that requires scalable, equitable prevention strategies. Current screening programs often exclude non-athlete adolescents, particularly in underserved areas. This study proposes a comparison of three innovative organizational models for cardiovascular screening in schools, integrating digital tools and promoting adolescent engagement to address these gaps.

Methods: This observational study evaluates three models of ECG-based cardiovascular screening in Tuscan secondary schools: (1) a traditional multiprofessional team, (2) a nurse-led model utilizing the D-Heart® device with asynchronous reporting, and (3) a self-administered ECG model supervised by nurses. Metrics include cost-effectiveness, diagnostic accuracy, operational feasibility, and participant engagement. The Social Return on Investment (SROI) methodology is applied to assess economic and social sustainability.

Expected results: Innovative models are anticipated to reduce costs, enhance accessibility, and improve engagement among adolescents, especially in remote or underserved areas. The integration of digital tools and nurse-led interventions is expected to foster a culture of prevention, empowering adolescents to take an active role in their health.

Discussion: This protocol represents a significant step towards reimagining school-based health services. By comparing traditional and innovative screening models, the study seeks to identify sustainable solutions that address health inequities while promoting efficient use of resources. The findings will contribute to the design of scalable programs that integrate prevention into routine health management practices.

Why patients medically ready for discharge wait in hospital despite vacant spaces in rehabilitation care – a qualitative case study on artificial variability (ID 150)

Annemarie Vos - van 't Riet[1], Prof Dr Kees Ahaus[2]
[1]Treant, Netherlands. [2]Erasmus University Rotterdam, Erasmus School of Health Policy & Management, Netherlands

Context: What causes patients who are medically ready for discharge to wait in the hospital, even when there are available spaces in rehabilitation care? In Treant, a healthcare organization in the Netherlands with both hospital and rehabilitation care this situation is well-known, and efforts are underway to optimize the transfer process. While it is acknowledged that variability is a major cause of underperformance, there are hardly any studies that give deeper meaning to the different kinds of unwanted (non-natural, artificial) variability. This study aims to contribute to literature by identifying various types of artificial variability in the transfer process.

Methods: We conducted a single case study at Treant using qualitative research methods. We collected project documents from the period between February 2020 and July 2024, including project documents, minutes from steering and working group meetings, discussions with the project manager and project chair, presentation slides and conversation reports. Between December 2022 and July 2024 we made observational field notes during steering group and working group meetings. Semi-structured interviews were conducted from February 2024 to May 2024 with 25 healthcare professionals closely involved in the transfer process. We interviewed the following healthcare professionals: hospital nurses, hospital physicians, rehabilitation care nurses, geriatric specialists in rehabilitation care, rehabilitation care managers, nurses and manager of the transfer office in the hospital and rehabilitation care planners. The data analysis was conducted thematically, looking for factors of artificial variability and patterns. The findings were validated through a focus group with participants from the steering group.

Results: The transfer process of a patient from hospital to rehabilitation care proved to be much more complex than expected. We divided the transfer process into six distinct steps. In each step we identified factors contributing to artificial variability. These factors explain why patients who are medically ready for discharge remain in hospital, even when there are vacant spaces available in rehabilitation care. In total we identified 33 different factors of artificial variability, which we categorized into six types of artificial variability: (1) Fragmentation of information, (2) Fragmented organization of the process, (3) Inflexible time blocks, (4) Knowledge gaps, (5) Lack of (clear) working agreements, (6) Policy choices. Based on our data collection we provide rich descriptions of the various factors contributing to artificial variability, which we illustrate with practical examples.

Discussion: In operations management literature, Litvak and Long (2000) distinguish between natural and artificial variability. They point out three types of natural variability: flow variability, clinical variability and professional variability. Artificial variability, as described by Litvak and Long, refers to self-imposed measures that cause inefficiency unnecessarily. It is noteworthy that following their seminal paper, not much has been published regarding their key concept of variability, particularly artificial variability. Few studies provide a deeper meaning to the different types of artificial variability. Additionally, to our knowledge, there has been no study on (artificial) variability in the transfer process of patients from hospital to rehabilitation care. We contribute to academic understanding by shedding light on artificial variability in the transfer process between curative and rehabilitative care. Our descriptions of the different factors of artificial variability extent beyond current research in the field.

Impact of cancer on multiple sclerosis-related healthcare and disease-modifying drug use: a multi-national cohort study (ID 151)

Chloé Pierret[1], Prof Myriam Maumy[1], Prof Huah Shin Ng[2,3], Dr Sandra Vukusic[4,5,6], Dr Christine Lebrun-Frenay[7], Dr Géraldine Androdias[4], Feng Zhu[8], Prof Helen Tremlett[8], Prof Emmanuelle Leray[9]

[1]Rennes University, Ecole des Hautes Etudes en Sante Publique, CNRS, Inserm, ARENES UMR 6051, RSMS U 1309, France. [2]College of Medicine and Public Health, Flinders University, Australia. [3]SA Pharmacy, SA Health, Australia. [4]Service de Neurologie, sclérose en plaques, pathologies de la myéline et neuro-inflammation, Hôpital Neurologique Pierre Wertheimer, Hospices Civils de Lyon, France. [5]Université de Lyon. Université Claude Bernard Lyon 1, France; Observatoire Français de la Sclérose en Plaques, Centre de Recherche en Neurosciences de Lyon, INSERM 1028 et CNRS UMR 5292, France. [6]Eugène Devic EDMUS Foundation against multiple sclerosis, France. [7]Nice Cote d'Azur UR2CA- URRIS. CRCSEP, France. [8]Faculty of Medicine (Neurology), and the Djavad Mowafaghian Centre for Brain Health, University of British Columbia, Canada. [9]Rennes University, Ecole des Hautes Etudes en Sante Publique, CNRS, Inserm, ARENES UMR 6051, RSMS U 1309, France

Context: Multiple sclerosis (MS) is a neurological disease usually diagnosed between the ages of 25 and 35, leading to various kinds of disability and impairment over its course. Neurological care and disease-modifying therapies (DMTs) play a vital role in managing MS and are highly dependent on access to care. However, as the MS population ages, the impact of comorbidities, such as cancer, remains uncertain. The objective of this study was to assess the impact of a cancer diagnosis on MS healthcare use among cancer survivors with MS, compared to controls defined as cancer-free persons with MS (PwMS).

Methods: We performed a multi-country study investigating the impact of cancer on MS-related healthcare use using population-based health administrative data from France and the province of British Columbia (BC) in Canada. Data was available from 01/01/1991 to 31/03/2020 in BC and from 01/01/2009 to 31/12/2021 in France. Cases were defined as PwMS, aged 18 and older, diagnosed with an incident cancer, alive two years after cancer diagnosis. The study period was defined as the three-year period prior to cancer as well as the two-year period after. Each case was matched on period, sex, year of birth, residence, duration of MS and DMT-use to two cancer-free PwMS, defined as controls. Outcomes of interest were (i) neurologist visits rates (ii) MS-hospitalization rates; (iii) DMT-use proportions. Mixed effect models modelling time using a piecewise linear spline with a knot were used. Effects before and after cancer were compared using a slope ratio (SR).

Results: A total of 6,902 PwMS were included as cases (France=4,555; BC=2,347) and 13,804 as controls (France=9,110; BC=4,694). Mean cancer age was 58.6±12.5 years in France and 55.9±11.6 in BC. Over the study period, more cases visited the neurologist than controls (France= 78.7% vs 75.6%; BC=72.0% vs 68.7%). In BC, both before and after cancer, cases had a slightly higher neurologist visit rate than controls. However, the IRRs did not differ before and after cancer diagnosis (SR 1.00 [0.91-1.11]). Regarding MS-hospitalizations, both before and after cancer, no difference in MS-hospitalisation rates for cases vs controls was observed. IRRs did not differ before and after cancer diagnosis (SR 1.20 [0.74-1,58]). Finally regarding DMT-use, no difference was observed between cases and controls. However, there was weak evidence that the after-cancer estimate was lower than the one before cancer (SR 0.54 [0.28-1.03], p=0.06). Results from France were comparable.

Discussion: The presence of multiple chronic conditions has previously been shown to complicate access to adequate healthcare. In this study, we specifically investigated the impact of a new comorbid diagnosis - cancer - on the management of an existing condition: MS. The homogeneity of results across both regions and various healthcare consumption indicators strengthened our findings. In conclusion, there was no evidence of an impact of cancer on MS-related care among cancer survivors with MS compared to people with MS without cancer in both France and British Columbia (Canada).

Factors associated with smoking and smoking effect on the CKD-related mortality of French dialysis patients (ID 152)

Sacha Lavaud[1,2], Judith Breaud[1,2], Dr Cécile Couchoud[3], Dr Sahar Bayat-Makoei[1,2], Dr Juste Goungounga[1,2]
[1]Ecoles des Hautes Etudes en Santé Publique (EHESP), France. [2]Univ Rennes, CNRS, Inserm, Arenes-UMR 6051, RSMS, France. [3]Agende de biomédecine, France

Context: Literature describes smoking as a factor associated with kidney failure, a higher risk of cancer in chronic kidney disease (CKD) patients and a lower access to transplantation. However, few studies have investigated its role in the mortality associated with CKD in France. This study aims to investigate the factors associated with smoking and the role of smoking on the mortality related to CKD among French dialysis patients.

Methods: Thanks to the French Epidemiologic and Information Network in Nephrology (REIN) 24,397 patients aged between 18 and 85 years old who started dialysis between 2017 and 2019 were included in the study and followed until the end of 2022. Patient characteristics and neighbourhood social deprivation level (The European Deprivation Index (EDI)) were extracted. A multinomial logistic regression with a random effect of département of residence was used to assess the factors associated with smoking. Survival analysis was conducted, using the excess hazard modelling framework with a random effect to account for the presence of territorial inequalities between French départements in terms of expected mortality.

Results: Of the 23,451 patients, 9,203 (39.2 %) died during the follow-up time. Regarding the smoking status, 3,548 (15.1 %) patients were current smokers, 7,815 (33.3 %) were former smokers and 12,088 (51.5 %) were non-smokers. Chance of smoking was lower for female (OR: 0.24 [0.22,0.25]) and decreasing with age. Smoking was not associated with social deprivation. The CKD-related mortality increased for former smokers (EHR 1.24 [1.15,1.32]) and for current smokers (EHR 1.51 [1.38,1.64]). The random effect was significant, indicating heterogeneity in CKD related mortality between départements.

Discussion: To the best of our knowledge, this study is the first to quantify the smoking effect on the CKD-related mortality of dialyzed patients. Smoking was associated with a higher excess hazard, even for the former smokers. An imputation procedure will be carried out to complete the 19.9% of missing data, allowing to investigate the prevalence of smoking. Further analysis will be conducted to compare overall and net survival in dialyzed patients to better understand the territorial inequalities in the mortality of dialyzed patients.

Key Performance Indicators for organisational performance of physiotherapy primary healthcare organisations: a scoping review (ID 155)

Joost van der Heiden[1], Dr Rutger IJntema[1], Dr Wil van Erp[1], Dr Lex van Teeffelen[1], Dr Di-Janne Barten[1], Prof Dr Cindy Veenhof[2]
[1]HU University of Applied Sciences, Netherlands. [2]UMC Utrecht, Netherlands

Context: In the Netherlands, physiotherapy primary healthcare organizations (PT-PHOs) function as SMEs within the healthcare system, annually serving approximately 4 million people to enhance or maintain their physical functioning. However, PT-PHOs face challenges in achieving profitability while maintaining high quality-of-care. Understanding key performance indicators (KPIs) for organizational performance (OP) is crucial for their future sustainability. The literature lacks a comprehensive overview of KPIs for OP in organizations like PT-PHOs that integrate both business- and quality-of-care-related outcomes. This study aims to identify KPIs related to both business and quality that can be used to assess the OP of PT-PHOs.

Methods: A scoping review was conducted following Arksey and O'Malley's methodological framework to map literature on KPIs for PT-PHOs. Relevant articles were searched in Medline, Embase, Business Source Elite, and Academic Search Premier until October 2023. Eligibility criteria focused on peer-reviewed articles related to PT-PHOs or similar SMEs, addressing OP (both quality-of-care, and business performance). Titles and abstracts were screened using ASReview LAB, an open-source software tool that employs human-in-the-loop machine learning to screen and prioritize relevant studies. The use of the SAFE procedure ensured the quality of the AI-driven selection process through 1) manual screening, 2) simple and 3) in-depth active learning processes, and quality evaluation. Data were analysed using qualitative content analysis. Findings were validated for the context of PT-PHOs through expert consultation with 10 managers and owners of PT-PHOs using the RAND Appropriateness Method. This comprehensive approach incorporated diverse perceptions, enhancing the relevance of the identified KPIs for Dutch PT-PHOs.

Results: The initial search strategy identified 11,563 records, which were reduced to 24 eligible articles after screening and applying eligibility criteria. These articles highlighted 12 perspectives for evaluating OP in PT-PHOs, categorized into business-related and quality-of-care-related KPIs. Business-related KPIs included 'financial metrics' (e.g. ROI, liquidity), 'human resources' (e.g. employee satisfaction), 'learning and innovation' (e.g. digitalization), 'productivity' (e.g. number of visits), 'resource allocation', and 'stakeholder-related outcomes'. Quality-of-care-related KPIs encompassed accessibility (e.g. free choice provider), customer-perceived quality, satisfaction with care (e.g. General Perceived Effect), effectiveness (e.g. Patient Reported Outcome Measures), practice prerequisites, staff compliance to protocols and guidelines, and equity. The expert consultation of 10 PT-PHO (owners-)managers validated the findings, confirming the KPIs' practical relevance. This consultation revealed that PT-PHOs gather and report extensive data for third parties, like insurance companies, on 'patient-experienced quality and satisfaction' and 'staff compliance' (with protocols and guidelines), which they don't use to improve their own services.

Discussion: The identified KPIs offer an overview for measuring the OP of PT-PHOs. The current study bridges gaps between existing quality-of-care and business performance frameworks by integrating both fields into a single comprehensive overview. This is highly valuable for PT-PHOs as it provides them with a complete insight into their OP. Expert consultation confirmed the relevance of these KPIs in the context of Dutch PT-PHOs, emphasizing the need for an integrated approach. This aligns with recent calls for a more holistic quality measurement frameworks that better capture the complexities of healthcare delivery. This study provides an overview of the relevant indicators, expanding the scope of traditional and more quality-of-care-oriented healthcare evaluation methods with KPIs for business-related perspectives. Future research should refine these KPIs and evaluate the implementation of these KPIs in PT-PHOs.

Dynamic capabilities in primary care physiotherapy practices: a qualitative study (ID 156)

Joost van der Heiden[1], Dr Rutger IJntema[1], Dr Wil van Erp[1], Dr Lex van Teeffelen[1], Dr Di-Janne Barten[1], Prof Dr Cindy Veenhof[2]
[1]HU University of Applied Sciences, Netherlands. [2]UMC Utrecht, Netherlands

Context: Primary care physiotherapy organizations (PT-PHOs) are Small and Medium Enterprises (SMEs), providing care to an increasing population experiencing limitations in physical functioning. Necessary transitions in the national healthcare system, force Dutch PT-PHOs to respond to these transitions while balancing their organizational performance (OP), including both quality-of-care and financial performance. Dynamic capabilities (DCs) might help PT-PHOs to enhance their OP while simultaneously continuing to adapt to the changing environment. However, it remains unclear what DCs that can help PT-PHOs improve OP. This study aims to identify which DCs can help PT-PHOs improve their OP according to their (owner-)managers.

Methods: This study employs a qualitative methodology to explore DCs in PT-PHOs. Semi-structured interviews were conducted with (owner-)managers of PT-PHOs in the Netherlands, selected through purposeful sampling to ensure maximum variation in terms of company size, urbanization level, and managerial experience. Data were collected using an interview guide, based on Teece's categorization of high-level DCs: sensing, seizing and transforming. The interviews were audio-recorded, transcribed verbatim, and analysed using directed content analysis based on the taxonomy for DCs by Leemann and Kanbach (2022) using ATLAS.ti software. Two independent researchers participated in the coding process, holding regular meetings to discuss and resolve discrepancies. Additionally, to further enhance validity and resolve discussions, a third researcher conducted a peer debriefing. The constant comparison principle was applied throughout the data collection and analysis process to refine the interview guide and ensure comprehensive coverage of the research question.

Results: Twenty-five participants from 22 PT-PHOs who were interviewed (13 men and 11 women; 3 self-employed, 6 micro-sized, 10 small-sized, and 3 medium-sized; 2 from non-urban, 2 from slightly urban, 5 from moderately urban, 9 from highly urban, and 4 from very highly urban areas). Even though, the included PT-PHOs showed different levels of DCs, Leemann and Kanbach's taxonomy (2022) is relevant for categorizing these dynamic capabilities. For example, PT-PHOs use 'networking and exchanging with stakeholders' to sense risks and opportunities, focusing on horizontal networking. However, not all descriptions fit the SME-setting of PT-PHOs. For instance, 'structuring evaluation and decision-making' is more about structuring the evaluation process and choosing the right outcome measures than setting up cross-departmental committees. For transformation, PT-PHOs rely heavily on 'top-management commitment,' which involves taking initiatives rather than roadshows or writing blogs.

Discussion: The findings indicate that PT-PHOs exhibited varying levels of dynamic capabilities. Some respondents appeared to confuse ordinary capabilities with DCs, suggesting a potential gap in business knowledge among PT-PHO (owner-)managers. The level and distribution (sensing, seizing, and transforming) of DCs varied across practices, seemingly influenced by the characteristics of the (owner-)managers. This suggests that the abilities of PT-PHO (owner-)managers are crucial in developing and leveraging dynamic capabilities. Targeted training and education could improve their ability to distinguish and implement these capabilities effectively. It is important to recognize that the application of DCs is unique to each business, and the provided descriptions should serve as inspiration for practical application. Practices need to internalize and adapt DCs to their specific context rather than merely replicating them. Future research should investigate the relationship between the extent of DCs and the organizational performance of PT-PHOs to better guide investment decisions in specific DCs.

Transforming relationships: how organisational change reshapes networks in healthcare (ID 158)

Mario Masiello[1], Dr Luca Giorgio[2], Prof Giovanna Liuzzo[1]
[1]Università Cattolica del Sacro Cuore, Italy. [2]Università Europea di Roma, Italy

Context: Organizational change in healthcare institutions is complex and requires continuous adaptation. Change recipients play a crucial role in the success or failure of initiatives, exhibiting reactions from support to resistance. Our study examines factors essential for implementing change-supportive behaviour, focusing on interprofessional relationships affected by significant organizational alterations. We explore the dynamics of multiple social networks among healthcare professionals during a major reorganization and how these relationships influence collaboration and adaptability. Ultimately, our research contributes to the literature on network modification during change, offering insights into how advice and subject matter expertise (SME) networks enhance collaboration in healthcare.

Methods: We collected data during a reorganization of a cardiovascular department in an Italian teaching hospital, which included 88 beds and 112 health professionals. The study focused on physicians and nurses, while technicians were less affected by changes aimed at restructuring high-cost care activities through clinical pathways. In April 2023, the hospital adopted standardized work processes to enhance coordination and efficiency. Utilizing a social network analysis framework, we investigate the interplay between advice and SME networks among 67 healthcare professionals. A paper-and-pencil survey was conducted six months post-reorganization, yielding 67 responses (60% participation). The survey included sections on demographics and social networks, allowing participants to reconstruct their advice and SME networks before and after the reorganization. Dependent variables encompassed new advice and SME ties, while independent variables included previous networks, teamwork perception, and coping with change measures. Control variables accounted for characteristics affecting relationship formation.

Results: Among the surveyed professionals, 46% are physicians and 54% are nurses, with a gender distribution of 39% male and 64% female. At T1, health professionals reported an average of 6.7 advice ties, increasing to 7.4 at T2, reflecting an average development of 1.3 new ties post-reorganization. Approximately 60% reported at least one new tie. The average subject SME ties rose from 3.75 at T1 to 4.61 at T2, indicating an increase of 1.19 new ties. LR-QAP regression analysis indicated that reciprocated ties in the advice network predicted new SME ties (OR = 1.699), while tenure differences negatively impacted SME tie formation (OR = 0.952). Additionally, perceptions of teamwork negatively influenced new SME ties (OR = 0.266). Having common alters positively affected new advisory ties, while tenure negatively impacted their formation (OR = 0.963). These findings underscore the importance of network dynamics and perceptions in facilitating relationship formation post-reorganization.

Discussion: Our research examines how physicians adjust their social networks in response to organizational reorganizations. Despite growing interest, insights into network adaptation mechanisms are still limited. Existing studies often focus on network properties affecting tie evolution and how individual characteristics shape network modifications. We contribute to this understanding by exploring how different networks interact during tie formation, integrating organizational change theories with network multiplexity. Our findings reveal that knowledge-related networks are essential for forming new ties, fostering trust, and enhancing shared understanding. Furthermore, advice ties significantly influence the formation of SME ties, underscoring the reciprocal nature of these relationships. A lack of intention to cope with change can obstruct new tie creation, aligning with homophily principles where similarity facilitates connections. Healthcare managers should understand existing networks and their dynamics to enhance adaptability and resilience during organizational change. These insights are vital for fostering collaborative relationships and improving performance in healthcare settings.

The BOTP-IPA catch-up vaccination programme: enhancing immunisation coverage in Ireland (160)

Dr Michael Hanrahan, Lorna Baek, Orla Weldon, Dr Aileen Kitching, Dr Emmanuel Bello, Dr Eimear Hayes, Caralyn Horne
Health Service Executive, Ireland

Context: Since 2022, there has been a large increase in migration to Ireland by Beneficiaries of Temporary Protection (BOTPs) fleeing the war in Ukraine and Internation Protection Applicants (IPAs) from other countries. In Ireland, the BOTP-IPA Catch-Up Vaccination Programme was implemented to address immunisation gaps among these groups to reduce the risk of preventable diseases. A collaborative approach involving Community and COVID-19 vaccination teams, Social Inclusion and Public Health, sought to identify unvaccinated individuals and provide catch-up vaccinations, particularly among children. This review evaluates the programme's design, implementation, and outcomes to derive insights for improving vaccination strategies in post-pandemic contexts.

Methods: A mixed-methods evaluation framework was employed to assess the BOTP-IPA Vaccine Catch-Up Programme. Quantitative data on vaccination delivery were collected from Community Healthcare Organisation (CHO) leads on a monthly basis between 1st January 2023 and 31st December 2024. This includes information on the number of preparatory visits and clinics held each month as well as the number of people offered vaccines and the number that accepted them. Qualitative data were gathered through online surveys with key stakeholders, including local vaccination teams and national health service leads, to explore barriers and facilitators to vaccine delivery. The findings were summarised to provide a comprehensive understanding of the programme's impact and operational challenges.

Results: Overall, 3,037 preparatory visits and 2,195 clinics were held to offer vaccinations to BOTPs and IPAs. According to aggregate data returned by each CHO lead, 5,478 BOTPs and 8,840 IPAs accepted at least one vaccine offered to them. The uptake of vaccinations was 55% for BOTPs and 80% for IPAs. In total, there were 1,505 vaccination episodes for children aged 0 – 2 years old, 2,064 for children aged 2 – 5 years old, 7,197 for those aged 5 – 23 years old and 3,552 for adults age over 23 years old. Stakeholders found preparatory visits, peer supporters and interpreters were particularly useful in encouraging vaccine uptake. Vaccinators felt that in person training with opportunity to discuss complex vaccination history scenarios would be most helpful to train staff. They also highlighted the importance of having consistent staffing levels and suitable spaces to run vaccination clinics when doing vaccinations on-site in accommodation centres.

Discussion: The BOTP-IPA Vaccine Catch-Up Programme demonstrates an innovative approach to addressing immunisation gaps in displaced populations. Its success in establishing a flexible operational model provides valuable insights for other countries facing similar challenges. The programme's emphasis on preparatory visits and community engagement offers a template for building trust and overcoming vaccine hesitancy. However, the identified challenges, particularly in staffing and clinic locations, highlight areas for improvement. Future efforts should focus on developing more stable workforce solutions and enhancing data systems to better track mobile populations. The programme's ability to adapt to local contexts while maintaining a standardised approach across CHOs is a key strength that could be further leveraged. These findings contribute to valuable insights for policymakers and health managers regarding effective strategies for delivering healthcare services to vulnerable and displaced populations in dynamic environments.

The design and implementation of a successful Business Intelligence system at a large teaching hospital (ID 162)

Dr Sara Melo[1], Dr Susana Ferreira[2]
[1]Queen's University Belfast, United Kingdom. [2]Local Health Unit of Santo Antonio (Unidade Local de Saúde de Santo António), Portugal

Context: In today's health systems' context of scarce resources and growing demand, decision-making requires the efficient use of information, for which a Business Intelligence (BI) system has been considered a useful tool, as it allows access to information in real time. Despite the recognized advantages of a BI system, its use in healthcare is still incipient and underdeveloped. Healthcare institutions have faced significant difficulties in successfully implementing BI systems due to management issues and organizational factors. Additionally, little is known on how to successfully implement a BI system in the health sector – a gap this research aims to address.

Methods: The research adopted a case study of a Business Intelligence system developed from scratch, since the mid-2000s, by a large public teaching hospital located in Portugal, in partnership with the Computer Science department of a Portuguese University. The hospital is recognised in the country as having one of the most advanced BI systems and by its effective use in decision-making. Data were collected in 2023-2024 through 45 face-to-face in-depth semi-structured interviews with clinical and non-clinical staff involved in the design, development, and implementation of the BI system or who have access to it. Interview questions explored: i) the processes of the design, implementation, and improvement of the BI system and the roles played by hospital staff and external stakeholders, and ii) the factors that facilitated/created barriers to the BI system's development and to staff's effective use of the BI system in decision-making. Interviews were verbatim transcribed and inductively analysed.

Results: Findings from the interviews highlight that both the features of the BI system and the processes adopted by the case study hospital in its design, implementation, and continuous improvement had a key role in its successful development and effective use in day-to-day and strategic decision-making. The fact that the case study hospital developed and has been improving its BI system following a tailored approach to both the hospital and the departments through the involvement of the BI users, led to the implementation of a BI system whose features and indicators are useful to the users. In turn, this resulted in the use of the BI system in decision-making and in the motivation for the BI users to continuously suggest new BI system improvements. The existence of a department centralising the development of the BI system, staff skills, and the support of the hospital board also played a key role.

Discussion: Healthcare management literature has identified many advantages of using BI systems, including improved access to information, better decision-making, better healthcare quality outcomes, and financial performance gains. Yet, there is a lack of knowledge about how to successfully design and implement a BI system in the health sector. To address this gap, this study explored the development of a successful BI system in one of the Portuguese large teaching hospitals, pioneer in the development and effective use of a BI system. The article focuses on the findings from a single hospital, which developed from scratch its own BI system and therefore has the limitations in terms of generalisability associated with the use of qualitative single case studies. However, the fact that the hospital successfully developed and implemented a BI system which is effectively being used in decision-making, can be of great help to hospital managers considering adopting BI systems.

The BOTP-IPA vaccine catch-up programme: improving data capture & data quality (ID 163)

Lorna Baek, Dr Michael Hanrahan, Caralyn Horne
Health Service Executive, Ireland

Context: Since 2022, there has been a marked increase in migration to Ireland of Beneficiaries of Temporary Protection (BOTPs) due to the outbreak of the Ukraine War; and International Protection Applicants (IPAs). This has led to the BOTP-IPA Vaccine Catch-Up Programme being developed to address critical immunisation gaps and reduce preventable disease outbreaks. Initially, in 2023, nine Community Healthcare Organisations reported Key Performance Indicators manually via Excel templates. In September 2024, a digital method replaced this. This study evaluates the KPI collection transition to a streamlined digital method - COMPASS, aiming to improve data quality, resource efficiency, and inform planning strategies.

Methods: The COMPASS app was developed by the HSE's Planning and Performance department. Following a summary analysis and demonstration of the COMPASS app by HSE ICT for Public Health, stakeholders swiftly reached a consensus for implementation in October 2024. The production environment was then prepared by integrating the key performance indicators for the programme, including 20 additional KPIs related to vaccine types. Twenty-five users across nine CHOs were onboarded to COMPASS using a straightforward, intuitive online Microsoft Form for information collection. Each user received unique login details delivered via automated email that included access instructions for COMPASS. User and administrative support guides were developed to assist system users and designated administrators. Finally, an evaluation framework was employed to assess stakeholder satisfaction with the data capture change for the programme. The findings were summarised to provide a comprehensive understanding of the impact and ongoing challenges.

Results: Notwithstanding the rapid implementation of the COMPASS app, users quickly embraced its user-friendly functionality. Any initial technical and data entry issues were swiftly dealt with and resolved. A survey was conducted to gauge the satisfaction with the change in the data capture method. Initial feedback from a number of users has indicated that the Excel method was more time consuming (83%) with version control difficulties (66%) also cited. When asked about the new method, 80% percent found the COMPASS tool user-friendly, 40% reported significant administrative time reduction, and 40% reported some reduction. 60% of respondents felt COMPASS improved data quality. 83% of respondents had no difficulties collating data. One respondent reported issues with multiple users uploading data, which was resolved by designating a single uploader.

Discussion: The transition from manual reporting to the COMPASS app has demonstrated significant benefits in terms of user satisfaction and resource efficiency. Although some initial implementation issues arose, they were swiftly resolved. The designation of a single uploader proved effective for managing multiple user inputs. Most users found the new digital method to be user-friendly and reported notable reductions in administrative time. The improvement in data quality, as observed by several respondents, highlights the effectiveness of the COMPASS tool in addressing the prior challenges. Furthermore, the switch allowed for the inclusion of vaccine type data. This additional data, along with improvements in data quality, will enable Public Health to strengthen policy-making decisions. These findings underscore the value for digital tools to continue to enhance delivery of Public Health initiatives. Future research should focus on long-term impact assessment and the scalability of such digital solutions in broader healthcare contexts.

Improving the health and wellbeing of healthcare workers: a scoping review of non-pharmaceutical interventions (ID 166)

Léandre Hercelin, Mohammad Qoimam Bilqisthi Zulfikar, Dr Jocelyn Raude
Ecoles des Hautes Etudes en Santé Publique. UMR ARENES – Équipe de Recherche sur les Services et le Management en Santé, Univ Rennes, EHESP, CNRS 6051, INSERM 1309, Rennes, France

Context: Healthcare professionals (HCPs) play a critical role in maintaining, improving or restoring people's health and well-being. Yet the HCPs' health often remains a secondary priority in the domain of health management and policy. In 2004, the European PRESS NEXT study raised alarming findings about their well-being. In 2022, the WHO issued a warning regarding the aging and unhealthy healthcare workforce in Europe. Burnout was found to affect 35-45% of nurses and physicians, and 40-60% of medical students and residents, significantly impacting mental health and job performance. These estimates underscore the urgent need to address the well-being of healthcare workers.

Method: As part of the SANSAS (*Santé des soignants*) research program, we conducted a comprehensive scoping review with the aim of identifying and evaluating a variety of interventions designed to prevent diseases, or promote health of HCW. This review encompasses professionals from a broad spectrum of healthcare settings, including hospital environments, private practices, and the medico-social sector. We focused on several key health issues, such as mental health, physical activity, nutrition, sleep, musculoskeletal disorders, and addictive behaviors. Our literature search was conducted on four databases, PubMed, CINAHL, Scopus, and Cochrane, and followed the established PRISMA-ScR guidelines to ensure rigorous and transparent reporting. Two independent reviewers were involved in selecting the relevant articles. After removing duplicates, a total of 130 articles have been selected to date for further analysis. The data extraction process adhered to the framework proposed by Arksey and O'Malley, which has been further updated by the JBI Evidence Synthesis.

Results: We are currently analysing this research material, which will provide a robust overview of the health issues and preventive measures relevant to healthcare professionals. This review may help to identify common trends and challenges concerning our HCP health, as well as successful intervention designs for the health systems. Preliminary findings indicate a predominance of interventions focused on mental health, often targeting physicians, nurses, and health students in hospital settings. Many initiatives involve health education and emphasize the importance of supportive working conditions, which have been associated with lower burnout and better mental health. Unexpectedly, only a few studies in our database show interest in physical health, which remains a crucial issue for healthcare workers. As data extraction continues, further results will help to clarify the scope, modalities, and targeted health topics of these interventions.

Discussion: The findings will aim to inform future research on targeted interventions designed to enhance both the physical and mental health of healthcare professionals, ultimately contributing to the sustainability and resilience of healthcare systems worldwide and also providing information to policy makers. To do so, a key aspect of this research involves examining the presence of Mechanisms of Action (MoAs) within the interventions under review. Understanding these MoAs—how and why an intervention leads to behavioural change—is essential not only for evaluating the effectiveness of the interventions but also for identifying the behavioural and contextual pathways through which they influence health outcomes. Another critical component of our study is the exploration of how different categories of healthcare professionals with varying levels of education, will influence the relevance and acceptability of these health promotion interventions.

Towards decentralised European health data platforms (ID 168)

Dr Anton Dolhopolov[1,2], Prof Anne Laurent[2]
[1]Conecsio, France. [2]LIRMM, Univ. Montpellier, CNRS, France

EHDS regulation and corresponding projects are focused on delivering a common, secure, and interoperable technological infrastructure across the EU for facilitating privacy-preserving data exchange, control by patients during the primary use of medical data, and empowering research and studies during its secondary use. However, the preparedness of member states (MS) remains an open question in the context of varying and, sometimes, absent, legal frameworks and technological instruments for implementing all regulatory requirements. Our work proposes a generic infrastructure architecture for building policy enforcement and security auditing mechanisms based on properties of decentralized immutable ledger and smart contracts.

We proposed and implemented a data platform (shown in Figure) based on two core elements: 1) Fybrik - a scalable open-source tool for data storage, access, processing, monitoring; 2) Hyperledger Fabric - a decentralized blockchain registry for compliance and automatic policy enforcement. Fybrik's extensibility modules help to integrate multiple data sources that usually reside in the proprietary data warehouses operated by healthcare providers, thus enabling data exchange and analyses for medical research. Grace to Kubernetes support, it enables data infrastructure for both cloud and on-premise environments. Security and privacy aspects are ensured through blockchain smart contracts that represent the codified versions of multiple legal acts or data-sharing agreements established between consumers and providers. These acts, agreements, and execution decisions are persisted in the immutable ledger, providing auditing and verification guarantees. Furthermore, health data linking, exploration, and navigation are facilitated by a graph-based cataloguing web service that can also provide transparency of use and control of data for individuals.

The research on decentralized data platforms was conducted by one of the authors during his PhD at LIRMM. The analyses of present information system architectures (such as data warehouses and data lakes that are commonly operated by hospitals and other data holders) identified still existing limitations related to data sharing and, more importantly, trustworthy and verifiable data manipulation and access that should correspond to legal regulation. This led to the creation of a generic architecture that applies to cross-institutional scenarios. Further collaboration with Conecsio, focused on the application of this solution for secondary use of patient data, has resulted in building and testing a laboratory prototype that implements principles of findable, accessible, interoperable, and reusable data (FAIR). The work on its field deployment and production-ready setup is still ongoing and the first outcomes are expected to be obtained in the coming year.

The recent report on MS preparedness for cross-national data exchange raises an important question of technical infrastructure interoperability and the ability to track and restrict access to medical data, especially when the data leaves the system boundaries of the original data holder. Moreover, the danger of data expropriation to foreign governments remains in situations of using easily accessible public cloud providers. While some MS rely on juridical obligations and the exactitude of its execution, others perceive the risks of technical malfunctioning to be too high. Therefore, there is a clear need to use a trustful source of events during healthcare data manipulation at the cross-MS level and in all potential information environments. The proposed decentralized architecture based on the blockchain network and automatically enforceable smart policies present an alternative solution to purely juridical and contractual commitments, while the support of FAIR principles can further stimulate its growth and adaption in decentralized data spaces like EHDS.

Introducing proximity care in healthcare equity and sustainability: insights from the unfair distance index (ID 169)

Vera Benedetto, Dr Nicola Spezia, Prof Sabina Nuti
Interdisciplinary Research Center "Health Science", Sant'Anna School of Advanced Studies, Italy

Context: Proximity to health services is crucial for ensuring accessibility and continuity of care, particularly for preventive and outpatient care that interest large segments of the population. Lack of proximity can hinder equitable healthcare delivery, making it a key goal for health systems with universal coverage to provide outpatient care close to patients' homes, especially in rural areas, where demographic trends exacerbate disparities. This study introduces healthcare service proximity as a dimension of equity and sustainability, presenting the Unfair Distance Index (UDI) as a new metric to quantify inequitable travel distances for outpatient visits. By evaluating dermatological visit disparities, we highlight the importance of incorporating proximity into healthcare equity and environmental sustainability, aiming to support health managers in addressing these issues through informed policy and resource allocation.

Methods: The UDI was computed using 2023 dermatology outpatient data (first and follow-up visits) from the Tuscany Region (Italy), encompassing 323,433 examinations. Round-trip travel times from 273 municipalities to outpatient facilities were estimated using car travel data, weighted by visit volumes, and classified into urban and rural categories. Data were aggregated to 28 local health districts using weighted averages. Analysis was conducted using a three-dimensional matrix integrating travel times, waiting times, and utilisation rates. CO_2-equivalent emissions were calculated based on travel distances, applying a factor of 0.17148 kg CO_2-eq/km. Key metrics, including average and median travel times, standard deviations, and total emissions, were used to underscore rural-urban disparities.

Results: Urban areas accounted for approximately 80% of visits. Travel times revealed significant rural-urban disparities: rural residents averaged 62 minutes (median: 52 minutes) per trip, compared to 34 minutes (median: 28 minutes) in urban areas. The data show that long travel times are often driven by those travelling from outside their district to undertake visits. Preliminary results reveal unfairness across all levels of waiting times and visit rates, whether high or low, highlighting a lack of solid governance on this issue. The most critical districts are found in the matrix quadrant, where high travel times, lengthy waiting times, and low service rates converge, highlighting significant inequities in access. Total CO_2-eq emissions from outpatient trips amounted to 1.8 tonnes, equating to 5.57 kg CO_2-eq per patient. These findings highlight significant inequities in access and a considerable environmental impact.

Discussion: This study highlights significant rural-urban disparities in travel times, with rural residents facing greater challenges in accessing care. This issue is further highlighted when long travel times are combined with long waiting times and low service rates, offering a comprehensive understanding of healthcare access and underscoring the necessity for targeted interventions to enhance rural access. These gaps not only hinder equity but also increase environmental costs due to extended travel distances, leading to higher carbon emissions. The UDI is a valuable tool for incorporating proximity into healthcare planning. It facilitates targeted interventions to improve resource distribution and implement policies that promote equitable healthcare access, advancing both fairness and environmental sustainability in healthcare. This study offers a practical example of the need to complement traditional indicators of utilisation rates and waiting times with proximity to care when promoting equitable healthcare access.

Integrated care for mental health needs of children and youth: evidence from a systematic review (ID 171)

Francesca Meda[1], Dr Oriana Ciani[1], Enrica Finotto[1], Elisabetta Trinchero[1], Valeria Tozzi[1], Prof Carlo Devillanova[2], Dr Viviana Mangiaterra[1]
[1]SDA Bocconi, Italy. [2]Università Bocconi, Italy

Context: Young people face significant mental health (MH) challenges during critical developmental phases (Cainelli et al., 2022) which disrupt key milestones, including identity formation, education, and social integration. Vulnerabilities, such as trauma and socioeconomic deprivation, and recently the social isolation experienced during the pandemic, exacerbate MH risks, particularly among marginalized groups, who face higher structural and non-structural barriers in access to these services (Anderson et al., 2017). To cover unmet needs, more integrated and multidisciplinary services are needed (Colizzi et al., 2020). This systematic review aims at mapping integrated MH services for youth, identifying mechanisms for effective services integration across sectors.

Methods: A PRISMA-guided systematic overview of reviews was conducted on English-language literature from 2013 to the present. Searches across four databases (Scopus, PubMed, Web of Science, and Ovid) yielded 6,179 unique records; title and abstract screening left 188 records for full-text analysis, after which 38 review articles were included in the final selection. The analysis of the studies included was performed with a pre-defined extraction grid to capture key article details, target groups and specific social categorization regarding ethnicity, gender/sexual orientation, migrant background, etc., type of MH needs (e.g. anxiety, developmental issues, depression, etc.), sectors (education, social and health care) and setting (prevention, treatment, rehabilitation) of the MH interventions, specific goals, activities, and outcomes (clinical and organizational) of the interventions. Findings are interpreted according the Valentijn et al.'s (2013) integrated care framework, categorizing MH interventions by type (systemic, organizational, professional, or clinical) and level (macro, meso, micro) of integration.

Results: The literature reveals significant variability in defining target groups, with a slight predominance of school-aged children and adolescents (6–18 years). Mental health conditions addressed by integrated care interventions also vary, with anxiety, depression, post-traumatic stress disorder (PTSD), and behavioral challenges being the most prevalent. Common approaches include cognitive-behavioral therapy (CBT), trauma-informed care for vulnerable groups, creative arts therapies, and peer support, tailored to address developmental, social, and psychological needs. These interventions have demonstrated promising outcomes, including reduced anxiety and depressive symptoms, regulation, resilience, and social adaptation. Integration across sectors (health, social care, and education) is most evident at clinical and professional levels but less frequent at meso-organizational and systemic levels. Key facilitators include intersectoral collaboration, professional training, community involvement, and evidence-based practices. However, challenges such as fragmented services, limited funding, cultural barriers, stigma, and professional silos can impede the successful implementation of integrated MH interventions.

Discussions: Consistent with existing literature (e.g., Hostutler et al., 2024), the findings underscore the effectiveness of integrated MH interventions for youth in addressing a broad spectrum of conditions. These results suggest that policymakers and practitioners should prioritize resource allocation, foster intersectoral collaboration, and implement culturally sensitive strategies to ensure equitable access to MH services for vulnerable populations. Integration seems to be mostly conceived and implemented at more micro levels, whereas still not experienced at more macro levels, connecting sources of financing, or governance mechanisms for example. From a research standpoint, a significant gap persists in the current literature, necessitating a deeper understanding of the specific vulnerabilities within target populations. Future studies should adopt an intersectional approach and analytical framework to uncover nuanced insights, thereby enabling the development of more effective, tailored, and needs-based interventions.

Impact of COVID-19 pandemic on surgical cancer care disparities according to socioeconomic status (ID 172)

Roos van Vuren, MD[1,2], Rinske van den Hoek[1,2], Prof Schelto Kruijff, MD[1,3], Dr David Heineman, MD[4,5], Dr Willemijn van der Plas, MD[6], Prof Michel Wouters, MD[7,2]

[1]University Medical Center Groningen, Netherlands. [2]Dutch Institute for Clinical Auditing, Netherlands. [3]Karolinska Institutet Stockholm, Sweden. [4]Amsterdam University Medical Center, Department of Cardio-thoracic Surgery, Netherlands. [5]Amsterdam University Medical Center, Department of Oncology, Netherlands. [6]Amsterdam University Medical Center, Department of Surgery, Netherlands. [7]The Netherlands Cancer Institute, Department of Surgical Oncology, Netherlands

Context: In the Netherlands, the healthcare system is considered to perform well in terms of equal access to services. Nevertheless, disparities exist in the effects of cancer on people of lower socioeconomic status across the entire spectrum of cancer care, from incidence to treatment outcomes. Although surgical cancer treatments were prioritized during the COVID-19 pandemic, pre-existing disparities may have been exacerbated by healthcare scarcity. This scarcity continues to be a challenge post-pandemic due to workforce shortages and an ageing population. This study aims to investigate this impact on the Dutch population.

Methods: This population-based cohort study included all patients registered at the Dutch Institute for Clinical Auditing who underwent surgery for lung cancer, oesophageal and gastric cancer, pancreatic cancer, and malignant liver tumours. Data from the pandemic cohort (15-03-2020 to 31-12-2021) were compared to data from a historic cohort (2018-2019). Socioeconomic status (SES) scores were based on average SES by postal code and divided into three categories. The primary outcome was the difference in distribution of SES between the pandemic and historic cohorts, as a measure for increased barriers to access cancer care. This was assessed with a density plot and chi-squared test on SES categories. Secondary outcomes were time to treatment and tumour stage distribution, as a measure for patient delay due to experienced barriers and subsequent tumour stage migration. Multivariate logistic regression was performed, considering all variables associated with tumour stage. Multiple imputation was performed to handle missing data.

Results: A total of 28,109 procedures were analysed: 12,229 in the pandemic group and 15,810 in the historic group. The median SES score was 0.059 in both groups, with an interquartile range between -0.118 and 0.186 in the historic group and between -0.122 and 0.187 in the pandemic group. Similarly, the distribution of SES categories and the density heatmap did not show any differences between the pandemic and historic groups. The median time between diagnosis and treatment decreased from 23 days in the historic group to 22 in the pandemic group (p 0.05) and was comparable amongst SES categories. Furthermore, patients of lower socioeconomic status were not more likely to undergo surgery for a stage 4 malignancy. When corrected for age, sex, comorbidities and BMI, SES was not correlated to tumour stage in the pandemic group (aOR 0.82, 95% CI 0.54–1.25, p= 0.36), and also not in the historic group.

Discussion: On a population level, healthcare scarcity during the COVID-19 pandemic seems to have had an equal impact on patients of varying socioeconomic status undergoing surgical cancer care in the Netherlands. This suggests that the Dutch healthcare system, that is characterised by egalitarian access to high quality hospital care and solidarity through compulsory medical insurance, ensures cancer care access for all, even in times of increased pressure on the healthcare system.

How can community health worker availability affect marginalisation rates across Romania? (ID 173)

Diana Alecsandra Grad[1], Dr Lidia Manuela Onofrei[2], Dr Shauna Fjaagesund[3], Dr Florin Oprescu[3], Dr Alexandru Coman[4], Dr Marius-Ionuț Ungureanu[1]

[1]Department of Public Health, School of Political, Administrative and Communication Sciences, Babeș-Bolyai University, Romania. [2]Ministry of Health, Romania. [3]University of the Sunshine Coast, Australia. [4]University of Medicine and Pharmacy, Romania

Context: The Romanian healthcare system suffers from critical shortages of healthcare workers, particularly in rural and remote areas. Moreover, the level of health expenditure in Romania is well below the EU average. Current evidence shows that a low level of population access to health professionals is more predominant among areas and communities with an increased social deprivation index. In Romania, community healthcare workers (community nurses and Roma health mediators) emerged in the past 20 years as professional categories essential in decreasing health service-related inequalities, given their ability to reach underserved communities. For this study, we aimed to evaluate if the documented marginalization rates in Romania are predicted by the selected health worker-related variables.

Methods: We analyzed several variables retrieved from a retrospective database, provided by the Ministry of Health, on community nurses and Roma health mediators and its corresponding needs in Romania. The dataset employed for the analysis had a sample of 935. We employed the following variables: NUTS 2 region, terrain type, type of settlement, marginalization rates (primary outcome), three variables on different metrics related to GPs, and two variables on supplementary vacancies for community workers and health mediators. For NUTS2 and terrain type, we conducted a gaussian regression GLM and conducted bidirectional stepwise selection applying the BIC criterion. The analyses were conducted in R v4.3.3.

Results: Based on results of the first gaussian GLM, three predictors were kept – the two variables on the supplementary vacancies needed for community health workers and one of the GP-related metric. Although all final predictors were statistically significant ($p<0.01$), the type of effect varried, with the vacancies needed for community health workers and the GP-related metric having a negative effect ($\beta = -0.049$, $\beta = -0.100$) while the vacancies needed for health mediators having a positive effect ($\beta = 0.113$). The second model kept, in addition to the variables kept in model 1, the variable on settlement type. All predictors were statistically significant, with the subcategories communes and towns, having higher negative effects ($\beta = -10.280$, $\beta = -7.585$) as compared to previous results. As in the first model, the vacancies needed for communitary health workers and the GP-related metric had negative effects on the marginalization rate ($\beta = -0.035$, $\beta = -0.069$) while the vacancies needed for health mediators a positive effect ($\beta = 0.123$).

Discussion: The results of our analyses show that marginalization rates decreased as the number of community health worker vacancies and the GP-related metric (the number of GP offices having an agreement with the District Public Health Authority) decreased as well. The marginalization rates increased as vacancies needed for Roma health mediators increased as well. Additional analyses are needed in order to account for the health status of the NUTS2 regions and settlement types in Romania, together with descriptive analyses on the current number of employed community nurses and Roma health mediators. However, our analysis underscores the importance of adequate access to health professionals in preventing marginalization in Romanian population.

Applying a ‘medical deserts’ lens to cancer care services in the North-West region of Romania from 2009 to 2022 - a mixed-methods analysis (ID 174)

Dr Monica Georgiana Brînzac[1,2,3], Mara Bumbu[1], Dr Marius Ionuț Ungureanu[1,3], Dr Cătălin Ovidiu Baba[1]
[1]Department of Public Health, Faculty of Political, Administrative, and Communication Sciences, Babeș-Bolyai University, Romania. [2]EUPHAnxt, European Public Health Association, Netherlands. [3]Center for Health Workforce Research and Policy, Faculty of Political, Administrative and Communication Sciences, Babeș-Bolyai University, Romania

Background: Medical deserts pose significant challenges to healthcare systems worldwide, leading to unmet healthcare needs and exacerbated health issues, particularly in underserved regions.

Methods: This study aims to characterise cancer care services in the North-West region of Romania through the lens of medical desertification, employing a mixed-methods approach. Quantitative analysis - descriptive statistics - of secondary data from the Activity of Healthcare Units reports from 2009 to 2022, along with qualitative data - thematic analysis - from interviews with cancer patients and healthcare professionals, were employed to uncover the current state of cancer care in Romania.

Results: The qualitative analysis highlighted the prevalence of medical deserts in oncology, with inadequate human resources, facility deficiencies, prolonged waiting times, high costs, and socio-cultural barriers hindering access to cancer care. Opportunities for action include revising treatment protocols, enhancing palliative care, implementing prevention strategies, promoting collaboration among healthcare professionals, and digitalising the healthcare system. However, challenges persist, including a shortage of oncology specialists, geographical disparities in cancer prevalence, and limited access to advanced treatment modalities in rural areas.

Conclusions: Addressing medical deserts in cancer care requires comprehensive approaches, including strategic resource allocation, workforce development, infrastructure investments, access to innovative treatments, and digital health technologies. Collaboration among policymakers, healthcare providers, and communities is crucial to mitigating medical deserts and improving cancer outcomes. Despite limitations, this study provides valuable insights into cancer care services and underscores the need for concerted efforts to overcome medical desertification and ensure equitable access to high-quality cancer care.

Connecting people, ideas, and solutions through creative visual tools: collaboration across EU countries for health workforce planning (ID 176)

Ines Kuniko Mogami[1], Ruth Baron[1], Xavier Bayona Huguet[2], Claudio Buongiorno Sottoriva[3], Linda Flinterman[1], Elize Vis[1], Prof Dr Ronald Batenburg[1]
[1]NIVEL, Netherlands. [2]Gencat, Spain. [3]CERGAS SDA Bocconi School of Management, Italy

Context: The intersection of collaboration, creativity, and problem-solving is critical in public health and demands innovative approaches (Gardiner, 2020). HEROES is a joint action with 19 European countries and 51 partner organisations collaborating to strengthen health workforce planning capacities. To collaborate effectively, support mutual learning and innovative problem-solving, creative visual tools offer a promising alternative for learning, communication and collaboration (McInnis, K., & Jacobson, R. 2017, Garcia-Retamero et al., 2012; Sorensen et al., 2019). The aim of this study is to understand to what extent creative visual tools can be used for effective collaboration, mutual learning and innovative problem solutions.

Methods: A mixed methods study will be conducted comprising (i) a survey to evaluate to what extend visuals tools were useful for the purpose of the HEROES project and (ii) semi-structured interviews (SSI) with participants who participated in the visual exercises to gain more in depth knowledge on the topic. The creative visual tools are co-created together with the experts to make them context specific. In order to understand the usability of visual tools, the Usable Innovation Framework from Blanchard et al. (2017) has been used. The survey questions are based on the relevant elements of this framework and contains multiple choice questions and questions with open answers. Data will be analysed through quantitative and qualitative methods. The closed questions of the survey will be analysed using quantitative descriptive statistics. The open answers will be analysed thematically using MaxQda.

Results: The preliminary outcomes of the survey show that the effects of creative visual tools are: (1) it improves communication, (2) it enhances collaboration, (3) it improves cognitive thinking, (4) it supports strategic planning of the project. Moreover, specific needs around the creative visual tools have been expressed. Furthermore, the results of the SSI will give more insights in understanding to what extent the creative visual tools have been useful for the participants for collaboration, improve collaborative learning, support creative thinking and innovative problem-solving in the context of HEROES and broader. In addition, future recommendations can be given on how creative visuals tools can be useful in the context of cross country collaboration to support effective collaboration, creative intelligence and for complex societal challenges that needs innovative problem-solving.

Conclusion: Conclusions of this research will give concrete tools on the points of improvement and the possibilities of creative visual tools in collaborative cross-country learning and for complex societal problem solving. This research focuses on the HEROES project in which professionals from 19 European countries are participating. At the same time the results of this research may give useful insights for other (European) projects focusing on other complex societal innovative problem solving. In addition, the results will be highly relevant since cross-country collaboration and collaboration between people with a diverse background is becoming more important.

Towards person-centred paediatric care: insights into the design, impact, and management of family rooms (ID 177)

Silvia Mitidieri, Prof Cristina Masella, Federico De Luca
Politecnico di Milano, Italy

Context: In a world increasingly focused on person-centred care, family rooms exemplify this approach in paediatric settings. Grounded in the belief that a child's well-being is closely linked to their family's well-being, these spaces allow parents to rest, spend time with their hospitalised children, and actively engage in the care process. Despite their potential, guidelines for designing and implementing family rooms remain inconsistent, and research on their impact on care continuity and professional integration is limited. Further studies are essential to validate their benefits and develop scalable models that support the shift towards person-centred paediatric care.

Methods: This research investigates the role and value of family rooms in paediatric settings, with an empirical focus on Italy. A multi-method, multi-phase approach forms the basis of the study, consisting of two main phases. The first phase establishes the theoretical foundation through a desk review of existing literature and secondary resources, analysing the current state of knowledge and identifying key characteristics and types of family rooms. The second phase, currently in progress, involves semi-structured interviews with Italian and international family room managers to gather practical insights. These include their impact on care continuity and professional integration, operational practices, challenges encountered, and strategies for overcoming them. Preliminary findings from these interviews are beginning to surface, providing valuable perspectives that will be discussed in the subsequent section.

Results: From the existing literature and secondary resources, three key outcomes were identified:

1. A classification framework for family rooms was developed based on the expected length of stay and whether the space prioritises the family or the child.
2. A list of essential design features was outlined, emphasising elements such as neutral colours, homely environments, ergonomic and flexible furniture, access to natural light, and dedicated play areas.
3. Family rooms were found to positively impact families by addressing financial, emotional, cultural, and environmental dimensions of well-being. These benefits extend to multiple stakeholders, including families, children, healthcare staff, volunteers, and volunteer organisations.

These findings align with the concept of care continuity, highlighting the importance of providing consistent, coordinated responses to patient needs over time. Interviews have confirmed these outcomes while also yielding operational insights, best practices for family room management, and preliminary results on effectively measuring their impact.

Discussion: This study provides a deeper understanding of family rooms by highlighting their pivotal role in paediatric care from both theoretical and managerial perspectives. Preliminary insights from the ongoing interviews, informed by the literature review on care continuity and professional integration, support three key dimensions as potential frameworks for evaluating the impact and efficiency of family rooms: (1) organisational model, focusing on structural collaboration; (2) integration rate, assessing the level of professional coordination; and (3) patient-perceived continuity, reflecting the quality of the care experience from the family's perspective. By demonstrating that family rooms promote interdisciplinary collaboration, strengthen professional relationships, enhance the effectiveness of care pathways, and provide emotional support to families and children, the findings highlight the importance of integrating a people-centred approach into paediatric care.

Assessment of integrated care pathways in the Campania oncology network (ID 178)

Dr Anna Crispo[1], Dr Francesco Di Carlo[1], Dr Assunta Luongo[1], Dr Giorgia Rivieccio[2], Dr Elisabetta Coppola[1], Dr Davide D'Errico[1], Dr Maria Grimaldi[1], Dr Anna Bastone[2], Dr Egidio Celentano[1], Dr Francesco Schiavone[2], Dr Antonio Maddalena[3], Dr Tiziana Spinosa[3], Dr Filomena Sibilio[4], Dr Giovanna Longobardi[5], Dr Elena Fossi[6], Dr Bruno Atorino[7], Dr Gerardo Mariano Malanga[8], Dr Bruno Marra[9], Dr Rodolfo Cangiano[9], Dr Rocco Saviano[1], Dr Maurizio Di Mauro[1], Dr Sandro Pignata[1]
[1]Istituto Nazionale Tumori IRCCS 'Fondazione G. Pascale', Italy. [2]University of Naples Parthenope, Italy. [3]Local Health Authority NA1, Italy. [4]Local Health Authority NA2, Italy. [5]Local Health Authority NA3 Sud, Italy. [6]Local Health Authority BN, Italy. [7]Local Health Authority SA, Italy. [8]Local Health Authority AV, Italy. [9]Local Health Authority CE, Italy

Introduction: Providing patients with clear, comprehensive information about their conditions, treatment plans, and potential challenges is essential for fostering education and empowerment. When patients are well-informed, they are better equipped to actively participate in their care, navigate healthcare complexities, and make confident, informed decisions about their treatment. Equally important is the adoption of multidisciplinary care teams. These collaborative teams, which include oncologists, nurses, social workers, and palliative care specialists, can significantly improve patient outcomes and patient-centered care. This patient-centered study recognizes the complexity of individual health needs and the importance of integrating various aspects of the patient's life into their care pathway from the hospital to the community.

Methods: This study uses data stored in the ROC platform. The ROC (Rete Oncologica Campana) allows overall care of cancer patients, offering them assistance by a multidisciplinary team (GOM) that, during scheduled meetings, guides patients toward diagnostic and therapeutic decisions based on an organized care pathway (PDTA). The functioning of the PDTA relies on an integrated, circular, and non-hierarchical approach that involves both healthcare providers and patients, with the ability to modify the prognosis and outcomes of certain diseases, including internal guidelines for cancer diagnosis and treatment. The study aims to measure the demand for “Territorial Continuity” and continuity of care. Mainly palliative care interventions are provided in the community for oncological patients who require integrated home care. The analysis will focus on how personalized and continuous care pathways are developed and maintained as patient needs evolve over time.

Results: Patients will be categorized into three groups: those who are directed into integrated care pathways at the time of the GOM meeting (simultaneous care), those who are directed into their integrated care pathways after the GOM has closed (late activation driven by symptoms and needs), and those who have never had a GOM (patients mostly in advanced/terminal stages) and need further care support. A growing collaboration between multidisciplinary teams (GOM) and community doctors has been observed over the past years (2021-2024), facilitating more comprehensive and personalized care. The integration of territorial services has proven essential in addressing the needs of oncology patients through the involvement of dedicated professionals. Additionally, continuous care pathways have been adapted dynamically to changes in patient needs, ensuring sustained support and personalized interventions over time.

Discussion: The transition to patient-centered care through integrated approaches offers significant benefits for both patients and healthcare systems. The ROC model aims to ensure equitable access to care for all patients in the regional territory and appropriate levels of care, regardless of access to oncology centers. By fostering active patient participation and considering the broader social context, where various parties (GOM and community doctors) can offer more effective and personalized care, the coordination between healthcare, social, and community services addresses the multifactorial nature of health, leading to more holistic and sustainable outcomes. Ultimately, placing the patient at the center of the healthcare ecosystem not only improves individual health outcomes but also contributes to cost savings for public healthcare. The continuity of care between hospital and territory is crucial for the patient’s optimal treatment over time considering their needs. At the meeting we will present the data analyzed for a total of 7,983 cancer patients registered in the platform from 2021 to 2024.

Assessing the needs of family physicians in the context of promoting and implementing the HPV vaccination in Romania (ID 179)

Mara Bumbu[1], Dr Oana Maria Blaga[1], Dr Monica Georgiana Brînzac[1,2,3]

[1]Department of Public Health, Faculty of Political, Administrative, and Communication Sciences, Babeș-Bolyai University, Romania. [2]EUPHAnxt, European Public Health Association, Netherlands. [3]Center for Health Workforce Research and Policy, Faculty of Political, Administrative and Communication Sciences, Babeș-Bolyai University, Romania

Background: The most common sexually transmitted illness is the human papillomavirus, also referred to as HPV. With more than 100 distinct types of human papillomavirus, 14 can be identified as being carcinogenic. In Romania, cervical cancer remains a significant issue, ranking second in Europe for incidence and mortality rates. The role of general practitioners in facilitating the acceptance and implementation of the HPV vaccine can be analysed by investigating the way they approach the subject of HPV. In this regard, it is crucial to assess the challenges that they encounter in the process of vaccination, but also the needs that they have to better promote the vaccine to their patients.

Methods: A qualitative study was conducted through in-depth interviews with family physicians in Romania. Phone-based interviews were utilized to gather information regarding their knowledge of HPV vaccination regulations, involvement in awareness campaigns and challenges encountered in promoting the vaccine.

Results: Thematic analysis revealed several barriers to vaccination, including lack of structured screening programs and misinformation from unreliable sources. Family physicians faced challenges related to time constraints, bureaucracy and patient hesitance influenced by the Covid-19 pandemic. Effective strategies included the necessity of enhancing public health awareness to improve perceptions and support for health policy measures.

Conclusion: Family physicians play a crucial role in the acceptance and implementation of the HPV vaccine in Romania. Addressing their needs, enhancing communication and conducting targeted public information campaigns are essential for improving vaccination rates and ultimately reducing cervical cancer incidence.

It’s (not) a match: conceptualising how identity dynamics affect collaboration between formal and informal caregivers (ID 181)

Karin Kee, Prof Henk Nies, Dr Ludo Glimmerveen
Vrije Universiteit, Netherlands

There is a growing call in research and practice for enhanced collaboration between formal and informal caregivers (EU Care Strategy, 2022; Wittenberg et al., 2018), driven in part by an increasing reliance on informal caregivers due to staff shortages in care. To this end, scholars have begun to identity facilitators of effective collaboration, highlighting the importance of clear policies and leadership emphasizing cooperation and training programs that equip formal caregivers to work collaboratively (Hengelaar et al., 2018; Skinner et al., 2021).

However, effective collaboration between formal and informal caregivers remains a significant challenge in practice. What contributes to this challenge is a mismatch in the expectations and roles that each party assigns to itself (Hengelaar et al., 2018; Wittenberg et al., 2018). Research from the field of organization sciences shows that expectations and roles are grounded in a person’s *identity* – defined as how individuals perceive themselves and their relationships with others (Pratt et al., 2006). Therefore, a deeper understanding of identity can shed light on the relational dynamics between formal and informal caregivers. In this conceptual paper, we take an initial step toward this understanding by drawing insights from the field of organization sciences to offer a nuanced perspective on how identity shapes collaboration between caregivers.

The first insight the literature on identity offers is that identity is relational, implying that formal and informal caregivers assign roles to themselves and each other (Koster & Nies, 2022). For instance, a care professional who identifies as a ‘care expert’ and believes the informal caregiver lacks the necessary knowledge about care delivery, may expect the latter to take on a more passive role. This expectation shapes how this care professional approaches decision-making and care coordination with this particular informal caregiver. However, if the informal caregiver also identifies as a ‘care expert,’ this may lead to a mismatch in expectations and roles, creating tensions and miscommunications. A second insight is that identities are dynamic and context-dependent (Pratt et al., 2006). If the situation (e.g., increasing personnel shortages, changes in the informal care network) and/or care demands shift, it may require parties to assume new roles and responsibilities. This, in turn, can affect their identity construction and, ultimately, change the dynamics of their collaboration. In other words, while identities may ‘match’ at one point in time, there can be a ‘mismatch’ at another (and vice versa), impacting the collaboration between formal and informal caregivers.

Overall, our conceptualization shows that examining collaboration through the lens of identity demonstrates that collaboration is not just about managing tasks but about understanding and navigating the identities that formal and informal caregivers bring to the table.

A scoping review of reusable personal protective equipment in hospitals: barriers, facilitators, and impacts on environment, care safety, costs, and supply chain resilience (ID 182)

Prof Nathalie Clavel
Université de Montréal, Canada. Centre de recherche du CHUM, Canada

Context: Climate change poses a significant global health challenge, with healthcare systems contributing to environmental and human health degradation. In Europe and North America, healthcare greenhouse gas (GHG) emissions account for 5 to 8% of total emissions, with hospitals as major contributors. The healthcare supply chain, including medicines and medical equipment, is responsible for 70–80% of these emissions. Disposable personal protective equipments (PPE), such as gowns, masks, and gloves, exacerbate this issue by generating plastic waste and additional GHG emissions. During the COVID-19 pandemic, disposable PPE became a major source of CO2 equivalent emissions. In response, some hospitals have transitioned to reusable PPE to reduce GHG emissions, enhance PPE quality, improve resilience to supply chain disruptions, and lower costs. Life cycle assessments show that reusable PPE, including gowns, masks, and gloves, generates less waste and produces fewer GHG emissions than single-use alternatives. Case studies suggest significant cost savings, with up to a 75% reduction per use compared to disposables. However, challenges remain, including concerns about infection risk, initial costs, and logistics for cleaning and storage. Several studies indicate that the infection control benefits of disposable PPE compared to reusable alternatives are weakly supported by scientific evidence. While reusable PPE is generally regarded as offering cost and environmental advantages without additional risks compared to disposables, there is a lack of synthesized knowledge regarding their implementation in hospitals and their impacts. This scoping review synthesizes evidence on the facilitators and barriers to implementing reusable PPE, as well as its impacts on patient and staff safety, the environment, supply chain resilience, and costs in hospitals, compared to disposable PPE.

Methods: This scoping review, initiated in September 2024 and expected to conclude by June 2025, follows the PRISMA-ScR guidelines and York's five-stage framework, which includes:

1. Identifying Relevant Studies: Based on the Consolidated Framework for Implementation Research by Laura J. Damschroder et al., the review investigates implementation processes, stakeholder roles, institutional characteristics, regulatory influences, and outcomes such as environmental, safety, economic, and supply chain impacts.
2. Inclusion Criteria: The review covers both the implementation and impacts of reusable PPE, considering all study designs—quantitative, qualitative, or mixed methods—across any timeframe, country, and language.
3. Study Selection: Comprehensive searches are conducted in databases (Medline, Embase, CINAHL, Web of Science, and Global Health) and grey literature sources. Two reviewers independently screen studies, resolving disagreements with additional referees.
4. Data Extraction: Data on study characteristics and findings is extracted using an adapted Joanna Briggs Institute form.
5. Data Synthesis: Findings are summarized narratively, with quantitative data reported descriptively and qualitative data analysed through our conceptual framework.

Anticipated Results: The project will provide a comprehensive understanding of the transition to reusable PPE, including factors that facilitate or hinder adoption and implementation, as well as the effects on patient and staff safety, economic implications, environmental impact, and supply chain resilience. This analysis will identify common barriers and best practices to facilitate the transition process.

Discussion: The results will offer insights into the transition from disposable to reusable PPE. Evidence on potential cost savings, reduced environmental footprint, and maintained infection control standards will inform targeted interventions. By addressing facilitators and barriers, this review will guide hospitals in adopting reusable PPE effectively while safeguarding patient and staff safety.

Assessing EHR idle-time and its association with physicians' subjective idle-time perception: a combined time-motion and questionnaires study (ID 183)

Dr Nevo Barel[1,2,3], Daniel Zelikman[1], Dr Ophir Freund[4,2], Prof Sharon Toker[3], Prof Gil Fire[1,2,3], Dr Yoel Angel[1,2,3]

[1]Tel-Aviv Sourasky Medical Center, Israel. [2]School of Medicine, Faculty of Medical & Health Sciences, Tel Aviv University, Israel. [3]Coller School of Management, Tel Aviv University, Israel. [4]The Institute of Pulmonary Medicine, Tel-Aviv Sourasky Medical Center, Israel

Context: Commonly used Electronic Health Records (EHR) account for up to 49% of physicians' time. Studies demonstrated an association between EHR use and physician burnout, specifically noting usability as a factor affecting burnout. One feature associated with usability is EHR Idle-Time (EIT) i.e. time spent waiting for log-in or data retrieval. However, no study assessed the objective versus subjective (perceived) EIT and the correlation between the two. Study aims: To quantify objective EIT in a public hospital and assess the association between objective and subjective EIT. Working hypotheses: (1) EIT constitutes 5% of EHR use. (2) Physicians subjectively overestimate EIT.

Methodology: A single center combined prospective questionnaires and observational time-motion study led by a multidisciplinary team. Two video cameras recorded physicians' daytime EHR use in two internal medicine departments at a 1,500-bed Israeli tertiary medical center. Each recording session lasted 4 consecutive days in each department. The recordings were retrospectively manually analyzed by two trained analysts to measure objective EIT. The cutoff for EIT minimal manual measurement was 0.5 seconds with shorter pauses documented but not timed. Physicians recorded in these departments completed daily subjective assessment of EIT, burnout and usability questionnaires. Primary outcomes were EIT proportion of total EHR use and physicians' subjective EIT assessment. Secondary outcomes include total objective EHR use duration and the number of EIT events per minute during routine EHR use.

Results: A total of 23.3 hours of EHR use, comprised of 30 recordings from 11 physicians (43% females) were collected in a total of 8 filming days (4 days per department). Median (IQR, Min; Max) duration of daily recording per physician was 43.8 minutes (21-60, 3.78; 141.39), with a median of 7.2% (5.7%-9.8%, 4%; 21%) objective EIT out of the daily EHR recorded time. EIT pauses (measured and non-measured) occurred at a median of 2.4 times per minute of work recorded (1.9-2.9, 0.88; 4.76). As for the subjective assessment of EIT, the median percentage of perceived daily EIT was 10% (5%-12%, 1%; 25%), with 46% of the participants reports overestimating their daily EIT percentage by >25% compared to their objective EIT. There was no correlation between subjective EIT assessment and daily objective EIT (r=-0.051, p=0.803) or subjective EIT assessment and the number of pauses per minute (r=-0.091, p=0.658).

Discussion: To our knowledge, this is the first study objectively assessing EIT and the first comparison with physicians' subjective evaluations. Preliminary findings suggest that substantial portion of EHR usage is EIT, possibly contributing to burnout, increased costs, and ineffective resource utilization. While this single-center study reflects a specific EHR system, EIT significant proportion observed should raise concerns for all healthcare managers. Notably, we found no correlation between objective and subjective EIT assessments, indicating that subjective evaluations may not accurately reflect EIT extent. This suggests that similar discrepancies may exist across other institutions, independent of the EHR in-use and should be considered when assessing EHR performance. Given that time is a critical resource, perceptions of time-loss may have downstream effects on experienced stress and time scarcity. Further analysis is underway to explore the relationship between EIT and burnout, aiming to identify intervention strategies and quantify necessary resources to mitigate EIT-based burnout.

Interprofessional collaboration amongst interdisciplinary integrated community care teams of older people-testing program theories of what works (ID 184)

Dr Éidín Ní Shé[1], Dr Sahar Hammoud[2], Dr Carmel Davies[2], Dr Aoife De Brún[2], Assoc. Prof Sarah Donnelly[3], Assoc. Prof Gráinne O'Donoghue[4], Marie O'Shea[2], Chloe Green[2], Helen Whitty[5], Deirdre Lang[5], Dr Graham Hughes[5], Dr Deirdre O'Donnell[2]
[1]Graduate School of HealthCare Management, RCSI, Ireland. [2]School of Nursing Midwifery and Health Systems, UCD, Ireland. [3]School of Social Policy, Social Work and Social Justice, UCD, Ireland. [4]School of Public Health, Physiotherapy and Sports Science, UCD, Ireland. [5]National Clinical Program for Older People, Health Service Executive, Ireland

Context: Internationally health systems are implementing health and social care integration models to respond to the increasing complexity of care needs in community settings (Goodwin et al., 2021; Ní Shé et al., 2020). Shaw and colleagues (2022) argue that integrated care 'in the wild' is complex, dynamic and occurring in messy environments. Interprofessional team working in the integration of older person's community health and social care has been underexplored. There is a gap in understanding how interprofessional collaboration (IPC) can be fostered, sustained and scaled up for continuing workforce development. This work reports on the testing of seven realist programme theory domains underpinning effective IPC in older person's community care integration (O'Donnell et al,.2025) within four case study sites in Ireland.

Methods: The seven programme theory areas relate to: 1. Professional identity and role awareness, 2. Information sharing and communication across boundaries of care, 3. Enabling effective operational and clinical governance, 4. Developing team competence in interprofessional collaboration, 5. Meaningful inclusion of older people and caregivers, 6. Monitoring and reviewing team performance for quality improvement and system development, 7. Capacity development and workforce planning (O'Donnell et al,.2025). The case study sites are four community specialist integrated care teams for older people which are located across Ireland and include two urban sites, one rural and one mixed urban and rural. Data collection in each site includes two waves of interviews with community specialist team members; observation of team meetings; documentary analysis of team policies and resources; quantitative measurement of outcomes and semi structured interviews with older people/family carers. This work presents on wave 1 results.

Results: Emerging findings note at the micro level the four teams are highly experienced with a strong professional identity and awareness of their own role as well as the role of other team members. At the meso level there is evidence of intra-professional networks within the wider system. There are opportunities for professional development and confidence in operational and clinical leadership at the macro level. Areas for optimising performance at the micro level include mapping processes for information flow inside and outside the team; developing a team vision mission and value statement and standardising mechanisms to capture team impact. At the meso level the need for access to hospital and primary care data, improved integration of information sharing systems and addressing supervision gaps and professional governance was highlighted. At the macro level need to address recruitment gaps, standardising contracts about working hours, expanded governance structures and developing metrics for interprofessional working were stressed.

Discussion: These emerging results for the first wave of data point to several priority actions to support future workforce development for interprofessional team working in the integration of community care. There is a need to develop an agreed reporting mechanism that will capture the impact of interprofessional team working and to create more mechanisms for disciplinary integration in care planning and service improvement. Work must focus on mapping processes for information flow into and out of the team (e.g. referral and discharge pathways) and developing infrastructure and resources for information sharing and management of care planning. Developing a team mission, vision and value statement is critical and creating formal role descriptors that are accessible to all would enhance team working. Wave two data collection will further refine these recommendations.

Assessing efficiency of hospitals in Türkiye: DEA and MTFPI analysis with COVID-19 impact (ID 186)

İlayda Güzel, Prof Serap Durukan Köse, Aysun Yaşar
Mugla Sitki Kocman University, Turkey

Context: Performance measurement is an increasingly important approach in improving the health system and ensuring accountability, providing policymakers with significant opportunities. Its importance has also grown in terms of allocating diminishing resources optimally through the implementation of appropriate policies concerning the allocation of healthcare resources.

Methods: In this study, Data Envelopment Analysis (DEA) was used to obtain the efficiency scores of group B hospitals providing secondary-level healthcare services in 49 provinces from 2018 to 2022, as well as the results related to reference sets for inefficient provinces and the variables causing inefficiency. Then, the provinces' efficiency changes over the years and their sources were determined using the Malmquist Total Factor Productivity Index (MTFPI).

Results: When DEA is applied (CCR Model), it was determined that the efficiency rates of the provinces where Group B hospitals are located are 26.5%, 32.6%, 32.6%, 18.3%, and 20.4% in 2018-2022. However, according to the BCC model, the efficiency rates are 38.7%, 42.8%, 48.9%, 30.2%, and 30.6% for the same provinces. When MTFPI is used to analyse the changes in efficiency over periods, it is observed that the ratio of provinces with improvement in total factor productivity in 2018-2022 is 65.3%, 30.6%, 91.8%, and 71.4%, respectively. The positive technological change in the third period (2020-2021) is reflected in the total factor productivity.

Discussion: It can be inferred from these findings that COVID-19 has negatively affected the efficiency of provinces in the health sector, particularly by disrupting resource allocation and operational workflows. Addressing inefficiencies such as extended waiting times and ineffective appointment systems requires a comprehensive evaluation encompassing technological integration, workforce optimization, and patient-centered care models. By employing the DEA and MTFPI methods, this study not only assessed relative technical efficiency but also highlighted actionable insights to enhance healthcare delivery in provinces with lower performance metrics. These findings could guide future policy adjustments, ensuring a more resilient and efficient healthcare system.

Improving the resilience and mental wellbeing of formal and informal carers in long-term care (ID 187)

Dr Marco Socci[1], Prof Dr Henk Nies[2,3], Dr Ludo Glimmerveen[2,3], Prof Dr Elisabeth Hanson[4]
[1]IRCCS INRCA, Italy. [2]Vrije Universiteit, Netherlands. [3]Ben Sajet Centrum, Netherlands. [4]Linnaeus University, Sweden

Introduction: One of the main challenges in long-term care (LTC) is to ensure that people with long-term conditions receive the care they need. The strong pressures on both formal and informal carers, cause a risk to their resilience and mental wellbeing. This, combined with labour market shortages and the fact that approximately eighty percent of care is provided by informal carers, causes a serious threat to care provision. The EU funded WELL CARE project aims to find, disseminate and implement supports to informal carers and LTC workers for improving their resilience, mental wellbeing, working and caring conditions.

Methods: The first steps in this 4-year project were a literature review, a guide for tailoring, implementation and evaluation of good practices, a policy review and the establishment of so-called Blended Learning Networks in the five participating countries (Germany, the Netherlands, Italy, Slovenia, Sweden). In this paper we present the findings of the systematic scientific and grey literature review, in order to find proven good practices. A search in the main scientific databases provided (after deduplication) 9,172 records, of which 8,530 were excluded by titles/abstracts examination. After full-text screening of 642 papers, 139 were included. Using similar inclusion criteria, grey literature (in English and national languages of the research partners) was retrieved through existing databases and websites. Moreover, organisations were consulted. This resulted in 103 practices to be further analysed. Teams of the five partner research organisations jointly analysed the documents according to a mutually agreed template.

Results: The scientific literature that was analysed came from sixteen European countries, often representing local or regional initiatives. Nearly two thirds of the publications (61.2%) used quantitative methods, one quarter (26.6%) employed mixed methods. Most of the research had informal carers as the primary target group (66.9%), one fifth (20.1%) LTC workers and one eighth (12.9%) both groups. Unsurprisingly, two thirds of the interventions aimed at relieving mental health/wellbeing and at resilience promotion (63.3%).

The grey literature search provided examples of practices from twenty countries, both in local urban (48.5%) and rural (41.7%) contexts, as well as regional (37.9%) and national (35.0%) contexts. The settings were much more diverse than the scientific literature showed. Again, the majority of collected practices succeed to improve mental wellbeing (92.2%) and resilience (81.6%). The most frequently mentioned challenges were poor funding (39.8%), technical/organisational problems (29.1%), shortage of qualified staff (12.9%), communication and collaboration issues (11.7%).

Discussion: The resilience and mental wellbeing among LTC workers receive relatively little attention in research or practice improvement. There are some examples addressing the partnership of both formal and informal carers in order to make caring more sustainable. The majority of papers and practice examples addressed informal carers of older people, with mental or cognitive problems and to a lesser extent people with physical impairments or chronic illnesses. This suggests that caring for people with cognitive or mental issues is the greatest acknowledged challenge. This may be in sharp contrast to how the supports for both formal and informal carers are organised.

If societies are to establish sustainable LTC, this requires serious and widely applied and well-funded strategies for implementing proven good practices, attuned to local situations and needs. For that purpose, the WELL CARE project will develop and implement models of solution prototypes into various contexts, using mechanisms that work.

Living in the shadow of the future: how Flanders' personal budget system creates temporal conflicts in disability care (ID 189)

Selien Vancaillie[1], Prof Dr Paul Gemmel[1], Prof Dr Ir Bert Meijboom[2], Prof Dr Melissa De Regge[1,3]
[1]Ghent University, Belgium. [2]Tilburg University, Netherlands. [3]Ghent University Hospital, Belgium

Context: In 2016, Flanders transitioned to a demand-driven personal budget system for disability care, replacing direct subsidies to care facilities with cash-for-care schemes. These schemes allow users to purchase services like residential care, personal assistance or transportation. Whereas 29,000 adults currently receive a budget, 18,000 remain on waiting lists due to limited governmental resources, with half of them facing projected waits exceeding 20 years. In turn, this introduces a future-oriented temporal focus, imposing individuals to persistently plan for future care needs. This study explores how budget holders experience and navigate temporal conflicts created by the modalities of the personal budget system.

Methods: The study employs an ethnographic research design which is suitable for research that dives deep into the perspectives and actions of a population subgroup. Initial data collection involved inductive analysis of 40 press releases, including news articles (n=15), opinion pieces (n=14), and testimonies/interviews (n=11). This provided a better understanding of waiting list issues from diverse perspectives and assisted with the development of interview guides for the next phase of the study. Interviews will be conducted with individuals with experience in applying for a personal budget, targeting three groups: adults with disabilities as budget holders, their relatives and professionals. We will focus on young adults who recently made the transition from high school to adult care. Observations during team meetings will complement the interviews. Data will be analysed thematically using an abductive approach in NVivo. The study is grounded in the theories of intersubjective time and the temporal cognitive-affective processing system.

Results: Minors that use professional care are automatically granted a personal budget when they become adults, to ensure care continuity. For additional care needs, they need to apply for a budget increase. Subsequently, they are assigned to priority groups based on care needs, informal care network, and the discrepancy between required and available support. Priority groups encompass waiting times and create temporal conflicts as well as anticipatory behaviours.

For example, think of Charlotte, a 22-year-old woman with Down syndrome. In high school, she stayed in her school's residential care facility during the week despite her parents' ability and willingness to care for her at night. This ensured her automatic budget allocation for adult residential care, bypassing the waiting list. While this decision safeguarded her budget for future needs, it caused temporal conflicts between Charlotte and her parents in the past and negatively impacted their well-being.

Discussion: The transition to a demand-driven personal budget system in Flanders has reshaped disability care by emphasizing individual agency. However, the findings reveal systemic challenges, particularly the prolonged waiting lists affecting 18,000 individuals and their families. These delays create a complex temporal dynamic, forcing budget holders and their relatives into an ongoing future-oriented planning, often at the expense of present well-being. The temporal preoccupation provoked as such has profound implications for how care is managed, anticipated, and experienced.

The formal prioritization framework leads to unwanted side effects, such as penalizing informal care and compelling decisions that contradict the principles of disability inclusion. This complex temporal dynamic generates intersubjective temporal conflicts, where systemic delays clash with immediate care needs, reducing flexibility for families and overburdening caregivers. Moreover, this way of acting contributes to inefficiencies and the misallocation of public resources, undermining the system's overall effectiveness.

Value destruction associated to digital healthcare platforms (ID 190)

Juan Lopez
Université de Montpellier, France

Context: Digital health platforms have revolutionized healthcare by aiming to enhance patient outcomes, increase efficiency, and foster collaboration (Porter & Lee, 2013). However, their integration often generates paradoxical effects, simultaneously creating and destroying value (Lehtonen et al., 2022). Notable challenges include emotional disconnection, inequities, and increased complexity, which can undermine the benefits (Rivière et al., 2024). Emerging research on value destruction in digital health platforms aligns with the growing emphasis in value theories on shifting the analytical focus from value creation to value destruction (Laud, 2016). Highlighting the importance of understanding the negative impacts on stakeholders, allowing them to better estimate strategies to mitigate these effects (Harrison & Wicks, 2021). In this context, the present study seeks to explore a critical question: How do digital health platforms destroy value for stakeholders?

Methods: We conducted a systematic review of qualitative case studies on value destruction associated to digital health platforms using the ScienceDirect database. To ensure methodological rigor, we included only articles published in peer-reviewed journals. Our search employed targeted keywords such as "unintended," "negative," "adverse effects," and "digital health platforms." This resulted in a final sample of 48 articles, each providing qualitative insights into value destruction. Using a management-derived framework, we categorized value destruction into four domains: Unethical Practices, Misuse, Overload, and Financial Issues. We further analysed affected stakeholders, including Patients, Healthcare Professionals, Healthcare Systems, and Societal Impacts. By systematically coding and analysing these dimensions, our approach offers a comprehensive examination of value destruction, highlighting its diverse mechanisms and affected parties.

Results: Three pivotal findings emerged:
1. An additional category, "Miscommunication," was identified, highlighting a distinct aspect of digital health platforms. These platforms are facilitate the contact. However, has inadvertently led to value destruction, underscoring the importance of further investigation of digital interactions to mitigate potential adverse outcomes.
2. Emergence of the Family's Role in Digital Health Platforms. Our analysis revealed the increasing significance of the family, suggesting a transition from the traditional one-on-one model to a "one-on-one plus family" approach. Including families in the design and operational processes of digital health platforms can address value destruction by incorporating the needs and dynamics of all relevant stakeholders, enhancing the platforms' effectiveness and inclusivity.
3. Overload Affects Both Sides of the Platform. Building on existing categories of value destruction, our findings introduce a novel perspective on overload. Unlike prior studies, which focused on a single side, we found that overload impacts both: patients and healthcare professionals. This dual-sided effect necessitates comprehensive management strategies that balance workloads and information flows to prevent value destruction across the ecosystem.

Discussion: This study contributes to the growing understanding of value destruction in digital health platforms by identifying and analysing unique mechanisms and stakeholder interactions. Its novelty is to identify specific platform characteristics that generate downside and confirm that platform value destruction is a research object by itself. Additionally, this study initiates a critical discussion, emphasizing that value destruction is not inherently attributable to the platforms themselves but rather to the interactions and participation of the stakeholders involved. In the context of health systems, these interactions create an influential dynamic where value can be both constructed and eroded. This perspective offers valuable insights for researchers and practitioners striving to enhance platform efficiency while ensuring reliable and safe health outcomes for all stakeholders.

A methodological framework for developing and evaluating programs fostering practice change tailored to their implementation context: ORANEAT antimicrobial stewardship program in French nursing homes (ID 192)

Prof Nelly Agrinier[1,2], Dr Laetitia Ricci[2,1], Dr Catherine Dumartin[3], Dr Aurélie Bocquier[1], Dr Gabriel Birgand[4], Dr Patrick Castel[5]
[1]Université de Lorraine, Inserm, INSPIIRE, France. [2]CHRU Nancy, Université de Lorraine, Inserm, CIC, Epidemiologie clinique, France. [3]Inserm, Université de Bordeaux, Bordeaux Population Health, France. [4]CHU Nantes, Regional Centre for IPC (CPias) Pays de la Loire, France. [5]CNRS, Sciences politiques Paris, Centre de sociologie des organisations, France

Context: To tackle antimicrobial resistance (AMR), i.e., one of the top 10 global health threats, antimicrobial stewardship (AMS) programs, i.e., coherent sets of actions promoting responsible use of antimicrobials, have been developed. Despite growing evidence about their effectiveness, their implementation remains suboptimal. Qualifying as complex interventions, these programs are prone to interactions with context, potentially compromising their successful transfer to other settings. Accordingly, we should pay specific attention to context-tailoring in their development and evaluation. While epidemiology and infectious disease expertise are essential for developing and evaluating AMS programs, social sciences are of particular interest for unravelling organizational and psychosocial factors driving antibiotic use to further develop interventions fostering practice changes. We aimed to develop a methodological framework for the development and evaluation of AMS programs tailored to their implementation context.

Methods: Based on an interdisciplinary approach, we propose a new methodological framework for the development and evaluation of AMS programs including three key components: (i) Elaboration of a conceptual framework of the organizational and psychosocial context underpinning antibiotic use; (ii) Development of an AMS program suited to this context and customizable to specific needs, including three major components (a contextual AMS diagnostic, a bundle of coherent AMS actions tailored to the diagnostic results, and implementation support); and (iii) Evaluation of the resulting AMS program.

Results: We are currently applying this methodological framework to a setting particularly prone to AMR and less susceptible to effective AMS implementation, i.e., nursing homes (NHs). AMR remains critical in French NHs. AMS programs have proven effective in reducing AMR in hospitals and in NHs. However, the evidence is inconsistent across studies in NHs and mostly based on North American and North European studies. Whether these findings hold in other settings, such as French NHs, remains unknown. To untangle this transferability issue, it is important to first understand the psychosocial and organizational determinants of antibiotic use in French NHs, and second to develop and evaluate an AMS program suited to French NH setting. The ORANEAT project (2021-2027) aims to: (i) Comprehensively understand health professionals' attitudes driving antibiotic use and AMS natural implementation in French NHs in order to identify opportunities for AMS structured programs in such settings; (ii) Develop a multifaceted AMS program customizable to the concerned NH context regarding AMS and suited to French NHs' setting; (iii) Assess the effectiveness, the sustainability, the implementation, and the transferability of such a program in French NHs.

Discussion: Once applied to French NHs, the aforementioned methodological framework will provide new insights in tackling AMR through (i) a conceptual framework underpinning psychosocial and organizational factors driving antibiotic use in French NHs; (ii) an AMS program relying on capacity building and consisting of a contextual diagnostic tool on NH AMS, and an AMS toolbox and implementation support tailored to the contextual diagnostic; and (iii) evidence of effectiveness, sustainability, transferability, and scalability of this AMS program. ORANEAT relies on an innovative interdisciplinary approach that provides a methodological framework for the development and evaluation of programs fostering practice change and customizable to their implementation context.

ORANEAT has received government funding by *Agence Nationale de la Recherche - Programme d'Investissements d'Avenir*, reference ANR-20-PAMR-0008.

Advancing equity in hereditary transthyretin amyloidosis management: insights from the CARDINAL study using sociodemographic and geospatial data (ID 193)

Carolina Ferraz[1], Rui Cortes[1,2], Pedro Miranda[1], Prof Catarina Campos[3], Dr Diogo Pereira[4], Dr Isabel Conceição[3], Prof Teresa Coelho[4], Dr Marisa Pardal[5], Dr Margarida Lopes[5], Dr Filipa Bernardo[5]
[1]Lean Health Portugal, Portugal. [2]Escola Nacional de Saúde Pública, Portugal. [3]ULS Sta Maria, Portugal. [4]ULS St António, Portugal. [5]Astrazeneca, Portugal

Context: Hereditary Transthyretin Amyloidosis (ATTRv) is estimated to affect 10,000 patients worldwide[1], with endemic foci in different countries, including Portugal. A national study published in 2018 estimated that 1,865 individuals are affected by the disease in Portugal[2]. Prompt disease diagnosis is crucial since available therapies do not revert already established organ dysfunction but rather prevent further progression. As a multisystemic disease, ATTRv presents with a wide range of clinical manifestations and variable age of onset. This heterogeneity often contributes to diagnostic delays. In Portugal the most prevalent variant is V30M early onset affecting individuals mostly in their 3rd decade of life[2].

Methods: The main aim of this study is to describe the sociodemographic characteristics of patients with ATTRv followed at both reference centers (CoEs) in Oporto and Lisbon, focusing on factors with potential impact on healthcare access and disease management. CARDINAL is a multicentric retrospective cohort study involving adult patients with identified TTR protein mutations who attended one or more appointments at CoEs between 2011 and 2023. Sociodemographic and clinical data was extracted from electronic health records and most recent residence data was used to determine individuals' geographic distribution. Geographic Information Systems (GIS) were employed to spatialize patient data, identifying sociodemographic determinants such as economic status, education level, and unemployment rates. An interactive dashboard was developed for each CoE to visualize geospatial data, supporting tailored management strategies.

Results: As of 31-12-2023, 2321 living individuals with confirmed TTR mutation were identified, 53.5% female, mean (SD) age of 49.2 (14.1) years. Preliminary results for the North CoE, encompassing 1724 individuals with national residence, revealed significant geographic dispersion (Figure 1A). Through the interactive dashboard, a high variability in educational level, unemployment rates and purchasing power per capita was found in the municipalities with TRR mutation hot spots (Figure 1 B-D). Ongoing analysis will be enriched by healthcare resource utilization data and include the South CoE. Data from GIS analyses has the potential to identify variations in healthcare resource utilization, including unnecessary hospital visits, which contribute to inefficiencies and increased carbon emissions.

Discussion: The CARDINAL study can demonstrate the utility of integrating sociodemographic and geospatial data into clinical workflows to address challenges in ATTRv management. Through the identification of disparities in healthcare access and resource utilization, the study will provide actionable insights for targeted interventions to reduce diagnostic delays and enhance equity in healthcare. The use of GIS and interactive dashboards fosters a multidisciplinary approach, supporting clinicians in decision-making and contributing to the sustainability of healthcare systems. Additionally, the findings emphasize the broader implications of disease management on social and environmental dimensions, such as carbon footprint reduction through optimized care pathways. Future research should explore the scalability of this approach to other regions and conditions, ensuring that all patients receive timely and equitable care.

Exploring oncology care pathways for multimorbid older adults: insights from the IMPLEMENT study across five European countries (ID 194)

Prof Lucia Ferrara[1], Dr Vittoria Ardito[1], Dr Alessandro Furnari[1], Prof Alberto Ricci[1], Dr Carla Rognoni[1], Prof Valeria Tozzi[1], Dr Marije Hamaker[2], Dr Hans Wildiers[3], Dr Bridget O'Sullivan[4], Prof Anthony Staines[4], Dr Vincent Thevenet[5], Prof Pierre Soubeyran[5], Prof Rosanna Tarricone[1]

[1]Cergas SDA Bocconi, Bocconi University, Italy. [2]Diakonessenhuis, Netherlands. [3]University Hospitals Leuven, Belgium. [4]Dublin City University, Ireland. [5]University Bordeaux, France

Context: With the aging population, multimorbidity has become increasingly widespread. Among individuals aged 65–84, 65% are affected, a figure that rises to 81% for those aged 85 and older. Multimorbidity significantly impacts patients' quality of life, increasing disease burden, worsening health outcomes, and raising the risk of premature mortality. However, healthcare systems, which are predominantly structured around single-disease paradigms, fail to address the intricate needs of these patients, leading to fragmented care and escalated costs. Integrated, person-centred care has shown potential benefits for multimorbid populations, yet implementing and evaluating such care models remains complex. Cancer, often co-occurring with other conditions, provides a compelling case study for developing integrated care pathways. While multidisciplinary management is already a cornerstone of cancer treatment, care pathways differ substantially across Europe. This study aims to answer two critical questions: What care pathways exist for multimorbid cancer patients in Europe? And what factors drive the costs of managing these patients?

Methods: The IMPLEMENT study offers an in-depth analysis of oncology care pathways for older multimorbid patients across five European countries (Belgium, France, Ireland, Italy and the Netherlands), considering clinical, organizational, economic, and implementation perspectives. Utilizing a mixed-methods, observational cross-sectional study design, we systematically examine clinical sites in diverse settings. Data collection methods include surveys, interviews and focus groups to ensure a holistic understanding of the processes, practices, and challenges faced by healthcare stakeholders. These stakeholders include oncologists, geriatricians, advanced practice nurses, and data managers. By integrating qualitative and quantitative data, the study captures insights into the organization of care, resource allocation, and factors influencing outcomes. This work is part of the GERONTE Project, a five-year initiative under the European Union's Horizon 2020 Research and Innovation program, which seeks to improve quality of life for older multimorbid patients while reducing care costs.

Results: Preliminary findings from interviews confirm the hypothesis of significant variability in resource utilization and associated costs among participating sites. The organizational context profoundly influences care delivery, with three key factors identified: (a) the scope of services offered within each care pathway, (b) the collaborative relationships and access to specialist expertise among healthcare professionals, and (c) the integration tools available for coordinating care across different stages.

Discussion: The study highlights the diversity of cancer care pathways across five European countries and provides actionable insights for transitioning from fragmented to integrated care models. These findings contribute to evidence-based practices, guiding efforts to enhance efficiency, equity, and quality of care for multimorbid patients.

The Territorial Hospital Group, a meta-organisation transforming healthcare supply chain professions (ID 200)

Olivier Gerolimon
EHESP, France. Aix Marseille Université, France

The Territorial Hospital Groups (GHT) were introduced by Law No. 2016-41 on the modernization of our health system. It is a legal mechanism that makes cooperation between several public health institutions within the same territory mandatory without there being any question of a legal merger between these entities. In the context of this research, our problem is based on the study of the impact exerted by GHTs on supply chain and purchasing professions, from a supply chain management perspective. Our objective is more precisely to describe and analyse potential impact factors of the GHT meta-organization and their effects on the individual professions of three of the main actors in the internal supply chain in public health institutions: the managers of the pharmacy, purchasing/logistics and transport departments. The contribution envisaged is a contribution to the tools for evaluating the effects of the GHT reform on hospital organizations and their professions.

Patient-related effectiveness of quality management measures in inpatient medical rehabilitation - A systematic review in search of evidence (ID 201)

Prof Dr Guido Offermanns[1,2], Verena Graf-Pisjak[2]
[1]Karl Landsteiner Institute for Hospital Organization, Austria. [2]University of Klagenfurt, Austria

Context: The study investigates the effectiveness of interdisciplinary interventions in medical rehabilitation, with a specific focus on teamwork and the functional outcomes of patients. It aims to provide a comprehensive overview of current research approaches while highlighting the critical role of quality management measures in inpatient rehabilitation settings. The complexity of the term "quality" in healthcare is addressed by analysing various studies, aiming to identify future research directions and opportunities for enhancing patient care. The Systematic Review seeks to contribute to a better understanding of how interdisciplinary collaboration can improve rehabilitation outcomes and overall healthcare quality for diverse patient populations.

Methods: The methodology follows a systematic literature research process by the PRISMA guidelines. A comprehensive search was conducted in Pubmed, Embase/Science Direct and Cochrane, resulting in 4.263 hits after deduplication, organized using an Excel spreadsheet within a self-created form. The selection process included screening titles and abstracts, followed by a full-text review to determine the relevance of the studies to the research question, Data extraction focused on key variables, including intervention types, outcomes and quality management measures. Exclusion criteria included the requirement that studies be published within the last ten years, be available in English or German, and include randomized controlled trials to ensure high quality standards. Furthermore, studies were excluded if they lacked quality management measures or if they did not provide sufficient details about their framework conditions or the characteristics of the participants. Ultimately, eight studies remained for the detailed selection, precisely because of the extremely strict quality selection

Results: The rigorous evaluations showed that eight studies could be included in the analysis, with a focus on the effectiveness of interdisciplinary interventions in rehabilitation. Significant improvements were observed in patient participation in goal setting, subjective assessment of goal-related aspects, and overall satisfaction with rehabilitation agreements. The analysis revealed variability in the frequency of outcome measurements; most studies conducted only one pre-measurement and limited post-measurements, which may introduce potential biases in the findings. Furthermore, the importance of the interaction between patient and provider is emphasized, with the active participation of the patient in their treatment considered crucial to successful rehabilitation outcomes. The results suggest that interdisciplinary teamwork positively influences rehabilitation results and enhances the quality of patient care in rehabilitation settings. These findings provide valuable insights into the effectiveness of quality management measures and highlight the need for further research to explore the long-term impacts of patient engagement in rehabilitation processes

Discussion: It is recognized that while significant improvements have been noted, the variability in the frequency of measurement and the reliance on subjective ratings may limit the robustness of conclusions. The limitations are that the review was conducted by only two researchers, which could have led to bias, particularly in the review of titles and abstracts. A deliberately strict approach was taken to selecting studies to uncover the actual evidence relating to the research question. Furthermore, the exclusion of studies not published in English or German and the restriction to certain databases resulted in a more limited perspective on the available literature. The authors recommend that future research should include a wider range of studies and multiple reviewers to increase objectivity and reduce possible bias. Overall, the findings and limitations emphasize the need for continued research into effective rehabilitation practices and the importance of diverse perspectives in research.

202 Social and territorial inequalities in the management of multiple sclerosis (ID 202)

Marie Mainguy[1], Dr Cécile Donzé[2], Dr Emmanuelle Leray[1]
[1]Univ Rennes, EHESP, CNRS, Inserm, ARENES UMR 6051, RSMS U 1309, France. [2]Department of neuro-rehabilitation; Groupement des Hôpitaux de l'Institut Catholique de Lille, Faculté de médecine, maïeutique et santé sociale de Lille; ETHIC EA 7646, France

Context: Health inequalities, due to complex multifactorial determinants accumulated over the lifetime, are widely observed in France and around the world. These disparities have an impact on all areas of health, including chronic diseases such as multiple sclerosis. Reducing such inequalities and promoting social justice are key priorities for French healthcare policies. The present study aims to investigate territorial and social disparities in the healthcare management of multiple sclerosis, particularly in access to locomotor rehabilitation care and use of disease-modifying therapies (DMTs).

Methods: People with Multiple Sclerosis (PwMS) were identified in the French national health insurance database (covering 99% of the national population) using a three-criteria algorithm: MS-specific long-term disease status, MS-related hospitalizations, and reimbursements for MS-specific drugs, from 2012 to 2021. In 2022, rehabilitation care for locomotor disorders was analyzed using selected codes for outpatient and inpatient care in public and private hospitals, as well as the use of antispastic drugs. Notably we assessed hospital admissions for medical and rehabilitation care (MRC), consultations with a physiotherapist, and the use of botulinum toxin and baclofen. Disease-modifying treatments in 2022 were also assessed using specific codes for outpatient and inpatient drug deliveries.

Results: Overall, 134,062 PwMS were included (71.8% of women, mean±SD age in 2022: 53.6±14.8 years). Of them, 11,904 (8.9%) had at least one MRC hospital admission (n=20,893), with a median length of stay of 27 days (IQR[14-44]); 67.4% (n=14,079) were 1-day hospitalizations. About 40% of PwMS (n=52,700) had at least one physiotherapist visit, with a mean number of 58.2±53.1 visits in the year. Antispastic drug (baclofen and botulinum toxin) were received by 17,544 (13.1%). Subgroup analyses showed that rehabilitation care use increased with age and disease duration. Baclofen was more frequently used before age 60 than after. Men had more MRC hospital admission and botulinum toxin use, while women had more physiotherapy visits and baclofen use. Regarding DMTs, 63,552 patients (48.1%) received at least one treatment. Among treated patients, moderate efficacy treatments (56.1%) were more common than high-efficacy treatments (43.9%). Anti-CD20 therapies were the most frequent (20.1%;n=14,178), followed by teriflunomide (16.6%;n=11,683).

Discussion: Further work will provide insights about the management of medical and rehabilitation care in PwMS, as well as the therapeutic practices. In particular, we will assess whether there are geographical disparities in France, in order to inform and potentially advise decision-makers and health care providers. Analysis of DMT use and healthcare resource allocation in different regions can help identify gaps in care, supporting the development of policies and practices that ensure equitable access to care for people living with multiple sclerosis.

Ukrainian refugees and the phenomenon of *'homebound medical tourism'*: structural insights into healthcare resilience, consumer behaviour, and patient mobility in crisis contexts (ID 204)

Dr Olena Chernenko
Medcapitalgroup, Ukraine

Context: Since the onset of the full-scale war in Ukraine, over 8 million Ukrainians have fled abroad, with 4.9 million still residing in host countries as of early 2025. Many have developed a cyclical pattern of travel back to Ukraine for medical care, which may be termed as *"homebound medical tourism."* This phenomenon highlights challenges of accessibility, affordability, and continuity of care, as well as systemic differences between Ukrainian and host-country healthcare systems. It offers a valuable foundation for exploring healthcare functionality, patient motivations, and the resilience of healthcare systems in crisis.

Research Problem: "Homebound medical tourism" underscores systemic challenges in healthcare management and policies. Key drivers include:

- Long wait times and limited access to specialized outpatient care in host countries, especially for those vast majority without private insurance.
- Language and cultural barriers complicating access and navigation.
- Ukraine's faster, patient-centred outpatient services offering diagnostics and minor procedures.
- Lack of continuity in managing chronic illnesses and relapses between Ukrainian and European healthcare systems.

This phenomenon reveals a misalignment between patient expectations and healthcare system structures, resource allocation, and operational logic, providing opportunities to enhance system adaptability and better understand patient behaviour.

Study Objectives:

- Analyse structural drivers of "homebound medical tourism" among Ukrainian refugees.
- Evaluate patient satisfaction with host-country versus Ukrainian healthcare, focusing on perceived barriers like accessibility and cultural alignment.
- Conduct a comprehensive analysis of the structural drivers behind "homebound medical tourism" among Ukrainian refugees, with a specific focus on identifying the most in-demand types of medical services and specialties that drive patients to return to Ukraine for treatment, as well as the systemic factors influencing these preferences.
- Propose frameworks to improve healthcare accessibility and cross-border collaboration in crisis contexts.

Methodology: Ongoing exploratory study, concluding by May 2025, uses a mixed-methods approach:

- **Literature Review:** Policy documents, healthcare performance reports, and studies on patient mobility.
- **Surveys and Interviews:** Surveys with 50 Ukrainian refugees across 6–8 European countries (e.g., Germany, Poland, France) and 20 interviews with healthcare professionals in Ukraine and host countries.
- **Case Studies:** Comparative analysis of healthcare access and delivery in Ukraine and host countries.
- **Data Triangulation:** Integrating findings to identify patterns and ensure robust conclusions.

Expected Findings: Preliminary insights suggest systemic factors, including long wait times, limited specialized care, language barriers, and lack of continuity, drive Ukrainian refugees to seek care in Ukraine. Ukraine's developed private healthcare sector, offering rapid specialist access, preventive care packages, and high service quality, contrasts with more regimented host-country systems. Language and cultural familiarity further influence patient preferences.

Potential Contributions:

- **For Host Countries:** Provide insights to optimize healthcare services for refugee populations by addressing barriers such as accessibility, cultural and communication gaps, ensuring more effective integration of displaced individuals into national healthcare systems.
- **For Ukraine:** Provide conclusions for the subsequent reform of the healthcare system, taking into account phenomena revealed during the crisis.
- **For Global Health:** Offer frameworks to bolster healthcare system resilience and adaptability during large-scale migrations, addressing the complex demands of cross-border patient mobility.

Conclusion: This study aims to deepen the understanding of patient mobility patterns and inform strategies to enhance the competitiveness and accessibility of healthcare systems within an increasingly interconnected world. This research emphasizes culturally competent, patient-centred strategies for managing cross-border mobility during crises, offering actionable solutions to improve health equity, patient satisfaction, and system resilience.

An exacerbation of chronic obstructive pulmonary disease (COPD) is a sign of danger (ID 205)

Anna -Maria Hiltunen[1], Adjunct Prof Riikka-Leena Leskelä[1], Lalli Nurmi[1], Saana Saltevo, MD[2], Adjunct Prof Terttu Harju, MD[2]
[1]Nordic Healthcare Group, Finland. [2]Pohde, Finland

Context: Chronic obstructive pulmonary disease (COPD) is one of the leading causes of disability and mortality worldwide. An exacerbation of COPD is a marker of poor prognosis. The life expectancy of a patient with COPD following the first hospitalization due to a COPD exacerbation is short. Depending on the number of comorbidities, survival ranges between 1.1 and 2.4 years.

Methods: In this retrospective study, we investigated the comorbidities, emergency care visits, hospital utilization, and costs of COPD patients treated in the emergency department at Oulu University Hospital (OYS) between 2019 and 2022. We had registry data from OYS emergency visits and inpatient episodes focused on adult patients with a primary ICD-10 diagnosis of J44. Costs were calculated using the service pricing catalog.

Results: A total of 589 patients were treated in the OYS emergency department for J44, with an average age of 69.8 years, and 59.2% were male. Common additional diagnoses included R06, J18, I50, and I10, each affecting over 20% of patients. During the study, patients had 1,057 J44-coded emergency visits and 6,214 visits for all reasons, with 37 inpatient episodes related to J44 and 693 episodes for all causes.

On average, patients had 1.8 J44 visits and 10.6 total visits during follow-up period. Annually, J44-related visits and inpatient episodes cost approximately €111,000 (€188 per patient), while total visits and episodes exceeded €1 million (€1,768 per patient). Costs for the top 10–20% of patients were significantly higher.

Median annual costs rose 77%, from €360.9 before the first J44-coded visit to €637.2 after seven days after the event.

Discussion: COPD poses a significant burden on healthcare systems. The costs associated with healthcare utilization following the first COPD exacerbation requiring emergency care were significantly higher compared to costs before the event.

COPD exacerbations can lead to a cycle of hospitalizations and increase costs. Effective management of COPD exacerbations is best achieved through proper baseline treatment and self-management. COPD treatment guidelines are key to preventing future exacerbations.

A COPD exacerbation is a warning sign—not only from a clinical perspective but also in terms of service utilization and costs. Proactive management is essential to reduce the human and economic impact of these events.

The experience of family caregivers along the palliative care pathway: a qualitative case study (ID 206)

Dr Marzia Cettina Severino, Dr Sabina De Rosis
Scuola Superiore Sant'Anna, Italy

Palliative care plays a crucial role in ensuring quality and continuity of care for patients with advanced chronic conditions in the context of growing demographic and social complexity. Family caregivers are essential in this process, providing assistance and ensuring the patient remains in their social environment. Despite their critical contributions to welfare systems in many countries, caregivers' roles and needs often remain under-recognized in both policies and care pathways. Limited literature explores caregivers' experiences and needs in care pathways. Identified key dimensions include psycho-physical, social-relational, and environmental aspects. However, existing tools often assess only some dimensions, leading to incomplete and inconsistently validated instruments across care settings. The objective of this study is to investigate the experience of family caregivers throughout the palliative care pathway using a multidimensional approach.

This study, conducted by the Management and Healthcare Laboratory of the Scuola Superiore Sant'Anna in collaboration with the Palliative Care Service of Livorno, is part of a multi-phase research project. Phase 3, presented here, builds on earlier phases: development of a multidimensional framework and Delphi study involving both professionals and caregivers to validate the framework. An online questionnaire assessed the priority of dimensions, identifying similarities and differences between the two groups. This phase explored the experiences of family caregivers using the most prioritized dimensions. Data collection involved two focus groups with bereaved family caregivers recruited by professionals from the Palliative Care Service. Purposive sampling ensured diversity regarding relationship to the patient, type of illness, gender, age, and care context. Two psychologists facilitated the focus groups, an observer documented relational and non-verbal dynamics. Discussions were audio-recorded with informed consent, transcribed, and analysed thematically using NVivo software.

The findings revealed caregivers experience complex and evolving challenges, with needs changing throughout the care journey, depending on disease progression and care settings. Caregiving responsibilities progressively intensify across different stages. As the illness advances, caregivers experience increasing burdens due to worsening symptoms and the rising complexity of daily care management, necessitating constant adjustments. Home care allows patients to remain in familiar environment but increases physical and emotional strain. Without adequate training, caregivers may undertake nursing like tasks, leading to anxiety and fear of errors in managing symptoms and administering medications. Hospice offers professional support, reducing physical burden but often provoking feelings of guilt due to perceived emotional detachment from the loved one. Caregivers experience fluctuating emotions, fear linked to disease progression and difficult decisions such as palliative sedation, guilt when choosing hospice care or feeling insufficient in-home care roles, helplessness due to the irreversible nature of the disease and the inability to alleviate the patient’s suffering. Those who received clear guidance and continuous support reported greater confidence in care management and a reduced emotional burden. However, practices of defensive medicine often created confusion, particularly regarding the access of palliative care services.

The findings underscore the necessity of an integrated approach that addresses both patient and family caregiver needs, aligning with the shift towards person-centred healthcare systems. Enhancing palliative care quality requires the development of multidimensional assessment tools that encompass the full spectrum of caregiving experiences. The initial phases of our research developed a static framework highlighting various dimensions of caregiver experience. However, fieldwork revealed that these dimensions, when viewed dynamically throughout the care journey, hold varying significance and require specific, step-by-step integrations.

Mymobility smartphone-based care management platform's application upon knee replacement rehabilitative pathway.(ID 207)

Dr Erica Albizzati, Dr Claudio Trotti, Maria Beatrice Pagani
Centro Ortopedico di Quadrante, Italy

Context: In recent years, new technologies are offering new healthcare and rehabilitation approaches: some virtual platforms have proven to be effective tools to support patients' recovery pathway (Rossi S.M.P. et al., 2024). Mymobility is the patient care management platform used at COQ in collaboration with Zimmer Biomet to keep the patient informed and connected with the Care Team. It complements the care the knee patient receives and it is available both as an app (selected Apple or Android Devices) or web app. Through this tool (driving digital innovation) the patient receives support/prehabilitation, feels connected and cared for, reduces his/her anxiety and is motivated to achieve specific recovery goals.

Methods: A cluster of selected patients was divided into two samples: knee replacement patients and knee replacement robotic patients. Daily the patient receives relevant information, watches the instructional video, selects each of the exercises the physiotherapist assigned and does them as instructed, notes the repetitions assigned, indicates how many repetitions can do and answers the questions about difficulty and pain. All the ratings are registered in the app and produce a summary of patient progress in different fields (e.g. education, surveys, assessments, exercises) and statistics. Day tracker reminding the patient which day of their surgical journey this is and as additional support the patient can use the chat function to communicate any problem to the Care Team. Moreover, the surgeon can view on the care team's dedicated platform the data of the knee replacement surgery, performed with Rosa Knee robot (for example, knee varus and valgus' degrees). Surgery data can be matched with all other patient statistics.

Results: The total number of mymobility users at COQ is 447, specifically 243 actives (91 robotic patients with 72,2 average age, 152 non-robotic patients with 69,2 average age), 66 registered and 138 discharged. Active COQ patients are around 79%, higher than the European average Zimmer's patients (67%). Active patients allow the hospital both to retrieve various metrics (e.g. steps, difficulty or pain) that can be used for clinical evaluations, and to provide added value to patients, making them feel supported in their pre- and post-operative course.

Discussion: The patient survey results in a high level of satisfaction in terms of user-friendly apps, easy registration methods, education and communication. The use of cutting-edge technology enables:

- Data & Insights gathering for process standardization and reproducibility to avoid variation and improve pre and post-surgical outcomes;
- Procedures streamlining and efficiency increase;
- Seamless connection to the Patient.

The positive experience on patients undergoing knee replacement suggests the possibility of extending the use of mymobility platform to other pathologies, such as total hip or shoulder replacement.

Navigating healthcare transformation: leadership and change management in Italy's national health service (ID 208)

Prof Lucia Ferrara, Prof Alberto Ricci, Prof Giovanni Fosti, Prof Valeria Tozzi
Cergas SDA Bocconi, Bocconi University, Italy

Context: Healthcare systems worldwide are grappling with the challenge of ensuring equitable access to services, delivering better care quality, and achieving improved health outcomes. In Italy, the National Health Service (SSN) is undergoing extensive institutional, operational, and technological transformations, spurred by nearly €16 billion in funding under the Next Generation EU plan. At the institutional level, mergers between Hospital Trusts ("Aziende ospedaliere", AO) and Local Health Authorities (LHA/ASL, Aziende Sanitarie Locali) are restructuring organizational dynamics. Operationally, recent reforms, especially those introduced by Italy's Next Generation EU plan, are completely transforming territorial healthcare services organization. At the technological level, innovations like telemedicine are impacting information systems and healthcare delivery methods. All these changes are reshaping organizational dynamics and healthcare delivery and introduce tension between specialized hospital units and territorial healthcare services generating considerable pressure on top management of public health organizations, underscoring the importance of effective change management.

Methodology: This study investigates how established change management models, such as Kotter's 8-step model[1] and Lewin's 3-stage model [2], and leadership models such as Cameron[3] model for making sense of change management can together provide insights into the healthcare sector. Our study centers on the distinctive case of the LHA and University Hospital of Ferrara (Italy) which exemplifies the multifaceted evolution of healthcare organizations. This case study explores how institutional, operational, and technological changes are managed under a single leadership, contributing novel insights into the interplay between healthcare leadership and change management. The study addresses two questions:

1. How can ongoing, multi-faceted change processes in healthcare organizations be conceptualized amidst institutional, operational and technological transformations?
2. How can these changes be represented with a focus on the employed leadership model?

A qualitative case study approach was employed to explore factors that facilitate or hinder change. The methodology included: reviewing 58 organizational documents to contextualize reforms; conducting 50 semi-structured interviews with stakeholders, analyzed using NVIVO for semantic insights; hosting two focus groups to validate findings and refine analyses; and organizing a final workshop to present and discuss conclusions with stakeholders.

Results: The findings reveal that the LHA and University Hospital of Ferrara exemplify a unified vision for healthcare transformation:

- Integration of Innovations: Institutional, operational, and technological changes were managed under a coherent long-term strategy, avoiding fragmentation.
- Application of Change Management Models: Using Kotter's 8-Step Model, the organization adopted a "truffle strategy," balancing innovation in specific areas with gradual expansion across the system. The Satir model underscored a transition from chaos to integration, highlighting alignment across entities.
- Leadership as a Dual Role: Leadership at all levels played a pivotal role in driving change, with staff acting as both facilitators and agents of transformation.

Conclusion: This case study provides actionable insights into healthcare management, emphasizing how effective leadership and change management models can align with operational goals to foster equitable and high-quality healthcare. The findings offer a replicable blueprint for healthcare systems undergoing similar complex, sector-wide transformations.

Environmental public policies on air, noise and physical activity: which effectiveness? Evaluation and identification of synergistic evidence-based public interventions (ID 210)

Raphaël Kermaïdic[1], Dr Laurie Marrauld[2], Dr Cyrille Harpet[1]
[1]EHESP, France. [2]EHESP, France

Context: Environmental noise exposure [1], air pollution [2], nutrition and physical Activity [3,4] are the environmental factors with the highest burden in socioeconomic cost in France [5]. They are also interconnected and linked to climate change and biodiversity loss. Public policies could be synergistic [6] and have positive side-impacts on health, environment, climate and economy. The objective of this work is to assess the impact and efficiency of existing environmental public policies on those 5 environmental factors and contribute to improve these policies with evidence-based interventions, to reduce the burden of environmental factors on society and health system.

Method: Public policies and regulations on noise, air quality, nutrition and physical activity, climate change and biodiversity - on European, National, Regional and local scale - have been collected in an analysis frame. Associated evaluation and included recommendations were analysed, as well as the evolution of relevant available associated indicators (air pollutants emissions, noise exposure, GHG emission, etc.), even if it can't be directly linked to policy efficiency. These data were crossed-referenced with scientific work and grey literature evaluating the effectiveness of public intervention to identify scientifically evidence-based public intervention. Then, public intervention addressing simultaneously two or more of those factors (for example: air and mobility, air and noise) were selected and analysed regarding their technical and political feasibility, social acceptability, and economical and legal leverages of implementation.

Results: Since 2000 European and French regulation on air quality has led to a significant decrease in air pollutants emissions [7]. Despite the European Noise Directive (2002): the population exposure has remained stable and potential health outcomes cannot be evaluated [8,9]. Physical inactivity, overweight and obesity prevalences have increased despite succession of plans [10,11]. French greenhouse gas emissions have exceeded carbon budget by 3% between 2015-2018 [12]. French National Strategy on Biodiversity has produced very little effect [13] and most biodiversity indicators are declining [14]. To help improve those policies: four synergistic multi-sectoral public interventions have been identified has some of the most cost-effective and efficient regarding their implementation cost and potential health and economic positive outcomes:

- Low Emission Zones (LEZ),
- Speed reduction on high-speed road/ in highly populated area,
- Full subsidy on home insulation/ better insulation of primary school,
- Bicycle development/ Separated cycle path.

Discussion: First, the relationship between the evolution of indicators and actions implemented through a plan is hard to assess, due to several other factors susceptible to interfere [15]; and indicator's evolution and policy's length and timeline often occur on a different timescale. Also, policy evaluation led only through the lens of objectives/indicators achievement might miss the actual social effects of these policies, which never overlap with the enunciated goals for which they were led [16]. Thus, if LEZ have been identified as efficient regarding expected health and environment outcomes, it has very low social acceptability [17] and mixed results in Europe [18]. Their successful implementation relies on many factors such as modality of control, gradual implementation and public information, a deep restructuring of alternative mobility, and economical incitation and subvention. Those levers are to be adopted especially for the most disadvantaged populations and rural areas to avoid increasing socio-economic inequalities [18,19].

Early economic evaluation to develop and manage health services: experience of an Action Learning Set within an Australian Local Hospital Network (ID 211)

Andrew Partington[1,2,3], Prof Jonathan Karnon[1]
[1]Flinders Health and Medical Research Institute, Flinders University, Australia. [2]Australian Institute of Health Innovation, Macquarie University, Australia. [3]L'Institut du Management, L'École des Hautes Études en Santé Publique (EHESP), France

Context: The management of demand for acute care and the flow of patients through and around hospitals is a challenge for health systems internationally. To address such challenges, reactive and implicit decision-making has historically led to cost-effective options being overlooked or displaced. This is partly due to difficulties instituting Health Technology Assessment (HTA) or Program Budgeting Marginal Analysis (PBMA) processes within local services' planning, commissioning, and improvement. Embedded within a Local Hospital Network (LHN), we adapt economic evaluation methods to the dynamic context of an Action Learning Set, inform the development of out-of-hospital services for older adults who would otherwise present to the Emergency Department, and iteratively update internal business cases.

Method: Several complementary methods were employed to estimate potential service recipient and broader system effects: (1) virtual whiteboard mapping of the intervention logic and value proposition from a system perspective; (2) algorithmic data mining of routinely-collected data to profile existing care pathways as a status quo comparator; (3) a structured elicitation exercise to capture stakeholder interpretations of available evidence and expectations of intervention effects, including a 'think aloud' component fed back to stakeholders that enabled them to update their initial expectations; (4) exploratory decision-analytic modelling and headroom analyses using untimed decision-trees and Monte Carlo simulation, based on the outputs from (1), (2), and (3); and (5) Interrupted Time Series (ITS) analyses during early implementation, to estimate potential counterfactuals and update the decision-analyses. The information generated was fed back to clinical and executive leaders as their business case was developed to justify funding and quality improvement proposals.

Results: The logic model helped engender a shared understanding of the intervention and evaluation. Existing care analyses profiled patient pathways for a population of 10,828 people presenting to the ED, of which 0.79 (n=8,569) were admitted. Modelling based on pooled elicited expectations indicated the new service would add +540 bed days but with a net saving of -14,030 bed days across the LHN. Uncertainties and disagreement, particularly around admission rates and inpatient lengths of stay for those who continue to present to the ED, affected potential cost-effectiveness. However, given the expected costs and historical prices for a bed day, the intervention was expected to meet the minimum required bed day savings in 63% of simulated scenarios. Early ITS results indicated intervention patients spent an average of +3.8 more days at home in the first 30 days following an encounter with the system and resulted in 3,236 fewer ED presentations, with bed day savings exceeding elicited/modelled expectations.

Discussion: HTA colleagues, including economists, have largely ignored technology development and often focus solely on products or policies. Experiences with PBMA suggest it is mismatched to the complex organisational and political dynamics of providing care. This study provides insights into the expected value of a novel service intervention for older adults, compiled during its design and early implementation. More importantly, we demonstrate how economic evidence can be proactively used in an iterative "search for efficiency", as part of a collaborative approach to managing acute care demand and patient flow. Ongoing formative evaluations will continue to inform service development, including retargeting the intervention and modifying resource inputs to increase the likelihood of realizing its expected value. Further methodological work is required to estimate relevant spill-over effects across the system and define acceptable, value-based prices for service outcomes.

Environmental health challenges: prioritisation by socioeconomic cost as a tool to decision making (ID 213)

Raphaël Kermaïdic[1], Dr Cyrille Harpet[1], Dr Laurie Marrauld[2]
[1]EHESP, France. [2]EHESP, France

Context: The health system is taking care of health outcomes, including 70% of non-communicable diseases that might be due to environmental factors [1], and contributes to environmental pollution and global warming [2]. Health prevention and promotion on environmental health determinants should help reduce the burden of environmentally linked diseases on society and health system, therefore supporting its resilience and transition.

Objective: The goal of this study is to conduct an analysis of environmental health risks through "environmental health determinants", and prioritize them in regard of their socioeconomic cost, as a support to policymaking and health care system ecological transition.

Method: The scoping review method – composed of 5 steps – was used to: (1) define the perimeter of environmental health and the included determinants, (2,3) identify and select relevant databases, (4,5) gather and synthesize data on environmental impacts, sanitary burden (mortality, morbidity, years of life lost (YLLs)) and socioeconomic costs in an analysis frame. Those costs were aggregated: added when methodologically possible if the costs linked to the health or material outcomes are independent (ex: asbestos and noise exposure). Costs cannot be added if some components of the environmental health determinant are intertwined and their contribution to similar outcome overlap. For example: each of the cost of premature deaths respectively attributable to PM10, PM2.5 and NOx cannot be added. The cost of mortality attributable to PM2.5 exposure is kept as representative of the cost of the overall outdoor air pollution in France [3].

Results: In France, the environmental health determinants weighing the most on society are the noise exposure (147 billion euros per year (B€/yr)) [4], nutrition and physical activity (overweight/ obesity: 20.4 B€/yr [5] ; physical inactivity/ sedentary lifestyle: 140 B€/yr [6]), outdoor air quality (130 B€/yr) [3]. The interconnected understanding of environmental health means the socioeconomic indicator cannot be used on its own and must be implemented with studies using other indicators (population exposure, environmental risk factors, etc.). Thus, the following environmental events are to be addressed as major risk:

- Continental flooding as the first natural risk in terms of population exposure and potential damages,
- Severe cold and heat waves episodes as the deadliest climatic events.

Lastly, climate change could cost up to 1.100 B$ in stranded assets in 2050 [7], and there is no exhaustive quantitative health and economic evaluation on biodiversity loss beyond its ecosystemic services (80B€/yr).

Discussion: First, those results are dependent on the available data. Noise and air pollution are regulated and easy to monitor, whereas for many determinants, their health and economic impacts might be emergent or incomplete and their associated annual cost very probably underestimated (chemicals multi-exposures, biodiversity, etc.). Increasing knowledge could lead to a revision of determinant's weight and priority order. However, this study offers an overview of environmental health issues, most of the time studied in a fragmented or sectorized way. Conducing public policies on noise, air pollution, nutrition and physical activity could be synergistic (transportation, healthy urban planning, bicycle development, etc.) and have positive impacts on health, environment, climate and economy. On a long term, it should reduce the weight of those factors on health and the health sector hence contributing to its transition and resilience.

The cost of hospital healthcare workers' poor health in France: insights from a manager survey (ID 214)

Emilie Chen[1], Prof Nicolas Sirven[1,2,3,4]
[1]EHESP, France. [2]Irdes, France. [3]Arènes CNRS (UMR 6051), France. [4]Inserm (ERL 1309), France

Absenteeism among healthcare professionals represents a significant challenge, particularly in public hospitals, with the hospital sector in France reporting an average absenteeism rate of 8%, one of the highest across industries. Equally concerning is presenteeism due to health issues, often overlooked despite its impact. Demanding working conditions, elevated occupational risks, and complex relational environments contribute to health and productivity losses, further aggravated by burnout. Addressing caregivers' health requires ambitious public health initiatives to improve working conditions, especially when the costs of inaction outweigh investments in prevention.

This study aims to estimate the indirect costs of health-related productivity losses across various hospital professions and healthcare facility types. These costs, including lost wages and friction costs, are often underestimated but amount to approximately €4.5 billion in France. According to human capital theory, health directly influences the return on human capital. Thus, absenteeism and presenteeism lead to productivity losses, imposing significant financial burdens on hospitals. The study uses simple multiplier coefficients to monetize the effects of absenteeism and presenteeism.

The survey is based on a questionnaire adapted from Strömberg et al. (2017), tailored to the French hospital context. Addressed to team leaders in healthcare facilities, the survey collects insights from managers (e.g., hospital directors, healthcare executives, and medical managers) on the impact of health issues among healthcare professionals on activity and care quality. Managers were chosen for their critical role in implementing preventive programs and their comprehensive understanding of team dynamics, particularly during staff absences or reduced productivity periods. An ordered Probit model is employed to assess the effects of healthcare professionals' health issues on activity levels and care quality.

The results confirm that absenteeism leads to substantial costs and significantly impacts hospital activity and care quality. Additionally, the findings highlight that presenteeism, though less frequently addressed, also incurs notable productivity losses and compromises care quality. As presenteeism often precedes or follows absenteeism, it is likely underreported and underestimated. This study underscores the need to recognize presenteeism as a costly issue for hospitals, affecting both productivity and the quality of care provided.

Integration of artificial intelligence into Saudi Arabian primary healthcare centres: applications, barriers, and alignment with vision 2030 (ID 215)

Batool Aljasim[1,2], Dr Nebil Achour[1], Dr Naim Abdulmohdi[1], Prof Abbas Almutair[2], Dr Qasem Aljabr[3]
[1]Anglia Ruskin University, United Kingdom. [2]Almoosa Health Group, Saudi Arabia. [3]Ministry of Health, Saudi Arabia

Context: The integration of AI into healthcare is recognised globally for improving diagnostics, operational efficiency, and decision-making, especially in under-resourced primary healthcare settings. In Saudi Arabia, Primary Healthcare Centres (PHCs) face challenges, including workforce shortages, limited technology, and chronic disease burdens. Aligning with Vision 2030, which emphasises digital innovation to enhance healthcare access and efficiency, this research explores AI's potential to transform Saudi PHCs. It examines how AI can support diagnostics, optimise management systems, and assist decision-making while addressing barriers such as regulation, privacy, and cultural adaptation—key for achieving a patient-centric, technology-driven healthcare model in Saudi Arabia.

Methods: This study conducted a scoping review to explore the integration of AI into Saudi Arabian primary healthcare, focusing on applications in diagnostics, management, decision-making, and barriers such as regulation, privacy, and cultural adaptation. A systematic search was performed using PubMed, Scopus, Web of Science, and Google Scholar for studies published between 2018 and October 2024. Keywords included "artificial intelligence," "primary care," "Saudi Arabia," "Vision 2030," and "regulation." Studies were included if they addressed Saudi-specific AI applications or barriers; those focusing on tertiary care or lacking localized insights were excluded. Data were thematically analysed using ATLAS.ti to identify key themes in AI's role in diagnostics, chronic disease management, and operational efficiency. The study also highlighted regulatory, privacy, and cultural challenges and gaps in empirical implementation. Insights were compared with Saudi Arabia's Vision 2030 healthcare transformation initiatives to assess readiness and future strategies for AI integration.

Results: The review identified 10 relevant studies from an initial pool of 145 articles, focusing on the integration of AI into Saudi Arabian primary healthcare. AI applications addressed in these studies included diagnostic tools for chronic disease management and early detection, clinical decision support systems, and operational improvements such as predictive analytics and resource optimisation. Key barriers to implementation were identified, including regulatory gaps in accountability, patient safety, and privacy protections under Saudi laws like the Personal Data Protection Law (PDPL). Cultural challenges, such as the need for linguistic localization, gender segregation, and alignment with hierarchical decision-making norms, were also prevalent. Workforce readiness emerged as a critical obstacle, with a lack of AI training programs and significant resistance among senior healthcare professionals. While recent studies (2023–2024) emphasized more localized barriers and primary care contexts, including polypharmacy and practitioner readiness, empirical evidence through pilot studies remains insufficient, marking a key gap.

Discussion: Current research highlights AI's potential in diagnostics, decision-making, and operational management within Saudi Arabian primary healthcare. However, critical gaps hinder practical implementation. While regulatory, privacy, and cultural barriers are emphasized, issues like operational continuity during climate change or staff burnout in under-resourced PHCs remain overlooked. Workforce readiness is discussed, yet staff shortages and resistance, particularly among senior professionals, point to deeper systemic problems. Although AI's potential to improve operations (e.g., resource allocation) is suggested, it's largely theoretical and not adapted to crises like pandemics or climate emergencies. A new framework is needed to integrate AI into PHC operations under stress, enhancing workforce resilience and infrastructure. Future research will explore AI's role in reducing burnout, providing decision support in crises, and ensuring continuity of care during disasters. Pilot programs will test AI's real-world feasibility in both routine and emergency primary care contexts, supporting resilient, adaptive PHCs across Saudi regions.

Scanxiety, more than fear alone: a design-thinking approach to reduce scanxiety for patients and relatives (ID 216)

Dr Hannes Vanpoecke[1], Prof Dr Paul Gemmel[1], Prof Dr Ir Bert Meijboom[2], Prof Dr Kaat De Pourcq[1], Dr Eline Naert[3,1], Prof Dr Ir Em Luc Chalmet[4], Prof Dr Melissa De Regge[1,3]
[1]Ghent University, Belgium. [2]Tilburg University, Netherlands. [3]University Hospital Ghent, Belgium. [4]Melanoompunt VZW, Belgium

Context: Scanxiety is used to describe scan-associated anxiety/distress and related concerns of cancer patients and survivors undergoing scans. Research has focused on understanding the phenomenon and exploring interventions mainly related to the scan itself. However, scanxiety extends beyond the scan itself, recurring cyclically with pre-, per-, and post-scan phases, and is amplified by the need for periodic imaging. Therefore, the scope of research should not be limited to the scan moment itself or only the patient perspective, as the relatives' perspective is often overlooked. Our research aims to explore scanxiety and co-create interventions to reduce scanxiety throughout the patient journey.

Methods: This qualitative study used a service design thinking approach to guide the process with a focus on person-centredness. Participants were recruited using a maximum variance sampling method. Patients with five different types of cancer involving different scanning regimens were selected: patients with testicular cancer, breast cancer, multiple myeloma, lymphoma or melanoma in a follow-up stage, and their close relatives. Additionally, healthcare professionals involved in cancer care participated. In the first phase, nine co-creation workshops were organised to define the scan journey, its link to scanxiety, and identify potential interventions to reduce it. In the second phase, two workshops were organised to concretise interventions and discuss their feasibility and effectiveness, resulting in a catalogue detailing, among others, interventions, target groups, and relevant stakeholders. An abductive thematic data analysis was conducted, following Braun and Clarke's six-stage process, using Miro.

Results: Our empirical findings showed that scanxiety was experienced throughout the entire journey by both patients and their relatives. It was described as a multifaceted and recurrent phenomenon accompanied by a range of emotions, physical discomfort and various effects on social interactions. Several key themes were identified regarding factors influencing scanxiety and related interventions. One theme was transparency and predictability, with participants expressing uncertainty about what the scans entail (e.g. does it hurt?). They expressed a need to know if and how long the appointment would be delayed (e.g. If I knew the delay time, I could have walked around). They also felt that doctors did not provide all the information after the scan. A visual timeframe for both the scans and results was suggested, as well as support in using e-health platforms to access information. Other themes included practical considerations, the physical environment and professional and social support, among others.

Discussion: Our study shows that scanxiety is a more multifaceted phenomenon than previously suggested by research. While the scan procedure and the uncertainty about the results remained the main triggers, other influencing factors also emerged. These factors change at different stages of the journey, highlighting the importance of creating a flexible approach to address scanxiety. Above that, scanxiety is not only experienced by the patient, but also by their relatives. While their focus is less on the scan procedure itself, it is more on the waiting time on the day of the scan and the anticipation of the results. Further research is needed to explore their levels of scanxiety and support needs. This research can guide organisations in developing and implementing targeted interventions that address the specific needs identified at each stage of the patient journey, offering comprehensive support for both patients and their relatives.

Strengthening the place of prevention in the French health system: public health and social structures committed and ready (ID 217)

Vincent Ollivier, Herault Augustin, Prof Chollet François
Fédération hospitalière de France, France

More than ever, the French health system is facing significant challenges an aging population, the growing burden of chronic diseases (24 million French people suffer from them in 2022 according to French Health Insurance), and the imperative to better combat avoidable conditions such as cancer, of which 40% are considered preventable.

Health prevention appears to be the cornerstone of our health policies. It must be supported to improve living and health conditions, particularly healthy life expectancy, of populations in all territories. We must also convince that prevention is not a cost, but an investment for the future, for people's health and also for our economic system. In 2021, the French controller and auditor general (Cour des Comptes) published its report about "Prevention of loss autonomy people elderly" and recalled that one year of life expectancy in good health gained was equivalent to 1.5 billion euros in savings each year for Health Insurance.

Public health stakeholders are increasingly stepping up to meet this challenge, with public health establishments playing a pivotal role in prevention alongside their primary mission to cure.

In order to underscore this role and their engagement already initiated, the French Hospital Federation (FHF) carried out a large study of all public health and social structures in France between September and October 2024. This survey collected 245 responses, with representation of all types of public establishments: university hospital center, general hospital center, nursing home, etc.

Notably, 97% of respondents believe that this role is essential, and in all dimensions of prevention, including primary prevention. Public establishments are therefore positioning themselves as an essential player in primary prevention, although this has not yet been fully deployed. Indeed, only 12.6% report they have implemented "make every contact counts" type actions, even though the effectiveness is demonstrated by the example of the British NHS. However, they are already working with external partners such as local authorities (49%) or local medicine (66%), which must be continued to bring about relevant actions for the benefit of local populations.

However, several obstacles remain to go further. Firstly, a structuring of a prevention policy within public structures which remains underdeveloped: more than half do not group their actions within a dedicated department. Additionally, funding remains a critical challenge, with 72% of respondents declare that the funding allocated to their actions is insufficient.

In conclusion, while there is consensus that the French health system must take a preventive shift, and that the first milestones have been laid, particularly in public health and social structures, obstacles remain and must be addressed in order to gain momentum on prevention and giving ourselves the means to improve the health of populations.

Persistent effects of territorial and gender inequalities on the care pathway of dialysis patients: access to transplantation and CKD-related mortality before and after transplantation (ID 218)

Judith Breaud[1,2], Dr Sahar Bayat-Makoei[1,2], Marie-Agness Bakhoum[1,2], Sacha Lavaud[1,2], Dr Cécile Couchoud[3], Dr Juste Goungounga[1,2]
[1]Ecoles Des Hautes Etudes en Santé Publique, Département METIS, France. [2]Univ Rennes, CNRS, Inserm, Arènes-UMR 6051, RSMS-U 1309, France. [3]Agence de biomédecine, Registre Rein, France

Context: Different factors influencing chronic kidney disease (CKD) patients' outcomes have been identified in the literature, such as gender, smoking, socioeconomic status, and various comorbidities. The outcomes of interest include access to renal transplantation, and mortality related to CKD (excess mortality) both for dialyzed patients and those who received a renal transplant. Yet little information is available on the association between territorial inequalities, and these outcomes. Our work aims to study the association between territorial inequalities and the aforementioned factors with different outcomes of dialyzed patients.

Methods: We conducted an observational longitudinal cohort study using national REIN registry, including 29,281 CKD patients aged 18-85 who started dialysis between 2017 and 2019 in France. Among them, 33.57% had missing data. Among the 6,329 patients who were transplanted, 39.97% had missing data. We conducted a complete case analysis using flexible multi-level multi-state relative survival modelling allowing for a frailty term to account for patients clustering by department and to simultaneously examine transplant access, excess mortality in dialysis and excess mortality after transplantation.

Results

- There was a significant disparity in access to transplant between departments. Smoking significantly reduced access to transplant (HR 0.895 [0.834, 0.96]). Social deprivation reduced access to transplant: patients living in the 5th European Deprivation Index (EDI) quintile (the most deprived areas) had significantly less access to transplant than patients in the 1st EDI quintile (HR 0.716 [0.622, 0.824]).
- For dialysis patients, excess mortality varied significantly between departments. Smoking significantly increased the excess hazard mortality (HR 1.093 [1.026,1.164]). Women had an excess hazard mortality significantly higher than men (HR 1.092 [1.025,1.164])
- For CKD-related death after transplantation, we failed to detect significant territorial inequalities. The expected mortality of graft patients was 2.088 [1.466,2.974] higher than that of French general population. Women had a significantly increased excess hazard mortality compared to men (HR 1.918 [1.108,3.322]).

Discussion: We were able to identify persistent effects of territorial and gender inequalities on the outcomes of dialysis patients' care pathway. Having identified areas with better and worse outcomes might allow to calibrate the care plans in dialysis patients, and for example plan interventions focused specifically on the areas with lower access to transplant. Similarly, helping CKD-patients stop smoking might be interesting since smoking is associated with a lower access to transplantation and a higher excess mortality in dialysis. Due to the small number of transplanted patients, we lacked statistical power to detect significant effects of territorial inequalities on post-transplantation excess mortality. This study will be extended to the full dataset after imputation process.

Designing and delivering managerial training for the turnaround of a National Health System - lessons and reflections from literature evidence and the exemplary care of the Romanian NHS (ID 220)

Prof Federico Lega[1], Dr Elena Maggioni[2], Dr Giada Castellini[1], Dr Francesca Ferrè[1], Bodgan Baciu[3], Mafaten Chaouali, MD[4], Tomas Zapata, MD[4]
[1]Univeristy of Milan, Italy. [2]Sant'Anna School of Advanced Studies, Italy. [3]WHO, Romania. [4]WHO - Europe, Denmark

Context: Leadership and management theory and research in business environment converge in identifying the quality of leaders and employees as key for higher performance at system and organizational level. This particularly applies to public health systems. An increasing pressure for better performance and sustainability requires both the rethinking of traditional paradigms and disruptive actions for the reconfiguration and reorganization of health systems themselves. While many National Health Systems (NHS) started investing in a stronger cohort of managers and leaders for running system level positions and organizational apex, the road is long and incredibly hard due to professionalism, publicness and path-dependency. Our study aims to investigate and propose how a context-specific and competency-based large-scale managerial training scheme can and should be designed by the governance of an NHS.

Methods: An extensive literature review is conducted to identify which models/approaches have been developed for the design of context-specific managerial training schemes. This includes tools and processes supporting the identification of competences/skills/knowledges gaps for top leaders and middle healthcare managers. Building upon results, across 2023-2024 a real-world case was conducted, involving the Romanian NHS and supported/promoted by WHO and the Romanian Health Minister, to build a managerial training programme. It engaged from 150 to 5.000 clinical leaders and managers working at all levels of the system all over the country. The design and delivery of the training scheme proceeded as follows:

1. Definition of context and target specific training needs through semi-structured interviews and online surveys involving 1.200 contacts.
2. Organization and delivery of small-scale training scheme to a selected 150 trainers' cohort (Training of Trainers – ToT) by educators from Italy, Spain and Portugal.
3. Organization and delivery of system-wide training through the trainers that attended the ToT to reach up to 5.000 health managers and clinical leaders.

Further, evidence on impacts and results of the whole training scheme are investigated through specific online surveys and selected interviews with ToT champions.

Results: The analysis highlights the potentially significant impact of tailored, competency-based management training programs on healthcare governance and institutional capacity building. They emphasize the crucial shift from traditional to competence-based human resource management practices. The analysis identifies common training needs among different health sector professionals (public health directorates, national health insurance houses, and ambulance service managers), with strong emphasis on leadership and managerial skills. Key training needs identified are strategic planning, change management, ethics, teamwork, self-management, negotiation skills, and a comprehensive understanding of health system dynamics to effectively address daily challenges.

Discussion: Lessons from the experience of a "transitioning" healthcare system like the Romanian NHS is useful to generate know-how that can inspire future interventions in similar contexts. Specifically, the present work appraises which and how customization can be necessary to enhance the success of training schemes given the NHS context specificities, situational path-dependency, system governance structure. Furthermore, it provides insights on designing a large-scale system-wide transformational change ignited by a managerial training initiative. Lessons and reflections are discussed on how to identify training gaps, design contents fit for the specific background and roles of professionals, customize methodology and structure to the specificities (culture and governance) of the context. Finally, it highlights how the combination of competences and experiences of trainers with tacit knowledge and understanding of the culture of the target country might represent crucial success factors.

Are healthcare organisations healthy work ecosystems? Health and wellbeing of health professionals (ID 221)

Prof Tania Gaspar[1,2], Prof Anabela Coelho[3], Dr Barbara Sousa[4]
[1]Universidade Lusofona/SPIC, Portugal. [2]CHRC/Lisbon NOVA University, Portugal. [3]Evora University, Portugal. [4]Portuguese Lab for Healthy Workplaces/SPIC, Portugal

Background: Health professionals are at high risk in terms of mental health and well-being. Faced with this challenge, healthcare organizations must be healthy and safe work environments.

Objectives: This study aims to take an in-depth and systemic look at healthcare organizations as healthy workplaces.

Methods: The study involved 2,190 participants aged between 19 and 71 (M= 44.73, SD= 10.29) and data was collected in 12 public hospitals between November 2021 and December 2023. The Ecosystems of Healthy Workplaces instrument used consists of a total of 62 items organized into 9 dimensions based on the Healthy Workplaces model proposed by the World Health Organization.

Results: Most dimensions reveal a moderate risk in terms of healthy work environments, while the dimension that reveals a high risk is related to Psychosocial Risks at Work related to Well-being and Mental Health. 87% of the professionals reported at least one burnout symptom and 61.4% reported having all three burnout symptoms. 25.4% reported having been victims of harassment at work. Comparing groups, we identified higher risk groups, namely women, generation Z and X professionals, doctors (compared to the different professional groups under analysis (nurses, operational assistants, psychologists, administrators, senior technicians, and managers), professionals with chronic illnesses and those who reported harassment at work.

Conclusions and contributions: We conclude that the work environment must be understood ecologically, analysing the different systems and their relationships. This makes it possible to identify priority factors and groups for intervention. The results allow for the following recommendations for promoting healthy work environments: (1) An inclusive work culture; (2) A safe environment; (3) Competent leadership; (4) Effective interpersonal relationships; (5) Professional support and involvement and development context: A healthy work environment should allow professionals to have development opportunities, without encouraging unnecessary competition. A joint process of goal setting, skills development and training, incentives and appreciation that can create more value for the organization and more opportunities for its future. We add focus on the study and promotion of global health (bio-psycho-social) and lifestyle: Healthy work environments encourage workers to maintain good health in terms of mental health, nutrition, physical exercise, consumption, sleep habits and stress management skills, allowing them to perform better and more reliably. Finally, it should be noted that the Promotion of Healthy Work Environments is a continuous process of evaluation, intervention and monitoring that must involve all stakeholders and be accompanied by a multidisciplinary team with a doctor, nurse and psychologist among other professionals necessary to ensure working environments. healthy and safe.

Shared leadership in healthcare: working up towards a systemic understanding of engaging with wicked problems (ID 222)

Prof Wilma van der Scheer
Erasmus University, Netherlands. Erasmus Centre for Healthcare Management, Netherlands

In this study, we explore the potential of shared leadership in healthcare. Governments struggle to maintain accessible healthcare systems. The shortage of healthcare professionals is a reality, as is the steep rise in demand, the increase in chronic diseases, and the aging population. Meanwhile, diseases are spreading more rapidly than ever due to climate change and wars (OECD, 2023). Governments' willingness to free up more resources is limited, paving the way for new arrangements of care in which the underlying rules and interactions between governments, healthcare organizations, and citizens are being revised (Sabel et al., 2024; Torfing, 2020). After all, complex societal concerns always have more than just one problem owner; they are shared concerns (Biesta, 2022). The parties involved, both within and outside existing organizational contexts and sub-systems, are collectively faced with the challenge. For healthcare, this implies exploring new 'cultures of care' through which care is expressed, extended, audited, and at times undone. Ultimately, it involves questioning the nature of care itself (Greenhough et al., 2023). This quest for a new vision of, and relationship between, formal and informal healthcare requires engagement from many different parties and individuals. These shared concerns require a form of shared leadership.

In this paper, we aim to contribute to a systemic understanding of shared leadership, particularly in the context of the necessary transition in the healthcare sector toward organizing care as close as possible to the patient, involving their community and other relevant stakeholders in new and creative ways. This requires attention to the collaborative processes of collective problem-solving in everyday practices at different levels of the healthcare system (i.e., work floors, management, and policy levels). Thus, studying 'big' problems through 'small' practices of shared leadership (cf. La Grouw et al., 2024).

Informed by the insights of various empirical studies, we discuss what it takes to practice shared leadership at three levels: in day-to-day healthcare delivery, in networks of organizations, and at the national (policy) level, within society as a whole. The examples show how people work together horizontally across occupational and organizational boundaries to address the wicked problems in healthcare, and what difficulties they encounter. The insights lead to five basic conditions for implementing shared leadership in healthcare. First: respect for and trust in the other party's competences and intentions. Second: the capacity and intention to engage in dialogue on equal footing. Third: responsiveness—being open to reciprocal influences and reciprocity (give and take). Fourth: investing in the competences of stakeholders. And finally: the ability to tolerate the uncertainty and complexity that comes with shared leadership.

Learning to adapt. Lessons from managing an unfolding crisis. (ID 225)

Prof Wilma van der Scheer[1,2], Dr Relinde de Koeijer[1,2], Dr Oemar van der Woerd[1,2]
[1]Erasmus University, Netherlands. [2]Erasmus Centre for Healthcare Management, Netherlands

Context: Since the very start of the COVID-19 pandemic there has been a keen desire to learn from it. This study describes managerial responses to the pandemic over a longer period, thus providing a unique opportunity to better understand what managerial work is required during deep crises, and what lessons are relevant for 'normal' times which can also be fraught with dilemmas. We discuss how these insights can help prepare for future situations of deep change.

Methods: This qualitative study is based on interviews, focus-groups and a sector-wide study conference. We conducted 16 in-depth interviews with healthcare managers working in various domains of the Dutch healthcare sector (e.g., hospital care, primary care, mental care, youth care, older person care, addiction care, and care for disabled persons), supplemented with 5 interviews with representatives of health insurers and regulatory agencies. The interviews focused on the experiences of the respondents during the COVID-19 crisis. Later in time, three focus groups were organized to explore issues in greater depth. After transcription, open, axial and selective coding was performed on the interview and focus-group data, with the researchers opting for inductive interpretation and analysis. Roughly two years later, when the pandemic had subsided, we shared our findings with a broader group of 85 healthcare professionals, managers, and policymakers, to look back and discuss what they had learned from the COVID-19 crisis.

Results: Based on existing literature on managerial work, we describe managerial work in healthcare as an organizational, relational, normative, and reflexive activity; differentiating for (non) crises. Findings are structures along three distinct phases and forms of crisis management. In the *acute phase* managerial work is narrowed down to a specific morale (i.e., containing and 'surviving' the virus), role-interpretation (i.e., getting grip on the situation: organizationally and emotionally), specific actors (with a central role for the manager), specific value trade-offs, and one-way communication from the central crisis team to the organization. In the *phase of prolonged crisis*, managerial 'grip' becomes about resilience, customization, mobilizing collective effort to harmonize societal, organizational, and individual needs, and constant moral deliberation. In the *phase of future-oriented crisis*, managerial work focuses on greater societal challenges and influencing national policy choices. Consistent during the three phases of crisis is the moral overload managers have to deal with. As a result, moral deliberation becomes a daily activity for managers.

Discussion: Our findings show that during periods of deep change, such as the pandemic, value systems *themselves* become contested. The continuous reconsideration of value trade-offs subsequently influences the other types of managerial work. Our findings further show that dealing with the many uncertainties that come with deep change, requires incorporating multiple perspectives into the decision-making process and an incremental form of decision- and policymaking, with room for exploring a variety of strategies. This is particularly important when rethinking (temporal) (crisis) policies. From healthcare managers this requires responsiveness to criticism and the adoption of a normative stand against government policies. Understanding actors' orientations amidst a web of value systems, interests, and moral foundations, is a fundamental part of resilient healthcare management. As is the preparedness to learn from previous experiences. Since the challenges the healthcare sector faces are many and urgent, such learning should not be prohibited to crisis situations alone.

How to reduce low value care? The pragmatic 'Choosing Wisely' approach of the French geriatric society (ID 227)

Prof Aline Corvol[1], Gaelle Gernigon[2], Dr Pascal Jarno[2]
[1]Univ Rennes, France. [2]CAPPS Bretagne, France

The international Choosing Wisely campaign involves more than 80 scientific societies in 30 countries to raise awareness of the risks of over-medication, with the message "Less is More". Designed by clinicians, the campaign aims to spark conversations between prescribers and patients about unnecessary tests or treatments. Typically, scientific societies in each country issue 5 recommendations on questionable prescriptions. Those recommendations take the form of five short, easy-to-remember messages, which are then widely disseminated. A wide range of initiatives can then be developed to raise awareness among prescribers and users.

In France, the French Society of Geriatrics and Gerontology society has been involved in this campaign since 2014. Its approach is based on
-a pragmatic and dynamic approach to the choice of recommendations,
-a strong involvement of patient representatives
-the opportunity for clinicians to participate in practice analysis
-support for a quality and safety team in each participating region
-toolkits proposed by clinicians
-a regional level of dissemination through local champions

Currently, the practice analysis campaign involves more than 200 facilities (acute, rehabilitation and long-term care) in 9 regions on 13, and 1 overseas department. Recommendations focus on deprescrition of benzodiazepines, antipsychotics for behavioural and psychological symptoms of dementia, appropriate use of proton pump inhibitors, and unnecessary urine tests. These recommendations are assessed by chart audit. The last one is about shared decision making, assessed through a small interview conducted by patient partners.

We can now learn from our experience. We would recommend that colleagues from other specialties who wish to join the Choosing Wisely initiative should:
-Ensure a national representation of the working group and close communication within the scientific society.
-involve all professions involved (pharmacists, nurses…) from the beginning of the process
-Identify support structures that allow independence from government and health insurance structures.
- Benefit from the experience of other countries by joining the international group.

Turkish validity and reliability study of the nurse leader evidence-based practice (EBP) competency scale (ID 230)

Eda Eren[1], Prof Dr Sergul Duygulu[1], Assist. Prof Dr Clayton J. Shuman[2], Fadik Cokelek[3]
[1]Hacettepe University Faculty of Nursing, Nursing Management Department, Turkey. [2]Michigan University School of Nursing, Department of Systems, Populations and Leadership, USA. [3]Ankara Bilkent City Hospital, Turkey

Context: Evidence-based practices, which are in healthcare settings, improve patient outcomes and return healthcare system investment (Connor et al., 2023). Nurse managers play a supportive role as leaders for nurses in using evidence-based practices (Caramanica & Spiva, 2018; Caramanica et al., 2022) Nurse managers have big responsibilities and impact on the implementation of evidence-based practices in nursing (Clavijo-Chamorro et al., 2022). To develop evidence-based practices in nursing, nurse managers' evidence-based practice competencies should be measured and developed. This methodological study aims to adapt the "Nurse Leader Evidence-Based Practice (EBP) Competency Scale" which evaluates nurse leaders' evidence-based practice competencies, and to test it for validity and reliability in Turkish.

Methods: The study sample consisted of 320 nurse managers who work at two hospitals in Ankara, Turkey. Data were collected using the Introductory Information Form, Nurse Leader Evidence-Based Practice (EBP) Competency Scale (Shuman et al., 2017), and Evidence-based Practice Questionnaire for Nurses (Upton & Upton, 2006; Caki et al., 2023). Language validity following the ISPOR guideline (Wild et al., 2005) and content validity analyses were performed for the scale adaptation. Confirmatory factor analysis (CFA) for construct validity will be performed after completing the study. The reliability of the scale will be determined using parallel-test, test-retest, and Cronbach's alpha internal consistency coefficient. Ethical approval was obtained from the ethics committee of a university (Approval No. E-66777842-300-00003427191).

Results: The survey was sent to ten nurse experts to be evaluated for content validity, Turkish structure, and comprehensibility. The scale item content validity index scores (I-CVI) were found to be higher than .90, and scale content validity index (S-CVI/Ave) was found .99. The pilot study was conducted face-to-face with 32 nurse managers who work at a different hospital, and their opinions on the items' usability and understandability were taken. According to the nurse manager's opinion, two scale items were revised. Approval regarding these two items' revision was received from the scale's original developers. The data collection phase of the study is still ongoing and is planned to be completed by March 31, 2025. Following the completion of the study, CFA results, parallel-tests, test-retests, and Cronbach Alpha results will be provided.

Discussion: Turkish validity of the Nurse Leader Evidence-Based Practice (EBP) Competency Scale, originally developed in English, was tested, and it was determined that the Turkish version of the scale was valid in terms of language and content. Polit & Beck (2006) stated that I-CVI should be higher than .78 and S-CVI/Ave should be higher than .90. In this study, I-CVI's were found higher than .90 and S-CVI/Ave was found .99 which shows that the content validity is high. The data collection phase of the study is ongoing, and following the completion of the data collection phase, the discussion of the results will be completed in line with the study results. A scale focusing on the evidence-based practice competencies of nurse managers isn't available in Turkey. Therefore, this study is important to provide a suitable tool for measuring evidence-based practice competencies of nurse managers in Turkey.

Measuring impact through Sentiment Analysis: an artificial intelligence approach to evaluating the performance of public healthcare organisations (ID 233)

Prof Guido Noto, Dr Francesca De Domenico, Mariangela Barraco, Prof Gustavo Barresi
CREMS - University of Messina, Italy

Context: Since the advent of New Public Management (NPM), public healthcare organizations have adopted tools to measure economic efficiency and productivity. Post-NPM theories expanded this focus to 'public value' (Moore, 1995), addressing both outcome results (produced value) and their societal acceptance (recognized value). While current performance management (PM) systems have managed to integrate measures of health outcomes tied to patients' needs with measures of input and output (Nuti et al., 2018), to date, the measure of the 'impact' intended as the outcome recognized by the community – including the non-beneficiaries of the health services – remains underexplored, both theoretically and practically, leaving a critical gap in understanding public value (Mussari, 2022).

Method: In response to this gap, adopting digital innovation may offer new opportunities to measure performance dimensions currently neglected (Di Falco et al., 2024; Mauro et al., 2024). In particular, Sentiment Analysis (SA), based on Artificial Intelligence (and particularly on Natural Language Processing and Machine Learning) may support policy and decision-makers in assessing the 'impact' of the healthcare organization by the reference community.

To discuss this opportunity, the study experiments with the measurement of the 'impact' through SA on nine public hospital organizations operating in Sicily. The software used to do that is Brand24®, an SA platform that collects mentions from a wide range of online sources, including social media, blogs, forums, news sites and other web platforms, thus providing a comprehensive and up-to-date view of conversations about brands and products. This platform allows to classify online mentions into positive, negative, or neutral sentiments, identifying key topics. Through this approach, SA captures also the sentiment of people in a community who are not direct beneficiaries of public services, providing insights into the public value recognized by the broader population.

Results: The analysis conducted led to the creation of a structured dataset and scorecard (see Figure 1) related to the 'impact' of the Sicilian hospital organizations. This dataset provides a detailed overview of the healthcare organizations' online presence, including both quantitative and qualitative metrics. The analysis was structured by performance indicators (KPIs) and relevant metrics, with a special focus on SA to assess the sentiment of online mentions. Additionally, the analysis examined the volume of mentions, the presence of social (i.e. Facebook, Instagram etc.) and non-social content (such as newspapers and websites), the sources of mentions, and a topic analysis. This approach enabled the classification of content by key themes, providing specific insights for each hospital (see Figure 2).

Discussion: This paper contributes to the literature on PM in healthcare by exploring the measurement of public value, proposing the use of SA to measure the 'impact', i.e. outcomes for the reference community (both beneficiaries and non-beneficiaries of services). The analysis of hospital organisations is a key step to critically reflect on the potential and limitations of SA, especially in measuring, managing and evaluating the performance of public and healthcare organisations. This process allows for identifying operational and management criticalities, while also increasing opportunities for improvement, promoting an organizational model focused on efficiency, transparency, and patient-centeredness. The key limitation of the suggested approach mainly refers to the involvement of users and community members non using internet and social media.

Hybrid professionals and their managerial roles: investigating the personality traits (ID 234)

Dr Francesca De Domenico[1], Prof Guido Noto[1], Prof Maria Rosaria Anna Muscatello[2], Dr Giovanni Genovese[2]
[1]University of Messina, Italy. [2]University Hospital "G.Martino" Messina, Italy

Context: This study examines the factors influencing managerial career intentions, combining organizational and management literature with psychological insights. This topic is particularly relevant in the public sector, especially in the healthcare one where clinicians who pursue managerial career - i.e hybrid professionals – face internal conflict: integrate clinical expertise with managerial responsibilities. Hybrid professionals deal with significant challenges, including tensions between competing priorities, resource allocation issues, and barriers like competition and mistrust among peers. Despite these obstacles, they play a critical role in bridging clinical care and organizational goals, enhancing efficiency and improving healthcare service delivery.

Methods: Using the Personality Inventory for DSM-5 (PID-5) – which include negative affectivity, detachment, antagonism, disinhibition and psychoticism traits - and an experimental scenario, data were collected from 145 medical students to investigate what are the personality traits that should characterize the choice of managerial career in hybrid professionals. The questionnaire was structured in three parts: personal data, PID and an experimental scenario in which students have to choose whether they prefer the clinical or managerial career based on three characteristics: 1) wage, 2) time dedicated to different tasks and 3) power and responsibility. Then the students were asked to rank which of the three factors above influenced the most their choice.

Results: The findings reveal that individuals with higher levels of "negative affectivity" and "antagonism" are more inclined to pursue managerial roles. Negative affectivity can increase the perception of interpersonal conflicts and reduce job satisfaction. These factors are particularly relevant in the healthcare sector, where managerial roles require advanced skills in team-management and conflict resolution. Furthermore, external factors such as higher salary and decision-making may impact on the decision. These last results are consistent with the tendency to express characteristic of the antagonism domain in this group, which reflect behaviours and attitudes that prioritise self-interest and power over empathy and cooperation. However, familiarity with negative affectivity can lead to the development of good leadership qualities and a greater empathic understanding of the group's condition. In this sense, what is more important than having negative emotional and antagonistic traits is how these traits have been harmoniously integrated into the personality. Additionally, male are more oriented toward the managerial career.

Discussion: To the authors' knowledge this is the first attempt to investigate the relationship between psychological traits and the choice of managerial career using the PID in the context of professional bureaucracies. This study advances public management literature by exploring the micro-foundational aspects of managerial career choices and identifying personality traits linked to leadership potential. The research identifies that the main personality traits driving the choice of pursuing the managerial career are negative affectivity and antagonism. The findings emphasize the importance of targeted staff recruitment and training strategies to prepare future leaders in healthcare management. Practical recommendations are proposed to enhance leadership development and improve the integration of clinical and managerial functions within healthcare organizations. Moreover, it provides policy-level recommendations for redefining the pathways that physicians will navigate from early in their careers, focusing on factors that most influence their willingness to pursue managerial roles.

Towards a typology of medical leaders: evidence from the UK (ID 235)

Dr Simon Moralee[1], Prof Mark Exworthy[2]
[1]The University of Manchester, United Kingdom. [2]University of Birmingham, United Kingdom

Context: The medical profession in many health systems, not least the UK, has been adept at accommodating challenges to its long-held power and privilege. Most recently, such challenges have come from neo-liberalism and consumerism, among others. One response has been the construction of medical leadership as a personal identity, a career opportunity for doctors, and a professionally led initiative, linked to education and quality improvement. In this paper, we present a 6-part original typology informed by a critique of extant typologies on medical hybridity and empirical evidence that offers a significant contribution to understanding better recent developments within the UK medical profession.

Methods: The aims of this paper are:

1. To develop understanding of the hybridised role of medical leadership, a concept explored previously but not exclusively in organisational sociology literatures (cf McGivern et al., 2015)
2. To provide a better understanding of medical leadership's impact on the medical profession, professionalisation and professional projects, relating to role, identity, training and its relevance to the socio-political context of the English National Health Service.

The data comprises semi-structured interview narratives of doctors who had undertaken leadership roles at a given point in their career. The research adopted a narratological methods approach (Greenhalgh et al., 2005), constituting chronology (time), emplotment (actions & events), trouble (harm or risk thereof) and embeddedness (personal story within wider context), allowing for key insights to be drawn from actors, enabling understanding of how their representation of 'self' influenced and impacted on their development of medical leadership and relationships with other stakeholders.

Results: Type

- Medical Chief (CHF): aligned to 'profession' – advocacy, representation, professional quality/standards; attributed to a 'shop steward' character advocating for the profession
- Medical Controller (CTR): aligned to 'Human Resources / Chief Financial Officer' – key aspects: line management, control & discipline, internal focus
- Medical Entrepreneur (ETR): aligned to 'career' – astute, political, regulatory bodies / professional associations; political mover
- Medical Improver (IMR): aligned to 'Chief Operating Officer / patient outcomes' – improving clinical services, organisational development /change, quality improvement, multi-professional, working with other health professionals organisationally and systemically
- Medical Influencer (IFR): aligned to 'system' – (perhaps) national role, informal leadership (doesn't necessarily hold a formal leadership position), works at the margins of professional groups and associations to persuade/influence policy & strategy; social media savvy
- Medical Strategist (SGT): aligned to 'Chief Executive Officer' – strategic focus, succession planning, building followership, e.g. Chief Medical Officer / Medical Director, ICS Medical Lead.

Discussion: This typology of medical leaders provides insight into the various paths, opportunities and stages that medical professionals may actively seek or 'end up in', throughout their medical careers and acts as a heuristic to aid understanding of the changing meanings and motivations of medical leaders. It goes beyond previous dichotomous distinctions (McGivern et al., 2015), being more nuanced that the division between practising/non-practising (Causer and Exworthy, 1998), e.g. the Entrepreneur and Strategist types identified here bear some relation to McGivern et al.'s (2015) description of the strategic hybrid. This analysis recognises that whilst the strategising of careers is not new, the emergence of these new leadership types, away from the dark and into the light (Spurgeon et al., 2011), as an acceptable face of medical professionalism is and may suggest a further fracturing of the profession, extending the work of Freidson (1985), Waring (2014) and others.

Value co-creation and co-destruction in the digital health ecosystem (ID 238)

Dr Elina Laukka[1,2], Henna Mäntynen[1], Prof Tuure Tuunanen[3], Assoc. Prof Paulus Torkki[1]
[1]University of Helsinki, Finland. [2]Oulu University of Applied Scienced, Finland. [3]University of Jyväskylä, Finland

Context: The digitalization of healthcare has garnered significant interest from both academics and practitioners, as healthcare services underwent a significant transformation with the rapid expansion of digital health services during the COVID-19 pandemic. The digitalization of services within healthcare is altering how value is created, delivered, experienced, and evaluated. Understanding value co-creation (VCC) and co-destruction (VCD), and the interactive roles of patients in the service exchange is crucial for comprehending how value is created in services, with value co-creation being conceptualized as a joint problem-solving process. Certain actions can lead to the destruction of value, a phenomenon known as value co-destruction.

Methods: The nature of the proposed research is integrative and multidisciplinary, including understanding from healthcare systems, health operations management, and information technology. We have conducted two systematic literature reviews of VCC and VCD approaches in digital health services. Based on the findings of these reviews, we propose a hypothetical model using both quantitative and qualitative methods. First the hypothetical model presented will be further developed using a qualitative approach. To deepen understanding and mechanism behind the proposed hypothetical model, qualitative in-depth interviews will be conducted to different stakeholders (i.e., health professionals, providers, and patients). Second the further developed hypothetical model will quantitatively be tested by using hypothetical-deductive approach. Finally, we will measure the users' capability to co-create value by surveys and analyse the association of these results to outcomes of the digital health services.

Results: The hypothetical model to be further developed using qualitative interviews contains antecedents, decisions, and outcomes of VCC and VCD. The recognized antecedents were constructing elements of the service ecosystem, ensuring technology and overcoming technical barriers, enabling information exchange, providing high-quality information, having sufficient digital competency, and having functional and emotional experiences in online healthcare platforms. The analysis revealed that different actors (i.e., patients or caregivers, health professionals, and providers) make different kinds of decisions that either hinder or enhance VCC or VCD. For instance, patients or caregivers may decide whether they want to share their data using digital health service and thus, act as value co-creators. The outcomes were categorized using functional value, emotional value, social value, and economic value. The interviews will be conducted in March 2025 to strengthen the hypothetical model empirically. The data will be analysed in April 2025 and reported completed in EHMA 2025.

Discussion: Our multidisciplinary project will create a novel integrative approach to build a conceptual model for implementing and using digital services for improved VCC and care outcomes. Furthermore, this novel approach supports positive patient and service provider experiences instead of calling for negative experiences that may lead to VCD.

We recommend examining VCC and VCD together in future studies concerning digital services. Our analysis reveals a gap in understanding VCD, particularly regarding its antecedents, decisions, and outcomes. Traditionally, health services have focused on functional and economic values, which relate to characteristics of the services and their usefulness, and cost-effectiveness. However, our study highlights the significance of emotional and social values. Future research should give more attention to various value perspectives and the mechanisms connecting them. Additionally, future research should study how different stakeholders evaluate these values and the meaningfulness of them.

Health and Climate project in Catalonia: summary of activities and results in 2024 (ID 240)

Rosa Vidal, Laia Llopart, Roser Fernandez
Catalan Hospital, Health and Social Services Association (La Unió), Spain

Context: La Unió is an association of more than 100 healthcare and social providers in Catalonia. Our Health and Climate project promotes initiatives to raise awareness among organizations and their stakeholders; informs about regulatory frameworks; promotes knowledge and shares best practices; monitors outcomes and impact indicators; and acts on behalf of our associates with Public Administration, and national and international initiatives.

Methods: The project has established a steering group comprising representatives from members of La Unió, whose functions are to drive, inspire, and propose specific lines of action.

The project adopts an action-oriented approach built on four main elements: the conceptual framework defined by international organizations (WHO, Healthcare Without Harm and CDC); the 12 sustainability dimensions, which are defined based on the adaptation that Mútua de Terrassa has developed from the National Health Service (NHS) model; the Health and Climate Manifesto, which serves as the roadmap for our commitment to promoting, acting, evaluating, training, researching and innovating, raising awareness, and disseminating best practices to inspire and generate shared responsibility; and the lines of action, which focus on five major areas, and are designed to bridge the gap between theory and practice, delivering tangible, measurable, and comparable results.

Results: We outline the key activities planned for 2024. We conducted a comprehensive survey to gather data from 2022 and 2023 on carbon footprint and other environmental indicators, including recycling and waste management, and water and electricity consumption in healthcare and social facilities in Catalonia, as well as the identification of the best practices associated with the different sustainability dimensions defined in our project. We organized a workshop focused on water and carbon footprint management. This workshop aimed to achieve two key objectives: to identify replicable best practices and effective strategies for managing water consumption and reducing carbon footprint, and to develop practical recommendations to guide future actions. Finally, we are proud to be partners in the European DesHealth project. Through this collaboration, we mapped the best practices in environmental sustainability across Catalonia and conducted a survey to identify emerging competency needs.

Discussion: With these initial steps, we have shared experiences from leading organizations that have successfully implemented innovative projects to enhance sustainability in their operations and processes. These shared insights provided other entities with a valuable starting point as they embark on their journey towards environmental sustainability. Aware of the double challenge of taking care of the planet and people, we want to be part of the solution. For this reason, we promote the commitment to take a further step and serve as an example by implementing actions to mitigate climate change and move forward together with tangible efforts to ensure that future generations can enjoy a resilient and equitable health and social system. We face the challenge of initiating social, ecological, digital, and people-centered transformations, which through good intergenerational management, should allow us to improve the present and build a better future for people and the planet.

The Catalan healthcare model: a model of governance and professional management oriented towards results (ID 241)

Rosa Vidal, Maria Pueyo, Laia Llopart, Ivan Cano, Roser Fernandez
Catalan Hospital, Health and Social Services Association (La Unió), Spain

Context: The Catalan healthcare model is a unique model of public governance, with a stable and diverse provision network, professionally managed and oriented towards results, and committed to public policies. It is a model based on a commitment to transparency and continuous improvement, comparing results and sharing best practices. The Results Center was created in 2003, as a collective effort for everyone. La Unió, an association of more than 100 healthcare providers in Catalonia, publishes the study, The Catalan healthcare model: a model of governance and professional management oriented towards results, which analyses and compares outcomes report by different ownership.

Methods: Management capacity and results evaluation facilitate decision-making adapted to the needs of each place and the context of each moment, taking advantage of the opportunities of each organization, which favours good results. Management autonomy stimulates results orientation and allows us to formulate the following hypothesis: good results come from good management, not ownership; and management tools can affect good results. Thus, the diversity of providers facilitates innovation and benchmarking among organizations, contributing to improved outcomes. The methodological process includes 5 differential steps: selection of result-oriented indicators for primary care and hospital care; classification of entities in different categories according to their legal ownership; graphical and numerical analysis by categories (using quartiles); identification of outliers; and comparison of means by categories (using a fixed-effects ANOVA model). The data source is the reports published by the Results Center with indicators from the latest available year (2022-2023).

Results: The conclusions may be influenced by the limitations of the information sources used to develop the indicators of the Results Center. These limitations include the volume, diversity of size and location of entities within each category and the fact that we conduct a specific analysis of indicators, rather than a cross-analysis of indicators with cause-effect relationships. The study's conclusions support the initial hypotheses. Good results come from good management, not ownership. In most indicators, there are no significant differences between entities publicly owned by the Government of Catalonia centers and those who work as state-contracted hospitals. Within publicly owned centers and non-publicly owned centers, there is no homogeneity of behavior among the analyzed indicators. Prejudices about outcomes based on ownership need to be overcome. Management tools can affect good results. Autonomy, capabilities, and management tools are associated with better results.

Discussion: This study sheds light on confirming the value contribution of the Catalan healthcare model. We should consider that diversity adds value; transparency and the comparison of results and best practices generate knowledge that improves the overall quality of the public system; and results must support decisions and debates at all levels. The Results Center is part of the instrumental organization that has been developed around the governance and professional management of the Catalan healthcare model and its value is inherent to the model, and it must continue to be so. We identify elements of improvement by incorporating new indicators of quality, productivity, Corporate Social Responsibility (CSR) and environmental management, and outcomes associated with new care models and social and healthcare integration. We must be resilient in strengthening the instruments of the Catalan healthcare model to improve its social value, public service's quality, the population's health and well-being of people.

Leadership teams in condition-based organisations: generic profiles and job descriptions for the medical, nursing and operational leaders (ID 242)

Matthijs van der Linde[1,2], Prof Dr Paul van der Nat[3,4,5]
[1]National Health Care Institute, Netherlands. [2]Linnean, Netherlands. [3]St. Antonius Hospital, Netherlands. [4]Radboudumc, Netherlands. [5]Santeon, Netherlands

Introduction: The transition to value-based healthcare (VBHC) involves organizational redesign of healthcare provider to move from a function-based organization to a condition-based organization (CBO). In 2021, Linnean described four archetypes of condition-based units (CBUs) within a CBO (Linnean, 2021; Wiersema et al., 2023): multidisciplinary project teams, matrix organization, integrated practice units, and independent treatment centers. These archetypes vary in the degree of responsibility and authority assigned to a CBU for managing care around a specific condition.

CBO requires introducing new roles and reshaping existing ones (see figure 1). In general, these new roles focus on coordinating and delivering care around a specific condition rather than within a function-based department or unit. Key new roles that are introduced in several Dutch hospitals at the level of a CBU are: Medical-, Nurse- and Operational Leader.

Linnean has observed that many healthcare institutions face challenges in defining profiles and job descriptions for these roles. For example, what knowledge is essential? What competencies are required? What tasks, roles, and responsibilities should these leaders take on? What is their position within the broader organization and how can they help the broader organization in its transition? Etc. Additionally, the knowledge and experience gained in this area often remain siloed within individual organizations. To date, a generic profile and job description that healthcare institutions can use as a reference is lacking.

Methods: To address these questions, Linnean , and the *Change Management* workgroup more specifically, has, over the past few years, conducted a deep dive into the literature and practices in Dutch hospitals and abroad. This effort has focused on identifying what profiles and job descriptions medical and nurse leaders in CBO's should entail. These profiles have been consolidated into generic profiles and job descriptions, which has been reviewed by leaders in these roles, as well as HR departments of several Dutch (academic/teaching) hospitals.

Results: Currently, several hospitals in the Netherlands are already leveraging this knowledge. Key insights regarding the profile include the need for the medical leader to have a more connecting and collaborative role, as they are responsible for ensuring effective teamwork across the various disciplines involved in the care pathway. This marks a shift from the more traditional approach, where the medical leader was primarily the individual with the most specialized medical expertise. In terms of job description, the focus is on assigning mandate and responsibilities at the condition level and redistributing tasks away from line management. These insights help VBHC program managers, HR teams, educators, and leadership teams to identify, select, develop, and reflect on CBU leaders(hip).

Conclusion: We believe this topic will be of significant interest to participants at the EHMA conference. After all, teams are the cornerstone of value-driven care, and these teams are most effective when led by the *right* leaders.

A multi-professional perspective tool to assess the implementation and perception of the VBHC model: development and preliminary Delphi results (ID 246)

Egidio de Mattia[1,2], Dr Dorine van Staalduinen[3,4], Ilaria Valentini[1], Prof Dr Paul B van der Nat[3,5,6], Prof Dr Giulio A. de Belvis[1,2]
[1]Università Cattolica del Sacro Cuore, Italy. [2]Fondazione Policlinico Agostino Gemelli, Italy. [3]Santeon, Netherlands. [4]Martini Hospital, Netherlands. [5]Department of Value-Based Healthcare, St. Antonius Hospital, Netherlands. [6]Radboud University Medical Center, Radboud Institute for Health Sciences, Scientific Center for Quality of Healthcare, Netherlands

Context: The transition to a VBHC model demands changes in structures, payment systems, IT, and care measurement, profoundly affecting hospital operations. Without healthcare professionals' understanding, acceptance, and support, these changes may fail. Effective change management is crucial to address staff's emotional and behavioural responses to change. However, organizations often adopt VBHC principles piecemeal, while managers may overlook diverse staff reactions and their leadership role. To address these challenges, we developed a tool to assess the implementation of Value Agenda elements and change strategies, promoting alignment across organizational levels. This study describes the preliminary results of its development and validation process.

Methods: The assessment tool is based on our scoping review that identified operational and management strategies employed at various levels to implement VBHC principles in real-world settings. To translate these strategies into practical questionnaire items, structured sessions were held with experts in VBHC, change management, physicians, researchers, statisticians. This resulted in the initial version of the questionnaire. To validate it, a two round Delphi analysis was conducted. The team of experts was invited to complete the Delphi survey by email, through a Google Modules questionnaire. The experts evaluated the adequacy of the proposed items using a 5-point scale. Consensus was defined by a median score of ≥ 4, an interquartile range of ≤1.5, and ≥70% of ratings in the range [4–5]. Reliability was measured using Cronbach's α, which demonstrated strong internal consistency. Panel responses were iteratively analysed during exploratory and final validation stages, allowing for continuous refinement of the questionnaire.

Results: The first version of the assessment tool consists of 30 questions divided into two macro-areas: 13 items in the Value Agenda Section (e.g., "*To what extent is care delivery in your hospital organized around medical conditions?*) and 17 items in the Change Management Section (e.g., " *Which of the following strategies was utilized to support the commitment toward VBHC of the employees within the hospital?*"). In the first Delphi round, the survey was distributed to 50 experts, achieving a 50% response rate. The panel comprised three consultants, ten physicians, and twelve researchers. All items achieved a minimum frequency of ratings > 80% during first round, demonstrating alignment of expert agreement. Strong internal consistency was shown by the reliability analysis, which confirmed the scale's robustness and reliability with Cronbach's α scores of 0.82 for the VBHC section and 0.88 for the change management section. The second round of the Delphi process is still ongoing.

Discussion: The paper presented the preliminary results of the process of developing and validating an assessment tool. Using the Delphi method ensured methodological rigor and expert consensus on the instrument's key elements. The resulting tool provides a comprehensive view of the value agenda's adoption and the change management strategies implemented. Designed for both hospital leaders and healthcare professionals, it is intended to be administered at key stages of VBHC implementation - such as mid-course and after key milestones - to monitor progress and identify areas for improvement. The use of mirrored questions for hospital leaders and healthcare professionals offers a dual perspective on the phenomenon investigated. For example, leaders may report, “*Which strategies have been implemented to maintain engagement and motivation after challenges or successes in VBHC implementation?*”, while healthcare professionals respond to, “*Which strategies have helped maintain your engagement and motivation after challenges or successes in VBHC implementation?*”.

The Maastricht Innovation Readiness Approach (MIRA): development, validation, and feasibility in long-term care organisations (ID 247)

Monique van den Hoed[1,2], Erica de Vries[1,2], Dr Jan P. H. Hamers[1,2], Dr Ramona Backhaus[3,2], Dr Ramon Daniels[4,2]
[1]Department of Health Services Research, Netherlands. [2]Living Lab in Ageing and Long-Term Care, Netherlands. [3]Fliedner Fachhochschule Düsseldorf, Germany. [4]Zuyd University of Applied Sciences, Netherlands

Background: Innovation in long-term care (LTC) is essential to address future challenges such as increasing demand, workforce shortages, and resource constraints. Organizations with higher innovation readiness are more likely to adopt and sustain innovations effectively. However, LTC organizations often lack systematic approaches to assess and enhance their innovation readiness. The Maastricht Innovation Readiness Approach (MIRA) was developed to fill this gap by providing a structured self-assessment tool combined with a consensus meeting to facilitate organizational learning and strategic decision-making.

Methods: MIRA was designed using a multi-stage approach, including a scoping review, expert interviews, and iterative validation processes. The tool consists of a self-assessment questionnaire based on four key themes: strategic course for innovation, organizing for innovation, leadership for innovation, and learning environment. A Practice Advisory Group (PAG) provided feedback on content validity and feasibility. The final version of MIRA was pilot-tested in 10 LTC organizations, with data collected through online surveys and structured consensus meetings. The feasibility and reliability of MIRA were assessed through quantitative and qualitative analyses, including intra-observer reliability testing and user feedback.

Results: Participants reported that MIRA increased awareness and facilitated discussions on innovation readiness. The self-assessment questionnaire demonstrated high face validity and content validity, with respondents finding it relevant and comprehensive. Feasibility testing indicated that LTC professionals could complete the assessment within 10 minutes, and the consensus meetings effectively stimulated strategic discussions. Intra-observer reliability analysis showed consistency in responses over time, suggesting the robustness of the tool.

Discussion: MIRA provides a structured yet flexible approach to assessing and improving innovation readiness in LTC organizations. By combining quantitative assessment with facilitated discussions, MIRA supports organizational learning and strategic planning for innovation. Future research should explore the longitudinal impact of MIRA on innovation outcomes and examine its applicability in different healthcare settings. Integrating MIRA into broader quality improvement initiatives may further enhance its utility and adoption.

Conclusion: The MIRA approach offers a practical, validated tool for LTC organizations to assess and enhance their innovation readiness. It serves as both an evaluative instrument and a strategic facilitation tool, fostering a culture of continuous improvement in innovation management. As health systems strive to become more adaptive and resilient, tools like MIRA can play a crucial role in supporting sustainable innovation practices in LTC.

Building learning health system capacity: leveraging lessons from an evaluation of a SEPSIS clinical decision support tool (ID 248)

Dr Allyson Hall, Dr Larry Hearld, Dr Kristine Hearld
University of Alabama at Birmingham, USA

Context: Hospitals experience significant sepsis burden. Sepsis is difficult to diagnose, but a quick response can save lives. Clinical decision support tools provide alerts and support swift action and improve outcomes. University of Alabama at Birmingham Health System (UABHS) launched an evidenced-based clinical decision support tool DART to facilitate the detection and treatment of sepsis in their emergency department with plans to launch in other units.

A learning health system intentionally uses internal data and experiences along with external evidence to support improvements in care delivery. At its core, LHSs engage and organize interdisciplinary professionals and patients in the identification of issues or problems, the generation of solutions, the evaluation of solutions, and the dissemination of findings within the institution as well as to the larger community. UABHS intentionally involves its academic partners to support the development and implementation of a learning health system. The implementation of the sepsis clinical decision support tool provided opportunity to demonstrate a learning health system in practice. Specifically, this research project demonstrates how lessons used in the early adoption of can be used to inform subsequent adoptions of DART in other units in the hospital.

Methods: The study involved a variety of data collection and analytic activities including analysis of electronic medical record data, a post-implementation survey of clinical personnel to obtain data about implementation outcomes, embedded researchers within implementation team meetings, and in-depth interviews with key clinical personnel.

Results: During the evaluation period, the health system was able to launch DART in the emergency department. Surveys revealed that 80% of clinicians felt that the tool made it easier to follow guidelines. However, 48% were concerned that the tool did not provide trustworthy information. Themes from the in-depth interviews noted concerns regarding 'alert fatigue; an inability to be 100 percent compliant with the sepsis guidelines, need for organizational buy-in to support implementation, and that the tool did not solve underlying problems associated with crowding in the ED. Analysis of electronic medical record data demonstrated that likelihood of 30-day readmission and likelihood of death were lower among patients whose clinicians received DART alerts (trigger) following implementation (See Table uploaded). Findings were incorporated into adjustments made in subsequent implementations of DART including better educational programs aimed at users, and greater attention to automation of the tool.

Conclusion: There is emerging evidence that within the UABHS, deployment the DART tool has the potential to improve care. However, attention needs to be paid to how clinicians interact with DART to avoid alert fatigue and to ensure greater compliance with evidenced-based practice.

Can supplementary private health insurance reduce vulnerability to expected poverty and catastrophic health expenditure? (ID 249)

Prof Jiajia Li, Dr Shiju Dong
Shandong University, China

Background: In countries with social health insurance systems, private health insurance often serves as an important supplement. In China, where social health insurance (SHI) covers more than 95% of the population, supplementary private health insurance (SPHI) primarily addresses high out-of-pocket (OOP) payments that remain after SHI reimbursement. In alignment with the policy objective of alleviating the OOP burden, this study aimed to evaluate the impact of SPHI on vulnerability to expected poverty (VEP) and catastrophic health expenditure (CHE) within the Chinese context.

Methods: A cross-sectional dataset comprising 25,568 samples was obtained from the National Health Service Survey (Shandong) conducted in 2023. A three-stage feasible generalized least squares (FGLS) method was employed to estimate VEP. CHE was measured by OOP payments on health care (both direct and indirect) equalling or exceeding 40% of the capacity to pay. To address potential endogeneity issues, the depth of SPHI in each city was used as an instrumental variable (IV), applying two-stage least squares regression (2SLS) to explore how the SPHI affects VEP and CHE. The depth of SPHI here was operationalized as the ratio of total insurance premiums to the gross domestic product of a city. Subgroup analysis focused on variations across education attainment, age, gender, chronic illness status, and urban/rural areas.

Results: Among the respondents covered by SHI, only 3,547 individuals (13.87%) additionally purchased SPHI. Those with SPHI exhibited 6% lower VEP and experienced 7.56% fewer CHE compared to their uninsured counterparts. The 2SLS regression results indicated that SPHI significantly reduces the likelihood of VEP (coefficient: -0.745, $P < 0.01$) and CHE (coefficient: -0.705, $P < 0.01$). Additionally, SPHI generates welfare benefits especially among residents aged 60 and above, individuals without chronic diseases and urban residents.

Conclusions: The findings imply that SPHI can contribute meaningfully to poverty reduction even among populations covered by SHI. Therefore, we encourage other low- and middle-income countries to consider implementing SPHI for vulnerable groups to mitigate illness-induced impoverishment.

Nurse practitioner planned interventions provide cost savings through reduced transfers from home care to emergency departments (ID 255)

Prof Eric Tchouaket[1,2], Prof Kelley Kilpatrick[3,4], Mira Jabbour[5], Fatima El-Mousawi[1]
[1]Université du Québec en Outaouais, Canada. [2]Canada Research Chair in the Economics of Infection Prevention and Control, Canada. [3]Ingram School of Nursing, McGill University, Canada. [4]Susan E. French Chair in Nursing Research and Innovative Practice, Canada. [5]Maisonneuve-Rosemont Hospital, Canada

Context: Integrating primary healthcare nurse practitioners (PHCNPs) into home care services increases the availability of healthcare, reduces hospitalizations, and limits emergency department (ED) transfers, especially when PHCNPs plan the interventions. The economic benefits of reducing transfers to the ED remain underexplored. This study assessed the cost-savings associated with PHCNP-planned interventions during patient transfers from home care to EDs.

Methods: Data were collected from 343 patients receiving home care services and being followed by six PHCNPs between November 1, 2021, and May 4, 2022, in Québec, Canada. A literature review was performed to evaluate the costs associated with patient transfers from home care to EDs. Time-Driven Activity-Based Costing was used to assess the costs of PHCNP planned interventions. Cost-savings were calculated as the net gains from reduced transfers achieved through planned PHCNP interventions. Descriptive statistics identified the number of transfers during the study period, comparing those arising from PHCNP-planned interventions versus unplanned interventions. Sensitivity analyses, with 1,000 random simulations and discounting were used to estimate the median transfer costs, the intervention costs, and cost-savings.

Results: A total of 2,839 interventions occurred. Of these, 1,819 were planned and 1,020 were not. The cost difference between planned and unplanned interventions was not statistically significant ($p = 0.445$). However, planned interventions significantly reduced patient transfers by a factor of 7.1 (OR range: 2.7–18.4, $p < 0.001$) compared to unplanned interventions, when controlling for patient age, gender, health conditions and contextual factors. The reduction in median costs attributable to planned interventions ranged from CAD 17,370 to CAD 50,230 per avoided transfer.

Discussion: This study demonstrates that PHCNP-planned interventions reduce patient transfers to EDs compared to unplanned interventions. This reduction resulted in substantial cost-savings, highlighting the value of PHCNP in enhancing home care quality and safety. These findings offer insights for policy development and the integration of PHCNP planned interventions in home care settings.

Job satisfaction and turnover intention among healthcare professionals in Thailand: a comparative analysis of experienced vs less experienced (ID 256)

Nantapong Butakhieo, Dr Lina Vyas
The Education University of Hong Kong, Hong Kong

Context: The healthcare sector has faced numerous challenges recently, such as workforce shortages, excessive workloads, stress, burnout, and high turnover rates among healthcare professionals. Several factors influence job satisfaction and turnover intentions, including working conditions, supervisor relationships, and salary. In particular, different generations or individuals with varying levels of work experience, whether less experienced or more experienced, may have different expectations regarding job satisfaction and challenges. Therefore, it is essential to better understand the factors that influence job satisfaction and turnover intention, which may help retain healthcare professionals, enhance their work engagement, and ultimately improve the quality of patient care. This would lead to more efficient healthcare services and better patient outcomes. This study examines the impacts of working conditions, supervisor relationships, and salary satisfaction on healthcare professionals' job satisfaction and turnover intention in Thailand.

Methods: This study employed a mixed-method approach, employing qualitative and quantitative research techniques. The participants are healthcare professionals in Thailand, including medical doctors, nurses, pharmacists, and allied healthcare professionals. Quantitative data were collected through the use of a Qualtrics online self-administered questionnaire. The questionnaire link was distributed to participants via email and social media platforms like the LINE application and Facebook. It took participants 7 to 10 minutes to complete the questionnaire, and the sample consisted of 187 healthcare professionals. Qualitative semi-structured interviews, which took an average of 20-30 minutes, were conducted with a subset of the questionnaire respondents, with a sample size of 30 healthcare professionals. Data collection took place over four months, from late April through late August 2022. The quantitative data analysis was conducted using SPSS, including descriptive statistics, t-tests, and mediation analysis using the process macro. Thematic coding was used to analyse the qualitative interview data.

Results: The results reveal statistically significant differences in job satisfaction and turnover intention between the two groups of healthcare professionals. The mediation analysis results indicate that less experienced healthcare professionals with higher satisfaction with working conditions tended to have higher satisfaction with salary and their relationship with supervisors, ultimately leading to better job satisfaction. However, these relationships were not found in experienced healthcare professionals. The qualitative results will complement the quantitative findings, which discovered that healthcare professionals who are satisfied and have better working conditions and salaries will have good relationships with their supervisors, hence, better job satisfaction and ultimately reduced intention to leave.

Discussion: The study investigates the effects of working conditions, supervisor relationships, and salary satisfaction on job satisfaction and turnover intention among two groups of healthcare professionals in Thailand: those with less than ten years of experience and those with more than ten years of experience. It also explores the differences in job satisfaction and turnover intention between these two groups despite their similar working conditions. The findings indicate that there are notable differences in turnover intention and job satisfaction between the less experienced and more experienced healthcare professionals. This highlights the need for organizations and policymakers to develop tailored supportive policies for each group. The results of this study will inform human resource policy suggestions and implications for the healthcare sector in Thailand, emphasizing how effective human resource management can enhance the job satisfaction of healthcare professionals in the country.

All that glitters isn't gold: examining how and why organisations collaborate to address wicked problems in healthcare (ID 257)

Dr Robin Peeters
Maastricht University, Netherlands

Context: The sustainability of health systems worldwide is under pressure due to wicked problems that can only be solved by collaboration between multiple stakeholders. Networks of three or more actors that aim to address such problems therefore are proliferating but lack effectiveness. Given the importance to address healthcare's wicked problems, it is crucial that these networks are effective. This doctoral thesis aimed to understand what determinants influence network effectiveness, how determinants influence effectiveness of networks in practice, and how to systematically assess them. This thesis therefore integrates existing fragmented literature and bridges this knowledge to practice to improve network effectiveness.

Methods: The dissertation includes two extensive systematic literature reviews to review what determinants of network effectiveness have been identified in the literature and to review how these determinants can be measured systematically using questionnaires, developing a network effectiveness questionnaire. Additionally, the dissertation includes three empirical case-studies using longitudinal, multi-method qualitative designs. A purpose-oriented network was studied for over four years that had been established seven years prior to the study's start aiming to achieve 'more health per euro spent'. We used observations of network meetings (23 meetings, 46 hours), interviews (43 total) at three moments in time with network participants (34 total, 11 in round one, 12 in round two, and 11 in round three) and once with actors in the institutional environment (e.g. Ministry of Health, 9 interviews), and document collection throughout the observation period of meeting minutes, internal documents, policy documents, and media outlets (275 documents, 2110 pages).

Results: The results show that at least 283 determinants of network effectiveness can be identified from the literature, but those mostly explain how organizations collaborate well instead of how organizations can achieve common goals. Additionally, healthcare management studies often measure those determinants using unvalidated scales and without consistency across studies, even though validated scales are available in general management literature. The empirical studies show that actors rarely measure outcomes of networks and continue participation in networks even if they believe the network is ineffective due to institutional pressures. Additionally, new policy negatively impacted the existing network, questioning its legitimacy and the future of the network, even though the network was perceived as effective, and many resources had been spent over the years to achieve this. Finally, leadership transitions can take a long time and cause power dynamics between participants. Leadership transitions appear particularly difficult in lead-individual instead of lead-organization leadership.

Discussion: The systematic reviews in this dissertation illustrate the importance of using configurational methods to examine which configurations of determinants influence network effectiveness. Additionally, to increase comparability across studies and settings, psychometric properties were reviewed of available questionnaires and recommendations on which questionnaires to use and how for both academics as well as practitioners. Networks in practice should not underestimate the complexity of networks but consciously organize networks using determinants of network effectiveness (e.g. considering dual leadership and suitable governance structures). They should also critically assess and reflect on their effectiveness (i.e. goal attainment) and learn or quit if necessary so resources can be spent more efficiently. Policy should aid in this, encouraging networks to not only be established but also become effective, and making data easily accessible to measure outcomes. Moreover, new policy should align with existing structures in practice to ensure it does not hamper existing effective networks.

Ethical challenges in dementia informal care and research: qualitative study in the Republic of Moldova (ID 258)

Assoc. Prof Adriana Paladi
School of Public Health Management, Nicolae Testemitanu State University of Medicine and Pharmacy, Moldova

Context: Dementia is a major global public health challenge and is currently recognized as a priority in mental health. In 2018, 1.57% of the European population was affected by dementia, with projections indicating an increase to 3% by 2050. In the absence of an effective treatment, care and support emerge as the most critical interventions for those affected, with the majority of care being provided by informal caregivers. While this type of care is inherently complex and involves profound moral challenges, limited attention has been given in the literature to how these ethical dilemmas are experienced and addressed.

Methods: The study employs a cross-sectional qualitative design to explore ethical issues in dementia care as experienced by informal caregivers. The conceptual framework is grounded in the patient- and family-centered care approach (Kitwood, 1998). Participants were family caregivers providing care for individuals with dementia for at least six months. Recruitment was carried out using purposive, convenience, and snowball sampling methods. Twelve participants (4 daughters, 2 daughters-in-law, 2 granddaughters, 2 wives, 2 husbands) were involved. Ten interviews were conducted face-to-face at participants' homes or caregiving locations, except for 2 interviews held at the health centers. All interviews were transcribed verbatim to capture the participants' responses comprehensively. Data were analyzed using interpretative phenomenological analysis (Smith et al., 2022) to understand how participants make sense of their subjective experiences in their social context. Socio-demographic data were descriptively analyzed.

Results: The study identified five major themes: Types of care provided, Problems and needs in caregiving, Motivation in caregiving, Opinions on social assistance for dementia, and Ethics and moral challenges. While discussions on ethics in dementia care were not central, findings reveal that ethical dilemmas are subtly embedded in caregiving. Though not always overt, these dilemmas significantly affect both the quality of care and the well-being of caregivers and patients. The ethical responsibility to provide compassionate and appropriate care imposes a substantial burden on caregivers. Constant vigilance and insufficient social or medical support often lead to physical and emotional exhaustion, potentially compromising care quality. Caregivers face complex ethical decisions, such as balancing patient safety with autonomy. For instance, limiting the patient’s independence to prevent harm raises concerns about preserving dignity while ensuring health and safety, highlighting the profound moral challenges inherent in dementia caregiving.

Discussion: Several ethical issues emerged during the study. Although participants were informed about the study’s objectives, some mistakenly assumed that the researcher was in a decision-making position within the system and could help alleviate their burdens. This misunderstanding introduces a risk of self-reporting bias, where participants may present their experiences in a way that favors them, consciously or unconsciously. As a result, the study may disproportionately reflect the negative experiences and challenges caregivers face, limiting the ability to draw balanced conclusions about the positive aspects of caregiving or available resources. Thus, greater attention is required to the procedure of informing potential participants. Additionally, the cross-sectional design captures ethical challenges at a single point in time, without accounting for the evolving nature of caregiving or dementia progression. Therefore, further research is needed to explore how these ethical dilemmas develop over time and provide a more comprehensive understanding of caregiving dynamics.

The study is supported by Ethics in Dementia (EDEM) COST Action

Creating a comprehensive healthy work environment for public employees through academia-community cooperation: the case of the ‘balanced’ program (ID 260)

Prof Mohamad Alameddine, D. Alounoud Almarzouqi
University of Sharjah, UAE

Context: The Wazen (Balanced) program is the largest and most comprehensive initiative for assessing and creating a healthy work environment at the Emirate of Sharjah, United Arab Emirates. The program is actively engaging and impacting thousands of public employees across different governmental agencies in Sharjah. The program is phased out in three Stages, the first, engaged 22 governmental agencies employing 80% of employees in Sharjah.

Purpose: The project aims at assessing four dimensions (work Environment, healthy lifestyle, occupational safety and organizational culture), through twelve specific assessment tools (physical & psychological environments, physical activity, healthy eating, occupational safety, smoking cessation, referral to primary care, volunteering, parenthood support, support to people with disability, emergency readiness and exposure to hazards).

Methods: The program adopted triangulation approach for collecting information through individual surveys, site visits and leadership interviews.

Results: Preliminary findings highlight three priority areas that deem intervention related to; physical activity of employees (61% indicated low levels), healthy eating habits (55% indicated unhealthy habits) and smoking cessation (21% are active smokers). The presentation will highlight more detailed findings along with associated corrective actions and recommendations.

Conclusion: The Wazn (balanced) program provides a unique prototype that could be followed and a model that could be replicated. The main strength of the program relates to its comprehensiveness and the feedback model of empowerments and support. It further provides a framework for evidence-based improvement of the health and wellbeing of employees which would positively influence their productivity and the satisfaction of their customers.

Economic evaluations of infection prevention and control interventions in long term care facilities: a systematic review (ID 261)

Prof Eric Tchouaket[1,2], Fatima El-Mousawi[1], Stephanie Robins[1], Katya Kruglova[1], Séguin Catherine[1], Prof Kelley Kilpatrick[3,4], Prof Maripier Jubinville[1], Suzanne Leroux[1], Prof Idrissa Beogo[5], Dr Drissa Sia[1]
[1]Université du Québec en Outaouais, Canada. [2]Canada Research Chair in the Economics of Infection Prevention and Control, Canada. [3]Ingram School of Nursing, McGill University, Canada. [4]Susan E. French Chair in Nursing Research and Innovative Practice, Canada. [5]University of Ottawa, Canada

Context: Healthcare-associated infections (HCAIs) are common in long-term care facilities (LTCFs) and cause significant burden. Infection prevention and control (IPC) measures include the clinical best practices (CBPs) of hand hygiene, hygiene and sanitation, screening, and basic and additional precautions. Few studies demonstrate their cost-effectiveness in LTCFs, and those that do, largely focus on one CBP. An overarching synthesis of IPC economic analyses in this context is warranted. The aim of this paper is to conduct a systematic review of economic evaluations of CBPs applied in LTCFs.

Methods: We twice queried CINAHL, Cochrane, EconLit, Embase, Medline, Web of Science and Scopus for studies published between 1995 and 2024 of economic evaluations of all CBPs in LTCFs. We included randomized controlled clinical trials, cohort, longitudinal, prospective, retrospective, cross-sectional, and simulation studies, as well as those based on statistical modelling. We synthesized the following economic analyses: cost consequence, cost effectiveness, cost utility, cost benefit and cost minimization. Two reviewers conducted study selection, data extraction, and quality assessment of studies. We applied discounting rates of 3%, 5% and 8%, and presented all costs in 2022 Canadian dollars. The Dominance Ranking Matrix classification tool was used to determine if interventions should be rejected, favoured, or it the decision remained unclear. The protocol of this review was registered and published.

Results: From two searches, 4,153 records were retrieved. After removing duplicates and screening ten studies were retained. These studies were conducted in Canada (n=4), Hong Kong (n=1), Spain (n=1), and the United States (n=4). Four studies were of high quality, three were moderate, and three were low quality. Inter-rater agreement for quality assessment was 91.7%. Many studies focused on interventions for screening COVID-19 SARS-CoV-2 (n=2), Influenza A (n=1), or Tuberculosis (n=3). Other studies examined multi-component care for managing urinary tract infections (n=2) or reducing the risk of carbapenem-resistant Enterobacteriaceae infections (n=1). One study assessed routine glove use versus contact-isolation precautions in relation to infection with antimicrobial-resistant bacteria (n=1). Economic analyses included cost-minimization (n=1), cost-benefit (n=1), cost-savings (n=2), cost-utility (n=2), and cost-effectiveness, which included both cost-utility and cost-benefit analyses (n=4). All ten studies demonstrated that CBPs associated with IPC are clinically effective in LTCFs, with six studies also showing cost-effectiveness.

Discussion: Targeted testing, screening, and infection control strategies in LTCFs can generate significant cost savings while enhancing quality of life. The studies presented here all demonstrated clinical benefits in preventing healthcare-associated infections, emphasizing the importance of IPC practices in safeguarding both residents and staff. While the evidence summarized here is highly relevant to healthcare policymakers and administrators, this systematic review identified only ten studies in the literature. These findings suggest that ongoing economic evaluations of IPC should be encouraged, as they remain limited yet crucial for guiding policy in settings where resource allocation must be evidence-based.

4-day work, a lever for sustainable work in nursing homes (ID 262)

Dr Christelle Routelous, Anne Lise LE HESRAN
EHESP, Rennes, France

Context: Health and medico-social establishments are finding it increasingly difficult to recruit and retain staff. Against this backdrop, it is now essential to rethink the way in which work is organised and the conditions under which individuals develop professionally. The aim is to work with them to devise a framework that will enable them to combine quality of life with sustainability in the workplace. To this end, the study looks at innovative initiatives in terms of time organisation, in connection with the revision of organisational work models and experimentation with a compressed 4-day working week.

Methods: We studied the 4-day work week experiment in EHPAD, on the reconfiguration of work organisation, on the quality of care and work, and on the issue of managing time away from work. We produced a monograph on the year 2024 and conducted semi-directive interviews with 15 professionals taking part in the experiment. We paid particular attention to the resource conservation strategy pursued by the management team and to the management of personal time by care workers.

Results: In particular, the preliminary results show that we can identify a ‘supportive’ managerial model based on:

- The quality of the service provided: a feeling of a better match between resources and needs,
- Self-satisfaction: feeling of a better match between work sustainability and care ethics,
- Increased salary thanks to a return to full-time work with the benefit of keeping one day a week for oneself,
- A participative approach: a feeling of recognition and empowerment,
- A forum for discussing irritants: support through analysis of practices, active problem-solving and genuine local management.

Discussion: While the model appears very satisfactory for all stakeholders (management, team and patients) in terms of sustainability and quality of care, it remains dependent on the additional financial resources obtained by management to slightly increase the number of nursing staff. Paradoxically, moreover, the benefit of extra days not worked makes care workers more critical of the need for self-replacement and the unpredictability of working hours. The notion of (conceded) availability needs to be questioned, because since the end of Covid-19, carers have a more assertive expectation of personal time. As a result, work organisation constraints are increased in the event of short absences; the use of temporary contracts or short contracts increases staff costs and, in turn, weakens the sustainability of the model.

Reinventing professional roles and identities: how technology reshapes care practices in the digital age (ID 263)

Estella Posthuma, Prof Dr Iris Wallenburg, Prof Dr Roland Bal, Dr Jitse Schuurmans
Erasmus University Rotterdam, Netherlands

Digital technologies, like medical support and nursing care through video consultation and apps, are increasingly embraced as a solution to manage a growing shortage of healthcare personnel and the lack of appropriately trained health staff in disability care. Digital technologies are often presented as 'easy solutions', yet this tends to gloss over the practical challenges and uncertainties they bring in, impacting professional work as well as everyday caring (Neves et al., 2024). Due to this technological shift, professionals need to reconfigure their professional roles in a digital age with consequences for how care is enacted (Borsch et al., 2024).

Zooming in on digital triage carried out by nurses for people with disabilities (PWD), we show how care is provided differently compared to traditional patient-healthcare provider interaction. Instead of calling a General Practitioner (GP), nurses based at a triage center provide advice to supervisors and clients 'at a distance'. Using an ethnographic approach and drawing on a sociotechnical perspective, observation and interview data were gathered at a digital triage center and at the residential groups for PWD in the Netherlands. Participants included board members, managers and nurses within the digital triage center and PWD (clients) and their supervisors at residential groups.

The research shows how healthcare professionals providing digital care are creating and reshaping their professional roles – both on the side of the provider and receiver and in their mutual interactions. The traditional practice of nursing through embodied caring – through touch, smell and sense – is replaced by one grounded in seeing and listening. Relying solely on these senses during a triage conversation requires experienced nurses who possess bedside experiences. In this research we show how care is enacted anew; it is about translating the care demand (how to articulate clinical advice), continuously assessing the situation (is the supervisor authorized and competent to understand the care demand and carry out clinical tasks), and trusting what is being told and shown. Reevaluating the professional identity of nurses, all while being in a digital environment is detrimental to this new role. This new way of working also impacts the 'other' side of the digital environment: clients and their supervisors. Instead of consulting the GP, they now must engage in digital triage which is challenging and puzzling for these vulnerable groups. This impacts the therapeutic relationship between supervisor and client, sometimes resulting in damaged relationships of trust when digital advice is faulty interpreted.

The technology-enabled ways of organizing care impact multiple levels of the healthcare system. Healthcare professionals are (re)-creating their ways of providing care and inextricable their professional roles and identities, while also clients must change their practices. Digitally enacted care is not, put simply, the holy grail for efficient and accessible care. It requires experience, high capabilities and flexibility to re-shape professional roles in a digital age. It requires work from organizations affiliated with technological innovations, including, next to education, reflexive monitoring of changing care relationships and professional roles as in practice, it is another way of working for both healthcare professionals and patients (May, 2013). Recreating professional roles to enact care digitally are essential ingredients for the workforce of the future.

Automatic data capture techniques and electronic transaction documents enhancing the implementation of the European Medical Device Regulation in a university teaching hospital. A case study from Poland (ID 265)

Dr Anna Gawrońska
Warsaw School of Economics, Poland

According to Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, ‘health institutions shall store and keep preferably by electronic means the UDI of the devices which they have supplied or with which they have been supplied, if those devices belong to class III implantable devices.’ The research problem has its source in the current practices of hospitals in Poland. The trade in medical devices is mainly based on paper documents, and data on medical devices are entered into computer systems manually, which creates the risk of errors and significantly extends the duration of these activities.

Although neither the MDR nor the Polish law impose a specific method of collecting data on UDI codes by hospitals, there are good practices in this area that have been used in other industries for several decades. Such a mechanism is barcode scanning, i.e. obtaining data from code markings entered by manufacturers of medical devices and the use of electronic transaction documents.

The aim of the study was to assess the possibility of using digital solutions, in particular automatic data collection techniques, consisting in scanning barcodes previously introduced to medical devices by manufacturers, to support the implementation of MDR regulations. In addition, the aim of the study was to assess the potential effects of the implementation of barcode scanning and electronic document scanning in the context of working time, workload of medical staff and reduction of manual and duplicate activities.

The study was conducted at a 16-ward university teaching hospital in Poland between February and June 2024. The research methods used included: literature studies, analysis of processes related to the trade in medical devices in the hospital (placing orders, accepting deliveries to the hospital pharmacy, completing dispenses, admission to the ward, administering the device to the patient along with registration of the application) and in-depth interviews with hospital employees (pharmaceutical and nursing staff).

The study showed a number of benefits that hospitals can gain from barcode scanning. First of all, the risk of making a mistake is significantly reduced, which in the case of manual activities is 1 per 100 characters entered. During scanning, we reduce this probability to 1 error per 10,000,000 characters. In addition, the use of barcode scanning significantly reduces the time of performing specific activities, which in the light of the problems faced by health care, i.e. the lack of medical staff, cannot be overestimated. Thanks to automatic data collection techniques and the use of electronic documents, it is possible to reduce bureaucratic activities.

Advancing FH paediatric screening with tailored communication: a citizen-centred approach in Romania and Cyprus (ID 266)

Bianca Cucos, MD[1], Dr Marius Geanta[1], Assoc. Prof Andrie G. Panayiotou[2], Magdalena Daccord[3], Ruxandra Schitea[1], Andra Paun[1]
[1]Centre for Innovation in Medicine, Romania. [2]Cyprus University of Technology, Cyprus. [3]FH Europe Foundation, Netherlands

Context: Familial hypercholesterolemia (FH) is the most common genetic cardiovascular risk factor worldwide and remains significantly underdiagnosed. Paediatric screening for FH provides a critical opportunity for early detection and treatment, significantly reducing the risk of premature cardiovascular disease. The PERFECTO project (Preventing the Preventable – Familial Hypercholesterolaemia Paediatric Screening for Cardiovascular Health), funded under EU4Health, developed a Personalized Communication Model (PCM) to improve FH screening uptake. By leveraging behavioural data and novel technologies, the PCM integrates tailored communication strategies that address the unique needs of diverse populations, ensuring people-centred approaches to health promotion in Romania and Cyprus.

Methods: The PCM was designed using a mixed-methods approach, combining quantitative and qualitative insights. Nationally representative surveys were conducted in Romania (n=1,000) and Cyprus (n=455) using online and phone-based methods to assess public knowledge, attitudes, and behaviours regarding FH and cardiovascular disease. These data were analysed to identify patterns of health-related attitudes and behaviours, forming the basis for behavioural clusters and personas. Clusters represent distinct population segments, each with specific motivations, barriers, and preferences regarding health communication. Personas are fictionalized profiles derived from these clusters, used to personalize outreach strategies. Qualitative consultations with healthcare providers, patient advocates, and policymakers validated these clusters and personas, ensuring contextual relevance. The PCM integrates communication strategies at three levels: micro (families and close networks), meso (community leaders and influencers), and macro (public campaigns via media). Validation in Cyprus confirmed the model's adaptability across different cultural and healthcare contexts.

Results: The survey data identified five distinct behavioural clusters, each with unique attitudes toward health and FH screening. Clusters included populations with proactive health behaviours, groups exhibiting scepticism, and those unaware of FH risk factors. Personas were created to illustrate each cluster's communication needs and preferences, providing a basis for tailored outreach strategies. Survey findings demonstrated high levels of trust in healthcare providers, with family doctors being key influencers for cholesterol testing (cited by 35.7% in Romania and 34.3% in Cyprus). Despite this, only 30% of parents in Romania and 40% in Cyprus reported testing their child's cholesterol levels. However, willingness to participate in early screening was high (67% in Romania and 96% in Cyprus), indicating potential for increased participation through effective communication. The PCM successfully addresses these clusters and personas through its multi-level strategies, offering adaptable and targeted approaches to overcome barriers and increase screening uptake.

Discussion: The PCM demonstrates a robust framework for people-centred health systems by tailoring communication strategies to diverse population needs. Behavioural clusters and personas provided actionable insights, enabling the identification of key barriers and facilitators to FH screening in Romania and Cyprus. High trust in healthcare providers underscores the importance of engaging family doctors and specialists in disseminating information and encouraging participation. Validation in Cyprus highlighted the model's flexibility, proving its applicability across different cultural contexts. By combining behavioural data with qualitative insights, the PCM offers a replicable methodology for designing targeted health interventions. The PCM's multi-level approach ensures comprehensive engagement, addressing individual behaviours, community dynamics, and societal influences. This demonstrates the value of integrating novel technologies and data-driven methods to achieve sustainable health outcomes. Future applications of the PCM could extend to other health conditions, contributing to improved public health across Europe.

Body of evidence and knowledge mobilisation are pivotal for informed decision making, effective implementation and scaling-up AI- and other data-driven innovations in health care (ID 267)

Dr Brent Opmeer[1,2], Prof Dr Henk Herman Nap[1,3]
[1]Vilans, Netherlands. [2]NIHR ARC West, University of Bristol, United Kingdom. [3]Centre of Expertise in Dementia & Technology, Technical University Eindhoven, Netherlands

Context: Health care systems are under major pressures, dealing with increasing demands and costs, decreasing work force capacities, and at the same time to maintain quality standards and better tailor care to individual needs. Technological innovations based on data and AI and social innovations, are becoming increasingly available for implementation in care practice. Policy makers, hospital boards and health professionals have high expectations that innovations will help solve these problems, but their implementation in practice remains often limited to pilots and fail to effectively scale-up. Although this 'pilotitis' is widely recognized, there's less clarity on how to solve this challenge.

Need for evidence generation and knowledge mobilization: In the absence of evidence of their added value, safety, and cost-effectiveness, a common call is to "just implement these technologies". As a result, many wheels are reinvented twice, known pitfalls are not avoided, uncertainty remains regarding their added value, costs, safety, responsible use, etc, and this approach/attitude still does not contribute to gaining and sharing knowledge. Principles of evidence-based medicine (EBM) and health technology assessment (HTA) have been widely implemented in health care systems and countries. This has resulted in a solid body of evidence on (cost-)effective diagnostic and treatment interventions, including medical devices. Clinical practice guidelines ensure adequate implementation of evidence in clinical practice. This evidence is also used to inform policy decisions, e.g. for market access or reimbursement decisions. For many innovations based on data and AI, this body of evidence is lacking, leaving policy decision makers and hospital management in limbo as to whether to reimburse or implement certain technologies. We cannot expect each health care organization - in particular in long-term care - to carry out such evaluations due to staff shortages and lack of research capacity. Therefore, this requires external support, and also some central orchestration and alignment of such technology assessments.

In the Netherlands, Digizo.nu and the National Consortium for Value Assessments, have started to prioritize and carry out technology assessments for digital- and hybrid innovations. Thereby a systematic approach is followed, applying uniform methodologies and reporting formats. Realizing the considerable amount of technologies to be assessed for different contexts, the basic principle for value assessment is "as simple as possible, as complex as required". We need to speed up the value assessment, implementation and scaling-up process of digital- and hybrid care arrangements due to the upcoming challenges in available care professionals. Furthermore, technological innovations are changing rapidly so there is limited time for longitudinal randomized controlled trials (RCTs) of care technologies. A subsequent challenge is to systematically share and mobilize the acquired evidence. In addition to more formal publications in scientific journals, more pragmatic reporting and implementation guidance is required to inform policy makers and health care boards/managers, and to support their implementation in practice. Centers of expertise, such as Vilans in The Netherlands (for care for the elderly and people with disabilities), are well positioned to enable such knowledge mobilization.

Discussion: In this conference presentation we will outline the problem of insufficient coordination and focus on evaluation and monitoring of initiatives where innovative technologies are being piloted and implemented. We will discuss opportunities and examples to enhance evidence generation and knowledge mobilization in different health care contexts and systems, such as Digizo.nu and Vilans in the Netherlands.

Assessment of attitudes towards antihypertensive medication among Hungarian patients with hypertension (ID 269)

Varga Mihály[1], Dr Boruzs Klára[2]
[1]Doctoral School of Health Sciences, University of Debrecen, Hungary. [2]; Institute of Health Economics and Management; Faculty of Economics and Business, University of Debrecen, Hungary

Background: The key to effective hypertension management is good cooperation between patients and their doctors, so it is important to assess patients' beliefs about the use of antihypertensive drugs. The aim of this study was to identify various groups based on the attitudes toward pharmacotherapy among Hungarian patients with chronic hypertension.

Methods: Data were collected in Hungary using the Beliefs about Medicines Questionnaire (BMQ). Adult patients with chronic hypertension taking prescribed medication participated in the study. The responses were analyzed and grouped into four categories based on the respondents' answers.

Results: 1,067 adult patients with chronic hypertension who were taking antihypertensive drugs took part in the research. The average age of hypertensive patients was 57.3 years (SD = 14.1). 63.4% of the participants were women. The majority of those surveyed (60.5%) considered their general health to be good or very good. In the case of hypertension, almost two-thirds (64.0%) agreed with the required question, "Without antihypertensive medication, I would have a serious illness." In terms of concerns about medications, half (52.0%) were concerned about the long-term effects of medications. The second most common response was "indifference" (38.1%). The "indifferent" group were respondents who were not convinced of the need for the drug and were not concerned about taking it. The lowest was "skeptical" (14.8%), who had a skeptical attitude toward antihypertensive medications, doubted their necessity, and were particularly anxious about their use.

Conclusions: Due to the high ratio of those having concerns, more attention is needed to ensure that they also take medication correctly. Among many things, this requires the promotion of good communication between physicians and patients.

Key messages:

- Among chronic patients, it is important to identify drug-taking attitudes, as they influence the outcome of long-term therapy.
- Based on the results, slightly more than half of the Hungarian respondents have concerns regarding antihypertensive drugs.
- Utilizing communication strategies that address concerns regarding these drugs should be of high priority.
- Based on the literature, we recommend strengthening the communication between physicians and patients.

Disseminating smoke-free campus in France: a pre-implementation study across the Brittany region (ID 270)

Lou Philippe, Dr Anne Girault, Prof Karine Gallopel-Morvan
Université de Rennes, EHESP, CNRS, Inserm, Arènes – UMR 6051, RSMS – U 1309, France

Context: In France, smoke-free campuses (SFC) aiming to protect young people from smoking are rare. SFC corresponds to a ban on smoking in all university grounds and entails access to free cessation services, the organization of prevention campaigns and the training of student ambassadors. In 2018, Brittany was the first region to host a SFC (with the French school of public health). It is also a region with many students (145,000 annually) and a disproportionately high smoking rates (30.2% of 18-30 years old were daily smokers in 2021). Our study aimed to better understand reasons for poor SFC development in Brittany.

Methods: Emails were sent to 65 universities and colleges across Brittany in 2024. 20 semi-structured interviews were conducted among higher education institutions (including the four main universities). 18 deans and 11 other staff members finally participated in the study. They were interviewed about their knowledge and opinions on SFC and the perceived benefits and barriers associated with the implementation. All interviews were transcribed and analyzed thematically using Nvivo14.

Results: Most participants were unaware of the existence of SFC. They thought it corresponded only to a ban on smoking but after giving the comprehensive definition, a majority of them appeared to be in favour of the initiative. Four establishments out of the twenty interviewed have developed a partial SFC with only a ban of smoking indoors and outdoors. Among the perceived benefits of implementing a SFC, participants mentioned the positive impact on student's health and the effects on their institution's reputation. Deans supporting the SFC view it as a chance to enhance health education for students and improve employees' work life quality. Main obstacles included other competing priorities (alcohol misuse and gender-based violence), the lack of precise geographical limits, anticipated staff members' hostility, and important estimated costs associated with the implementation. Enablers were access to resources from SFC experts and the possibility of raising dedicated financial resources.

Discussion: Despite strong political support from renowned institutions at both national and international levels (WHO, the European Commission, the French national plan against tobacco), SFC development remains limited. Our study aimed to inform about the reasons behind that and the specific needs to ensure SFC policy dissemination at the regional level. The study limitations are linked with a limited number of schools and universities interviewed and the risk of social desirability bias from interviewees. Raising awareness of SFC is essential and working on potential solutions to overcome identified obstacles (lack of financial resources, time etc.) is needed. To increase dissemination of SFC, one possible solution is to demonstrate the consistence of SFC with sustainable development's goals.

Prevalence and effectiveness of digital mental health interventions for adolescents worldwide (ID 271)

Maram Alharthi[1,2], Prof Milena Pavlova[1], Prof Katarzyna Czabanowska[1], Dr Aljohrah Aldubikhi[3]
[1]Maastricht University, Netherlands. [2]King Khaled University, Saudi Arabia. [3]Saudi Electronic University, Saudi Arabia

Context: Adolescence is a critical phase of life characterized by heightened vulnerability to mental health disorders, which can persist into adulthood, causing extended morbidity and a significant societal burden. These include depression, anxiety, and stress, affecting one in five adolescents worldwide. Barriers such as stigma, confidentiality, affordability, and limited resources hinder engagement with mental health services. Thus, digital health technologies have significant promise in addressing mental health needs, facilitating adolescents' access to services and information while enhancing empowerment, engagement, and help-seeking behaviours. Although digital technologies may sometimes have adverse impacts, such as addiction and cyberbullying, they offer many benefits that overcome traditional barriers, offering scalable interventions. This systematic review examines the prevalence, and effectiveness of digital mental health interventions for adolescents worldwide.

Method: We conducted a systematic review following PRISMA guidelines to analyze the prevalence and effectiveness of digital mental health interventions for adolescents aged 10–19 years globally. PubMed, ERIC, and Scopus were searched, focusing on empirical studies that used eHealth, mHealth, and dHealth interventions in non-clinical settings such as communities, schools, and online platforms. Studies utilizing digital technology interventions with clear mental health outcomes were screened based on eligibility criteria. Excluded were studies on adults, clinical studies, those lacking empirical rigor, or focusing solely on usability without mental health outcomes and studies not primarily utilizing electronic, mobile, or digital technologies. A broad range of keywords and MeSH terms captured various intervention formats and technological platforms. Data extraction was based on the Technology Acceptance Model (TAM). The review synthesized findings to provide insights into global trends, challenges, and opportunities in adolescent digital mental health interventions.

Results: This systematic review started with an initial set of 4762 articles and resulted in 54 papers included in the review. Based on the TAM, the review reported that regarding perceived usefulness, e-/m-/d-health is linked with a significant reduction in the symptoms of depression, anxiety, and stress, improved mental health literacy, and positive behavioural changes. For perceived ease of use, most studies indicated a user-friendly interface. Some programs that included short and engaging exercises have increased engagement levels, and other programs enhanced accessibility by providing a stigma-free, private space for adolescents to address their mental health concerns, which enabled an easy and approachable way to reach adolescents compared with traditional mental health services. The behavioural intention showed an elevated rate of engagement and high percentages of program completion. For example, 83% completion rate of all game sessions was reported in the Moving Stories program.

Discussion: The included studies demonstrate a significant promise for improving adolescents’ mental health. However, there are some barriers to utilizing these programs in low-and middle-income countries, such as cultural stigma, limitation of resources, and persistent technological disparities. This review highlights the necessity for additional research to address these barriers and to expand the evidence base for diverse settings. Comprehensive strategies that focus on cultural diversity and socioeconomic differences must be prioritized by healthcare professionals, policymakers, and educators. It is also required that stakeholders, including information technologists, community leaders, and researchers, collaborate to ensure the effective implementation of these interventions. Additionally, investments in digital health literacy and technological infrastructure are crucial to enhance accessibility and engagement. By overcoming these barriers and fostering innovations, digital mental health interventions can have a significant role in enhancing adolescents’ mental health outcomes globally.

Making patient measures count: bridging patient-reported nursing care indicators and health system performance for people-centred management in Tuscany (ID 272)

Dr Francesca Moschetti[1], Dr Sabina De Rosis[1,2], Prof Sabina Nuti[1]
[1]Health Science Interdisciplinary Research Center, Italy. [2]DiGiES, "Mediterranea" University, Italy

Context: Achieving people-centered health care requires innovative strategies to evaluate healthcare from the patient's perspective. Although patient-reported measures are widely available, their integration into performance evaluation systems remains rare. Tuscany (Italy) was among the first public health systems to incorporate Patient-Reported Experience Measures (PREMs) into its performance evaluation system. The innovative PREMs Observatory enabled a standardized disaggregation of data by different healthcare professional groups. For the first time, Patient-Reported Nursing Care Indicators became available for use in routine management, and system-wide management and policymaking. This inclusion bridges a critical gap in understanding and improving nursing care from the patient's viewpoint. This paper highlights the potential of such data by leveraging actionable insights from publicly available indicators.

Methods: A comparative analysis was conducted using various analyses, including non-parametric tests and regression models on Patient-Reported Nursing Care Indicators from PREMs of 2019 and 2023. The study evaluated the relationship between experience-related nursing care indicators and two key satisfaction outcomes. The analysis aimed to quantify the predictive power of nursing care indicators and identify trends across the two years while excluding pandemic-related effects.

Results: The comparison between the two time-period revealed that there were several differences in the patient evaluation, but just the "Teamworking between clinicians and nurses" and the two indicators of satisfaction were significantly different (higher in 2023). Regression models revealed strong associations between some experiential nursing care indicators and both satisfaction outcomes. "Fears and Anxiety Management by Nurses" was a significant predictor of both indicators of patient satisfaction in 2019 and 2023 ($p \leq 0.05$), similarly to "Teamworking between clinicians and nurses" ($p < 0.001$). Other indicators of experience with nursing care were significant in one year ($p=0.05$) and not in the other; for example, Respect & Dignity by Nurses was significant in 2019, while Clear Answers by Nurses in 2023.

Discussion: This study confirms the critical role of nursing care in shaping patient satisfaction and experience. The findings underscore the value of PREMs as tools for computing patient-reported indicators, feeding performance management systems, and providing key insights to drive patient-centredness in healthcare systems by working on specific professional groups and organizational models. It appears highly valuable to evaluate the quality of nursing care from the patient's perspective using standardized, consistent, and comparable measures. By giving value and systematically embedding these indicators into healthcare management practices, organizations can enhance patient-centred care, improve nursing staff performance evaluations, and foster a culture of accountability and improvement.

Organisational changes in an Italian paediatric centre: the role of telemedicine (ID 273)

Sofia Di Pippo[1], Prof Federica Morandi[1], Dr Francesco Puggelli[2]
[1]Università Cattolica del Sacro Cuore, Rome, Italy. [2]Meyer, Florence, Italy

In recent years, the national healthcare system has undergone a significant process of service digitalisation. Following the COVID-19 pandemic, healthcare facilities have reorganized to ensure effective remote patient care, leading to significant organizational changes. Hospitals have been forced to reorganize care processes, adopt new digital tools for interactions with patients and colleagues, and redefine professional roles. In particular, in pediatrics setting telemedicine had already been used in specialties such as neonatology, critical care, ophthalmology, and dermatology before the pandemic. Although there are logistical challenges, studies have shown that telemedicine is safe, economical, and beneficial for families. This study aims to understand the organizational changes perceived by pediatric hospital staff due to the adoption of telemedicine and to assess healthcare professionals' familiarity with and willingness to use digital tools.

The analysis, conducted at a leading pediatric center in Italy, revealed the need for policies that promote telemedicine adoption and help stakeholders understand its benefits. In fact, a positive correlation was identified between the professionals' perception of telemedicine's usefulness and their willingness to adopt it. Additionally, the study found that most healthcare professionals are confident using tools like email, smartphones, and the Internet but less so with tablets, social media, or Microsoft Excel. This brings to light the need of a reorganization of training pathways to ensure that professionals develop the specific skills required for remote patient care. This will enable the effective integration of telemedicine into care pathways, improving care quality, patient satisfaction, and fostering a sustainable change within healthcare facilities.

In conclusion, telemedicine represents a key opportunity for the modernization of the healthcare system. However, its success largely depends on investments in professional training, the development of digital tools, and their integration into healthcare workflows.

Health workforce disaster training: a bridge between vulnerability and resilience (ID 274)

Dr Nebil Achour, Jessica Webb, Victoria Hollywood
Anglia Ruskin University, United Kingdom

Context: The availability of health workforce is crucial for health service. Health workforce refers to the multi-disciplinary group of professionals whose mental resilience, performance, absence and presence make a difference for the continuity of health service. Researchers highlighted the vulnerability of health workforce many years ago; however, this was not obvious as currently. The breakout of the Covid-19 pandemic exposed the vulnerability of the health workforce. This study summarises the findings of four studies to evaluate the current resilience state of workforce and offers a model to evaluate the ability of staff attendance during disasters and major emergencies.

Methods: Qualitative and quantitative set of data was collected from various National Health Service (NHS) trusts in the United Kingdom (UK) via multiple stages. A total of 286 participants have been recruited from various professional backgrounds through two questionnaire surveys and a structured interview. Staff ability to attend during major hazards (197 participants), impact of simulation on mental resilience during disasters (74 participants), and potential impact of AI on service resilience (16 participants). Correlative data analysis was applied to generate stronger evidence. Scores were associated to participant answers to calculate indexes that were used to measure impact of age and experience on mental resilience, impact of staff absence on service continuity and other aspects. Qualitative data was analysed using thematic analysis and as deep knowledge to explain quantitative findings and complex phenomena.

Results: Findings show that the ability to attend workplace during disasters depends on many factors; mental resilience, travel; training, and dependency. Disaster training index has been identified as the lowest amongst the others indicating the level of staff unpreparedness to deal with disasters and major emergencies. Interviewees reported that they do not know their role during a disaster stating lack of leadership during such difficult time referring to their experience during Covid-19. They articulated that frequent simulation trainings offer viable solution, benefits for role clarity, teamwork and increased mental resilience. Findings also established that experience staff members tend to have stronger resilience indexes and their absence can affect the functionality of the hospital more than less experienced members. Staff were also less exposed to learn about the application of artificial intelligence (AI) in their professional duties. Younger staff are more self-motivated to learn about this technology and its applicability, whilst experience staff tend to be more reluctant.

Discussion: The ability of attendance index model indicated that that training is a key factor in building resilience of health workforce. It boosts their ability to attend workplace and prepare them better mentally to deal with the complexity and stress associated with emergencies and disasters. Most hospitals tend to have emergency trainings for specific staff members, often seniors, which indicates lack of long-term vision that explain the reasons for which there was an explosion of mental health issues immediately as Covid-19 measures ended. Failing to train staff on the use of AI creates a level of vulnerability amongst experienced staff who has significant experience and impact on the continuity of medical services. Hospital policies need to bridge the vulnerability gap induced systemically in health systems through a selected training approach and adopt a comprehensive training approach where workforce is educated adequately trained in disaster resilience and the modern technology to boost their attendance rates and build a resilience health service.

Observed trends in the number of primary healthcare Community Nurses and their beneficiaries across administrative regions of Romania (2019-2022) (ID 275)

Dr Florin Oprescu[1], Dr Marius-Ionut Ungureanu[2], Diana Alecsandra Grad[2], Dr Shauna Fjaagesund[1], Dr Alexandru Coman[3], Dr Lidia Onofrei[4]

[1]University of the Sunshine Coast, Australia. [2]Department of Public Health, School of Political, Administrative and Communication Sciences, Babeș-Bolyai University, Romania. [3]"Iuliu Hatieganu" University of Medicine and Pharmacy, Romania. [4]Ministry of Health, Romania

Background: Community nurses (CN) have only been recently introduced as a primary healthcare resource in Romania, mainly catering for the needs of people residing in small urban, rural and remote communities. The majority of them are funded by state budgets with limited numbers being funded by local and European Union funding schemes. However, the trends in CN numbers and their beneficiaries, as well as the beneficiary-to-CN ratios, have not been thoroughly studied so far. The aim of this analysis is to analyse the trends in CN numbers and beneficiary-to-CN ratios across Romania and provide recommendations from improvements in practice.

Methods: We observed the trends in CN numbers across the eight administrative regions in Romania over four years (2019-2022) and compared them with the equivalent trends in beneficiary numbers based on available data to identify areas with higher or lower reach/efficiency. We also calculated the reported number of beneficiaries per CN for the last year of available data (2022) for comparison purposes.

Results: The Northwest, Southeast and West Regions of Romania demonstrated an expansion in CN numbers, paired with increased beneficiaries during the period studies. The Northeast Region increased its CN numbers paired with flatlining of beneficiary numbers. However, the Bucharest/Ilfov Region decreased its CN numbers paired while increasing the number of beneficiaries. We must note that data inconsistencies may exist for Ilfov County in 2019, 2020 and 202,1 as the number of reported beneficiaries was zero. The Centre, South and Southwest Regions increased their CN numbers, paired with recent decreased numbers of beneficiaries in 2021 and 2022. Importantly, the number of reported beneficiaries per CN varied widely across regions, from 316 beneficiary-to-CN in Northeast region to 1007 beneficiary-to-CN in Bucharest/Ilfov region in 2022.

Discussion: Our analysis identified significant disparities across the eight development regions in Romania regarding the coverage with community nurses, and nurse-to-beneficiary ratios. This can potentially have significant equity implications, impeding access to high quality health and care services for people in regions with low numbers of CNs. Monitoring the number of CNs and beneficiaries, and beneficiary-to-CN ratios is, thus, critically important to identify workforce trends and regions in need of service improvement. It also provides a unique opportunity to identify higher-performing regions and conduct further research into their community-based primary healthcare model led by community nurses, in order to disseminate best practices and improve service delivery and workforce training needs across Romania.

What do student smokers think of France's first smoke-free campus implemented at the EHESP School of public health? A qualitative study (ID 276)

Raphaël Furon, Léna De La Calle, Prof Karine Gallopel-Morvan
EHESP, France

Context: The first smoke-free campus (SFC) in France was implemented at Rennes EHESP school of public health in May 2018. It includes a smoking ban (indoors and outdoors), free cessation services, ambassador programs, evaluations, communication campaigns, and four smoking shelters around campus (vaping allowed outdoors). Recommended by WHO and the French National Tobacco Control Plan (2023-2027), this innovative policy remains rare in French universities. Six years later, in June 2024, a qualitative study explored how EHESP smoking students experience the SFC and how it can be improved to achieve its goals (tobacco denormalization, reduce initiation and perpetuation, protect from passive smoking).

Methods: We conducted 21 individual semi-structured interviews with student smokers of the EHESP (17 daily smokers and 6 smokers-vapers), 11 women and 10 men, aged between 21 and 57 (the EHESP welcoming initial and continuing training), from various diplomas, and with different levels of motivation to quit measured with the Prochaska and Diclemente' transtheoretical model. Among the participants, 7 did not wish to quit within the next 6 months (precontemplation), 9 were considering quitting within the next 6 months (contemplation), and 5 planned to quit within the next 30 days (preparation). The 21 interviews lasted an average of 1h09, 13 by videoconference and 8 face-to-face. An interview guide was used, combining open-ended questions and interactive tools such as a video, animation vignettes or flyers to facilitate discussion and identify potential obstacles and levers for action to improve these measures. The data were transcribed with Sonix and analyzed with Nvivo.

Results: The majority of participants (18/21) see the EHESP SFC as an improvement for quality of life (less passive smoking, fewer butts on the ground). The SFC is perceived as respected and helps reduce tobacco consumption (7/21) and increase motivation to quit (9/21). The cessation aids and support (tobaccologist and sophrologist) are appreciated. However, about half feel stigmatized (11) and find the smoking shelters too far and dirty (10). Some noted a few evening bypasses of respect. The cessation aids and supports are not well-known by interviewed smokers, have limited accessibility, and inconvenient schedules. Participants suggest improvements for the EHESP SFC: better communication (about cessation aids and students involvement opportunities), new support measures (expanding health promotion to other topics such as alcohol/nutrition), and more students, including smokers, involvement in this policy. They recommend banning vaping everywhere like smoking as it is equally disruptive and should be treated as smoking.

Discussion: Internationally, SFC policies are widely implemented in countries like the USA and Canada, showing high acceptance and effectiveness. These policies have been successful in reducing smoking initiation, increasing cessation rates, and lowering exposure to passive smoking. Given the positive reception among smokers at EHESP highlighted in our exploratory research, expanding SFC policies to other universities in France should be recommended. For the first SFC at the EHESP, incorporating students' feedback is very useful to improve this initiative.

The study's limitations include its exploratory nature with only 21 participants, potential selection bias (participants were interested in the topic), and social desirability bias. Additionally, as the study was conducted in a health school, results may not be generalizable to non-health schools, suggesting the need for further quantitative research.

Impact of sick leave management on primary care physicians' schedules: costs and administrative burden in family and community medicine (ID 277)

Oscar Garcia Gimeno, Carlos Bernades Carulla
CASAP, Spain

Context: Managing sick leave in Family and Community Medicine (FCM) consultations is a crucial but burdensome task. In an urban primary care setting, sick leave management takes up substantial physician time and has economic implications. This study aims to quantify the time spent by physicians on managing sick leaves and evaluate the associated economic costs. Additionally, it examines sick leave reasons, duration, and follow-up visits, providing essential data to optimize resource allocation and inform policy decisions that could streamline FCM operations and enhance care delivery.

Methods: This descriptive observational study was conducted within an urban primary care team using a computerized sick leave management system. All sick leaves recorded over a 12-month period were analyzed. The study classified sick leaves by reason, duration, and the frequency of follow-up visits (in-person, telephonic, or digital). Follow-up consultations were also categorized by their nature: clinical visits, remote consultations, and administrative tasks. Time spent by physicians on these activities was calculated, and the associated economic cost was estimated based on their net hourly wage and the standard cost per visit. This data was then analyzed to determine the time and economic burden on physicians' schedules.

Results: The study recorded a total of 10,992 sick leaves. These sick leaves required 3,715 in-person visits, 5,817 remote consultations, and additional administrative tasks, which collectively took 66,235 minutes of physicians' time. This time amounted to 27,715.89 euros, based on the net salary for the hours worked. The total cost of managing these sick leaves, calculated at a rate of 50 euros per visit, was approximately 331,200 euros, representing 13.9% of the total visits in the practice (9,532 visits out of 68,628). The findings highlight the substantial administrative and clinical workload generated by sick leave management, both in terms of time and cost.

Discussion: The study underscores the significant burden that sick leave management places on primary care physicians, both administratively and economically. The substantial amount of time dedicated to follow-up visits, consultations, and administrative tasks could potentially be reduced through technological advancements or revisions to sick leave follow-up protocols. The cost implications suggest that a substantial portion of primary care resources is spent on this non-clinical activity, impacting overall efficiency. Implementing digital solutions, such as automated systems for managing sick leave documentation and follow-up reminders, could alleviate some of this strain. Moreover, clearer guidelines on the follow-up process might help streamline the system and reduce unnecessary visits. Addressing these challenges could not only improve physician satisfaction but also enhance the overall functioning of the primary care system, benefiting both healthcare providers and patients.

Enhancing digital competence and collaboration in health systems: the H-PASS project (ID 278)

Nóra Fazekas[1], Dr Orsolya Lőrincz[1,2], Fruzsina Kóder[1,2], Melinda Szögi[1], Dr Eszter Kovács[1,2], Dr Zoltán Cserháti, MD[1,2]
[1]National Directorate General for Hospitals, Hungary. [2]Health Services Management Training Centre, Semmelweis University, Hungary

The advent of digital transformation has profoundly impacted healthcare systems, necessitating the evolution of skills and competencies among healthcare professionals. The H-PASS project, funded under the EU4Health program, addresses this urgent need by designing and piloting a modular training program focused on digital and transversal competencies. With 13 partners across six European countries—Cyprus, Greece, Hungary, Italy, Lithuania, and Romania—the project bridges workforce skill gaps to enhance the effectiveness and sustainability of health systems in a digitally evolving landscape.

The H-PASS training program is structured into four core modules, each addressing critical aspects of healthcare digital transformation: (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. Each module incorporates three key dimensions: digital competence, transversal competence, and action-focused learning, ensuring relevance across diverse healthcare contexts. A VR-based learning environment supports the synthesis and application of learning, offering an innovative blended learning experience.

The project employed a rigorous, multi-method approach for planning to ensure relevance. This includes a comprehensive training needs assessment across participating countries through a combination of surveys (465 responses), central and local desk research, and stakeholder engagement via interviews and focus groups. Monthly collaborative planning sessions with project partners ensured alignment with national and EU-level educational frameworks, accreditation standards, and healthcare priorities.

Based on the initial research, the training integrates learning outcomes (LeOs) categorized into knowledge, skills, and attitudes, enabling local customization while maintaining overarching thematic coherence. Sample LeOs include digital attitudes such as openness to new tools and transversal knowledge such as the principles of constructive feedback.

The pedagogical methodology leverages blended learning to balance theoretical knowledge acquisition through an online platform with experiential on-site training. Case-based learning, team exercises, and collaborative problem-solving in the VR environment ensure a holistic approach, fostering collaboration among doctors, nurses, and pharmacists. This approach also incorporates formative and summative assessments to enhance learning outcomes and facilitate Continuous Professional Development (CPD) accreditation.

The H-PASS project offers an internationally relevant model for addressing the dual challenges of digital transformation and workforce competence development. By combining cutting-edge educational methods with practical workforce insights, it demonstrates a scalable and adaptable framework for enhancing healthcare delivery in the digital age. This abstract aims to contribute to discussions on workforce optimization and competence building in the context of human capital and digital transformation.

Health workforce migration -Romania (case study) (ID 279)

Prof Cristian Vlădescu[1], Phd studend , MD Alina Breazu[1], MD Teodor Blidaru[2], Asist . Univ Nicolae Dragoș Garofil[2]
[1]National Institute for Health Services Management, Bucharest, Romania. [2]Ministry oh Health, Bucharest, Romania

In 2005, 1,694,500 people emigrated from Romania to OECD countries, of which 23.6% were people with higher education.

After entering the European Union in 2007 and the automatic recognition of the qualification in the medical field even in 2005 in all European Union countries, the migration of Romanian doctors from 2012 to 2021 experienced a downward trend, we can say the same for nurses who experienced a downward trend between 2016 and 2024, their number being reduced by half.

Romania has become an attractive educational center, so that since 2018/2019 almost all Medical Universities offer programs in English/French and according to data provided by the OECD at the level of 2015/2016 Romania represents the 4th country in the top 25 that provides the workforce (Doctors/Medical Graduates) and the 3rd country in 2017/2018 to the countries of the OECD group.

Innovative living lab methods for primary cancer prevention: a people-centred approach to health governance and leadership (ID 280)

Dr Marius Geanta[1], Prof José Luis Molina[2], Cosmina Cioroboiu, MD[1], Prof Juergen Lerner[3], Prof Gabriel Hancean[4]
[1]Centre for Innovation in Medicine, Romania. [2]Universitat Autonoma de Barcelona, Spain. [3]University of Konstanz, Germany. [4]University of Bucharest, Romania

Context: Cancer prevention remains a critical challenge in Europe, particularly in rural areas where access to healthcare and health literacy levels are limited. Addressing these disparities requires innovative governance models that integrate citizen engagement, cross-sector collaboration, and decentralized leadership. The 4P-CAN project, funded under the Horizon Europe Cancer Mission, established a Living Lab in Argeș County, Romania, building on the European Network of Living Labs methodology to support community-driven interventions. Located in Lerești, a rural community representative of broader Eastern European contexts, this initiative is consonant with the European Code Against Cancer and aims to develop participatory health governance models.

Methods: The 4P-CAN Living Lab employs an iterative, multi-phase approach to enhance local capacity for cancer prevention. Stakeholder mapping, utilizing the Net-Map methodology (a participatory, qualitative network mapping toolkit), was conducted at European, national, and local levels to identify governance gaps and optimize multi-sector coordination. Community co-creation was facilitated through citizen juries and town hall meetings, ensuring interventions addressed locally identified priorities. Health promotion initiatives, such as the Health Festival in June 2024, featured interactive education, sports activities (including Romania's first walking football tournament), and personalized cancer prevention campaigns.

Results: The project mapped a network of 129 stakeholders, revealing new pathways for cross-sector collaboration in rural health governance. Over 500 residents, accounting for 10% of the local population, engaged in health initiatives, demonstrating the effectiveness of bottom-up participation in shaping local health policies. Social network analysis identified clusters of sedentary behaviour and poor dietary habits, informing the design of targeted interventions that conform with the European Code Against Cancer. The adaptability of the Living Lab model was demonstrated, providing a framework for expanding participatory health governance to other rural communities across Europe.

Discussion: The 4P-CAN Living Lab illustrates how citizen participation and multi-level collaboration can be central to cancer prevention strategies. By bridging the gap between research, policymaking, and real-world implementation, this model offers a scalable blueprint for advancing equitable, community-driven healthcare solutions in rural Europe. The presentation will discuss methodological challenges, potential biases, and opportunities for refinement in future data collection phases, providing valuable insights for policymakers, researchers, and healthcare leaders interested in replicating this approach.

Evaluating operational challenges in hotel Spa services post-COVID-19: balancing health risks and the human touch (ID 282)

Rohan Dubrey
University of Nottingham, United Kingdom

COVID-19 caused extraordinary encounters, strengthening the strategic management principles of hotel health facilities to become more sustainable and resilient. This action affected spa services, resulting from intensified fears of cross-infection. This study emerged due to the immense disruption to spa operations triggered by COVID-19 and the amassed worry about preserving the therapeutic value of the human touch while extenuating health risks. The study focussed on the increasing trend of robotics in healthcare, evaluating the ethics of swapping the scientific foundations of the human touch with technology.

The study aimed to evaluate the challenges from an operational perspective correlated with the decreased use of spa services emerging from COVID-19. Additionally, it investigated the relationship between cultural perceptions, health risks, and the human touch in providing health benefits. Cultural diversity inclined consumer behaviour, demonstrating capricious feelings towards hygiene and physical touch, influencing prospects of service and safety. Concurrently, the emergence of technological interventions to decrease physical contact raised questions on ethics. These questions concern replacing the human touch with machines as a new application, challenging the psychological and poignant foundations of spas' health treatments. Therefore, this study contributes to global debates concerning harmonising or replacing technological innovations with human-centric methods, which have been scientifically proven to improve various health conditions.

The method entailed collating secondary data from case studies, scholarly articles and journals. On the other hand, primary data was gathered from a purposive sample of industry professionals, interviewing individuals across Europe, the United States, and Asia Pacific. The qualitative thematic analysis exposed key insights from coding respondents' insights. Furthermore, member checking was applied to minimise bias.

The findings emphasised the scientific role of human touch in promoting health benefits when administering massage services. Human touch is a crucial element that technological advances, such as cobotics alone, cannot replace. Opportunities arose to educate industry leaders and remind health professionals of the intricate mind-body correlation fostered by the human touch's emotional and sensory impact. Additionally, cultural influences materialised as an essential factor, and the opinion of risks swayed across regions, accentuating the significance of strategies to cultural specifics.

In conclusion, new technology improves massage service administration. Thus, it cannot ethically replace human touch's scientific and social significance. Risk assessment procedures should consider cultural factors and examine customers' awareness of human touch health advantages beyond the pandemic. The study advises healthcare and hospitality leaders to continue professional development on the mind-body correlation to build strategic interventions that integrate technology without compromising the scientific elements of the human touch.

The recommendations can shape best practices globally in the health and wellness sector. Further quantitative research is recommended to validate the themes that emerged across a broader population, converging on the eight typologies of spas.

Accessibility and sociodemographic characteristics of visitors of an urban green space in Belgrade, Serbia (ID 283)

Dr Vesna Karadzic[1], Dr Biljana Kilibarda[1], Prof Milena Vasic[1], Dr Dragana Jovanovic[1], Iva Radic[2], Dr Perisa Simonovic[1], Prof Verica Jovanovic[1], Dr Snezana Zivkovic-Perisic[1], Sanja Ivankovic[3], Dr Predrag Savic[3]

[1]Institute of Public Health of Serbia "Dr Milan Jovanovic Batut", Serbia. [2]Student at The Faculty of Media and Communication, Department for Psychology, Serbia. [3]Clinical Hospital Centre "Dr Dragisa Misovic", Serbia

Context: Urban blue-green spaces (BGSs) are increasingly recognized by various countries and regions as essential for promoting the health and well-being of residents. These spaces offer a range of benefits, such as environmental, social, health and well-being related. Easy access to BGSs plays a crucial role in improving well-being, as people with nearby parks are more likely to enjoy them and engage in physical activity. In urban planning, ensuring equitable and efficient access to BGSs has become a key focus. Research shows that as the distance to a park increases, the likelihood of people visiting or using it decreases.

Methods: Data were obtained through cross-sectional study conducted from March 29 to April 4, 2024, using a modified questionnaire developed within the European Union's Horizon 2020 project "Healthier Cities through Blue-Green Regenerative Technologies" (HEART). The questionnaire gathered sociodemographic information from respondents, including their gender, age, education level, distance from home to BGS, means of transportation, and frequency of visits to the location. The sample consisted of 101 visitors of the BGS in Belgrade (Ada Ciganlija – artificial lake park area) who signed informed consent prior to the interviewing. Descriptive statistics were used, with the level of significance set at 0.05.

Results: The sample included 47.5% male and 52.5% female adults aged 18 to 79 (average age 44.9; SD ± 14.9). Majority of respondents (72%) had a university degree or higher and 28% a high school education. Most participants were employed (79,0%).

Majority of respondents use car (46.5%) or public transport (25.7%), while 7.9% use bicycles, 5.9% walking and 13.9% use combination of these means of transportation to Ada. There is no statistical difference in the way of transportation to Ada according to the explored sociodemographic characteristics (sex, age, employment status, education). However, the analysis showed statistically significant difference (p =0.02) between those who use public transportation compared to those who use cars according to employment status (70.5% of employed persons using cars compared to 33.3% among unemployed). Additionally, the marginal statistical difference (p=0.048) was found according to age groups with highest percentage of those use public transportation among young adults (55.0%). Travel times to Ada varied, ranging from a few minutes to over two hours. Nearly half of the respondents (48.5%) reported taking 16-30 minutes travel time to get to Ada. Unemployed individuals and those over 65 typically needed 11-15 minutes, while employed people and other age groups usually took 16-30 minutes.

Discussion: Our study showed that sociodemographic characteristic didn't play important role in the accessibility to Ada. However, findings show that cars as a means of transport are more frequently used compared to public transportation, especially among population 35 years and older. These findings suggest that accessibility by public transportation to this BGS should be improved to be more preferred choice for majority of visitors.

Person's sociodemographic background can influence their perception frequency of use of the green spaces, and choice of activities in BGSs. However, the complex relationships between environmental factors, access to green spaces, sociodemographic characteristics, and health outcomes are still not fully understood and tend to vary across different studies.

Strategic management of career transitions for Presidents of Medical Commissions (PMC) in French healthcare institutions (ID 284)

Dr David Piney[1,2], Dr Jean-Marie Woehl[3,2], Dr Christophe Schmitt[4,5], Prof Rémi Salomon[6,7], Dr Thierry Godeau[8,2]
[1]CH de Luneville, France. [2]Conférence nationale des Présidents de CME des Centres Hospitaliers, France. [3]CH Colmar, France. [4]EPSM Metz-Jury, France. [5]Conférence nationale des Présidents de CME des Centres Hospitaliers Spécialisés, France. [6]Hôpital Necker-Enfants Malades, France. [7]Conférence nationale des Présidents de CME des Centres Hospitaliers Universitaires, France. [8]Hôpitaux La Rochelle Ré Auris, France

Context: PMCs in French public hospitals occupy a pivotal position within the healthcare system, playing a critical role in aligning clinical priorities with institutional governance. They ensure coordination between medical staff and administrative leadership and oversee policy implementation within a complex regulatory framework. Over time, the scope of their responsibilities has increased significantly, and due to limited mandates, their departure poses substantial challenges. Many PMCs encounter difficulties reintegrating into clinical practice, exploring new professional paths, or leveraging the skills acquired during their leadership roles. This underscores the urgent need for tailored support mechanisms to facilitate their career transitions.

Methods: This study adopted a mixed-methods approach to capture a comprehensive view of the issues. A survey was conducted from 14 June to 3 July 2024, targeting PMCs from different types of healthcare institutions. The survey, administered through Google Forms, explored career aspirations, readiness for clinical reintegration, and perceptions of institutional support. To complement the survey data, individual interviews were conducted with key opinion leaders and members of the Medical Commission Presidents' Conferences to elicit more in-depth insights into systemic challenges and opportunities.

Results: 262 PMCs responded: 216 from general hospitals, 17 from university hospitals, and 29 from specialised mental health facilities. The study yielded several critical insights. Firstly, only 51% of PMCs felt prepared to resume clinical activities after their mandate. A substantial majority (84%) expressed a desire to remain in their current institution, but most (63%) preferred to transition into part-time roles. A significant proportion (85%) reported an absence of structured institutional support for career transitions. Furthermore, 77% of respondents admitted to being unaware of the professional opportunities available to them that would allow them to capitalise on their skills and experience.

Despite these challenges, there was a strong interest in professional development, with approximately 70% of PMCs favouring specialised training programmes designed to facilitate career adaptation. Moreover, 44% of respondents were willing to explore leadership roles beyond their institutions, indicating a potential for significant contributions to the broader healthcare governance landscape.

Discussion: The findings of the study have led to the formulation of a plan to enhance support for PMCs' post-mandate career transitions. This involves the implementation of structured programmes to facilitate reintegration into clinical or non-clinical roles, the provision of bespoke training and skill refreshment programmes, the creation of talent pools, and the establishment of career counselling services. The managerial expertise acquired during PMC mandates must be recognised and formalised within certification frameworks. The development of a comprehensive leadership development model is essential at all stages of a PMC's professional trajectory.

Furthermore, career transitions within the PMC framework should create pathways to high-responsibility roles, such as hospital or healthcare agency directorships. Moreover, the evolving landscape of healthcare management presents opportunities for new professional roles, such as those focused on organisational transformation or territorial healthcare coordination. This will allow PMCs to maintain their strategic role in shaping the future of healthcare.

Exploring micro-foundation within professional network: evidence from healthcare CEOs in Italy (ID 285)

Dr Roberta Laurita, Dr Alessandra Pernice, Sofia Di Pippo, Prof Federica Morandi
Università Cattolica del Sacro Cuore, Italy

The dynamic environment in which nowadays professionals are involved is characterized by many interactions that involve different levels and entities. Professional networks have become instrumental for work and career success, leading to a mutually beneficial exchange of knowledge. Therefore, it is very important to understand how professional networks are built and how they become effective for healthcare systems. The aim of this study is to contribute to this research vein by exploring the micro-foundations that allow Italian healthcare CEOs to become actively involved within informal networks. The study presents the results of interviews conducted with ten Italian healthcare CEOs. The results are twofold: i) competencies are a key factor for meaningful professional relationships, and, in addition, they enable individuals to increase their networks, thereby enhancing their social capital; ii) training is a crucial factor in the development of networks.

The findings suggest that both technical and interpersonal competencies play an essential role in building strong professional connections and that these relationships are critical in expanding one's professional network. As CEOs continue to face new challenges in healthcare management, the ability to leverage these networks can provide crucial support for decision-making and strategic initiatives.

The study reveals that training is a crucial factor in the development of networks, with particular emphasis on the communities of practice and post-training programs. It highlights that classroom interactions, the community of practice, and being involved as trainers are all relevant for the development of professional networks. In addition, this study also reveals both policy-making and managerial implications. From a managerial point of view, the findings suggest that healthcare managers should continue to invest in training, as it is the vehicle for sharing knowledge, experience, and soft skills, reinforcing the network. On the policy-making side, healthcare policymakers should favor the acquisition of hard and soft skills that are essential for developing professional networks, which are fundamental for strengthening the healthcare system.

This research provides valuable insights into the micro-foundations that shape the professional networks of Italian healthcare CEOs by highlighting the key role of competencies and training. The results pave the way for future research, with the aim of expanding the analysis to a larger sample to further explore the micro-foundations of successful professional networks within healthcare systems.

When technology heals but also hurts: the impact of technostress on General Practitioners’ performance between clinical and administrative technologies (ID 287)

Dr Alessandra Pernice[1], Dr Francesca De Domenico[2]
[1]Intellera Consulting, Italy. [2]University of Messina, Italy

The digital transformation of healthcare has significantly enhanced operational efficiency and patient care, yet it has also introduced new challenges, particularly in the form of technostress (Luo et al., 2024). General Practitioners (GPs)face a unique internal conflict: balancing their primary caregiving role with administrative responsibilities (Llewellyn, 2001; Noordegraaf, 2007; Sarto et al., 2019; Giacomelli, 2020). Acting as "two-way windows" (Llewellyn, 2001), GPs must simultaneously address the demands of direct patient care and those of resource management, compliance with regulations, and interaction with diverse technological tools, including clinical devices and the Electronic Health Record (Fascicolo Sanitario Elettronico – FSE).

The FSE, established by Decreto Legge 179/2012 and subsequently refined through updates such as Decreto 34/2020 and Decreto 7 settembre 2023, represents a cornerstone of Italy’s healthcare digitalization. Its primary objectives include improving care continuity, enabling healthcare governance, and supporting medical research, while ensuring data privacy and security. These legislative updates expanded the scope of the FSE, introducing features such as patient-controlled data contributions, enhanced interoperability between regional systems, and the establishment of a National Consent Registry to streamline the consent management process. However, these advances have also increased the complexity of FSE utilization, often imposing significant administrative burdens on GPs and contributing to technostress.

This study employs Agogo and Hess’s (2018) Affective Response Model (ARM) to explore the factors contributing to technostress and its impact on GPs’ performance. While the ARM framework offers a broad perspective on the emotional responses triggered by technology, it lacks empirical evidence linking these responses to measurable outcomes, such as productivity, quality of work, and clinical effectiveness. This research investigates how GPs navigate the challenges posed by clinical technologies, such as medical devices and teleconsultations, versus administrative technologies like the FSE. Although the FSE is essential for ensuring care continuity and healthcare governance, it is often perceived as an additional burden, less aligned with their core clinical identity.

Semi-structured interviews analysed using NVivo allow us to identify recurring factors contributing to technostress and its impact on both clinical and administrative performance. The study hypothesizes that GPs, as clinicians, experience lower levels of technostress with technologies aligned with their caregiving role, such as medical devices, compared to technologies perceived as purely administrative. The analysis also explores how digital experience and organizational support can mitigate the effects of technostress on performance and well-being.

The findings of this study provide practical recommendations to reduce technostress and improve GPs’ performance, emphasizing the need for more intuitive system design and targeted training interventions. Understanding the differential impact of clinical and administrative technologies enables the development of tailored workflows and organizational strategies that reduce cognitive load and promote sustainable technology adoption. By addressing the root causes of technostress, healthcare institutions can enhance job satisfaction, reduce burnout, and improve the overall quality of care.

This study not only bridges the gap between theory and practice but also fosters resilience among GPs, promoting seamless integration of clinical and administrative technologies to benefit both healthcare professionals and patients.

The commodification of dependency in France: tensions and compromises in the public health system facing the logic of profitability (ID 289)

Hélène Croguennec-Le Saout
EHESP, France. EHESS, France

Context: In 2022, the investigation published by the french journalist Victor Castanet gave rise to a new controversy that has had a lasting impact on the private, for-profit nursing home sector and, for a time, called into question the very principle of the profitability of these medico-social institutions. What about public care institutions, which are in principle the furthest removed from the imperatives of the market ? The aim of this paper is to explore the commodification of dependency care through the example of french public long-term care homes by examining the tensions between the principles of solidarity and the profit motive that shape developments in the medico-social sector. We focus on the ways in which the state as regulator and the actors in public nursing homes manage this tension in their daily discourse and practice. In the light of demographic trends, the need to make support for the elderly financially viable while preserving a social model based on the principle of solidarity is a burning issue for all Western countries.

Conceptual Framework: This debate raises questions about the process of commodification of dependency (Delouette & Nirello, 2017). This can be understood as the pitting of public and private actors against each other, and is therefore accompanied by a standardisation of provision. Ansaloni & Smith (2017) prefer the term 'market mimicry' to 'marketisation' to describe the action of the state in its role as regulator, which, according to the authors, reflects a belief in the superiority of the market as a mode of coordination. The emergence of this market is not so much the result of political ambition as of a windfall effect for public authorities lacking resources and private operators seeking new territories.

Methods: On the basis of a qualitative study, consisting of around thirty semi-structured interviews coupled with passive observation phases in a medico-social institution, this article aims to examine in depth the discourses and practices of the members of the social network of a public nursing home in a comprehensive approach. We set out to observe the moments when certain tensions were expressed within the institution, with the support of the theoretical framework of the economics of conventions (Boltanski & Thévenot, 2008), which invites us to bring out the "justifications" expressed by the actors interviewed.

Results: Our research has shown that while several levels of justification coexist within the institution, a consensus based on the need to provide an individualised response to the institution's residents has paved the way for a fragile compromise that is regularly put to the test. The notion of 'client' became a boundary object (Star & Griesemer, 1989) and took on a polysemic dimension to facilitate this compromise.

Discussion: The main contribution of this research concerns the impact of financing arrangements on the quality of the relationship between users and public services. It seems that the less socialised the financing of the policy, the more individualised the pricing, and the more the beneficiaries of public services feel and are likely to be perceived as customers. Our research tends to show that, in the context of nursing homes, it seems easier to impose oneself on the institution in the name of the price paid for a service than to make oneself heard as a citizen benefiting from a social right at the end of a lifetime of contributions.

Taking action to improve health for all: using the Global Healthy Ageing and Prevention Index to understand countries’ progress in delivering prevention and improving health outcomes (ID 290)

Ms Arunima Himawan, Mr Patrick Swain
International Longevity Centre UK, United Kingdom

Context: People are living longer but are not necessarily healthier: the average person spends around a decade of their life in poor health, resulting in significant health and economic costs. Yet policymakers continue to fail to invest in preventative health, with OECD countries spending on average only 3% of their health budgets on prevention. We know that prevention is better than cure: early interventions, screening programmes and vaccination are just a few of the preventative health measures that can improve health for all and support healthier, longer lives.

Methods: The ILC’s Global Healthy Ageing and Prevention Index is an online and interactive tool which ranks 153 countries against six healthy ageing metrics: life span, health span, work span, income, environmental performance and happiness. This holistic approach allows us to compare how sustainable different countries are, both in terms of longer lives and the extent to which their governments are investing in efforts to prevent ill health and support healthy ageing. Data is obtained from: United Nations; World Bank; World Health Organisation; International Labour Organisation; and Yale. The Index has used two sets of data from 2019 and 2022, enabling us to track progress to ensure we are having meaningful conversations about what must happen to keep people well for longer.

Results: With two published sets of data, we have been able to track progress over time. Our analysis shows that:

- People are living eight months less – life span (life expectancy) has fallen from 73.1 years to 72.5 years
- People are living seven months fewer in good health – health span (healthy life expectancy) has dropped from 63.6 years to 63.0 years
- Health inequalities are widening – there is a 27-year gap in life span between the top and bottom 10 countries: one year more than in 2019
- Income inequalities between the top and bottom 25% of countries have widened by 6.5% or $1,000 per person
- Yet people are making $500 more than in 2019, while levels of happiness have remained the same

Discussion: Widening health and income inequalities since the COVID-19 pandemic pose a challenge to people’s longevity and their ability to live healthier and happier long lives. Our Index aims to highlight these disparities and encourage policymakers to take action on preventative health to improve people’s health outcomes so that everyone reaps the benefits of living for longer. Our poster presentation will highlight the key insights from the Index, showcasing our secondary analysis which demonstrates how better investment in health prevention, universal health coverage and interventions (such as vaccination, screening and smoking cessation) can lead to better health outcomes and improved Index rankings. We want this tool to inspire and engage health stakeholders, policymakers and patient groups to think more proactively about prevention and its benefits to everyone’s health and longevity.

Calculating staffing needs in the Italian National Health Service (ID 291)

Luigi Magliocca, Daniele Della Peruta, Davide Tagliaferri, Giulia Menin, Luigi Apuzzo, Catia Pizzonia, Lorena Martini
AGENAS, Italy

Health workforce (HWF) planning is essential for efficiency, effectiveness, and equity in health care systems. In Italy, the last significant HWF planning standard was introduced in 1988 with the model proposed by the Minister Donat Cattin, which contributed to the development of systematic approaches to estimating workforce needs. Since then, evolving health needs, an ageing population, resource limitations, and the pandemic have underscored the importance of updating HWF planning. In response, the Italian Ministry of Health (MoH) tasked AGENAS to set up a working group to develop a methodology to calculate staffing needs for the National Health Service (NHS), aiming to standardise the planning criteria for HWF to meet care needs and ensure the delivery of high-quality healthcare.

The methodology, based on a sample of 2019 data from nine regions and about 400 healthcare structures, incorporates variables such as hours worked for individual disciplines, intensity of care, service volumes, standardised data flows, outpatient activities, and organisational parameters set for specific healthcare areas. The approach also accounts for the complexity of the NHS, considering hospital reorganization plans and organizational, structural, and clinical standards, including those for home care. Approved for experimental implementation from 2022 to 2024, the methodology undergoes annual monitoring to evaluate outcomes and refine processes.

At the core of this approach is an algorithm designed to calculate staffing needs in terms of full-time equivalents (FTE). It establishes a minimum standard to ensure baseline requirements, providing a robust reference for workforce planning at national and regional levels. Additionally, the algorithm generates a maximum value based on production data, offering a flexible guideline for adapting staffing levels to operational needs. The approach provides staffing needs for hospitals, categorised by care areas (e.g., in-patient units, maternal-infant care, intensive care, and emergency area and services) and professions (doctors, non-medical health management, nurses, social-health workers, midwives, and technicians) and by disciplines. It also addresses integrated home care staffing for nurses and physiotherapists. The methodology continues to evolve to enhance its accuracy and alignment with real-world healthcare needs. Challenges remain on data standardisation and the desire to expand coverage to other health professions and care settings in order to meet future needs.

In conclusion, the method represents an innovative and dynamic tool for the calculation of hospital and territorial staffing needs, capable of adapting to local specificities and of sustaining strategic organisational decisions while upholding safety, quality, and efficiency. This methodology appears to be the best tool at a national level for developing the predictive and forecasting capacity regarding training needs for medical specialisations, helping to complete the forecasting model adopted by the MoH. In this way, it contributes both to training planning and to the planning and development of services and organisational models, reducing the risk of shortages.

The Italian guidelines for Family and Community Nurses (ID 292)

Luigi Apuzzo, Luigi Magliocca, Giulia Menin, Daniele Della Peruta, Davide Tagliaferri, Catia Pizzonia, Lorena Martini
AGENAS, Italy

Context: The 2019-2021 Health Pact provides guidelines for the Family or Community Nurse (FCN). The decree-law of 19 May 2020, n. 34, converted into law (law n. 77/2020), introduced "the figure of the Family or Community Nurse to strengthen nursing services and to enhance the care of subjects infected by SARS-CoV-2 in the territory, also assisting the special care continuity units and the services offered by primary care".

Methods: a working group was set up, coordinated by AGENAS, with 10 Regions, 2 Universities, the Ministry of Health, the Federation of Orders of Nursing Professions FNOPI, and the scientific society of Family and Community Nurses AIFEC and Primary Care Network OPEN. A literature review was conducted, the FNOPI and AIFEC position papers were reviewed and industry experts were interviewed, to evaluate the job analysis and job description of the FCNs, as well as to investigate the current state of recruitment and use of FCNs.

Results: On 20 September 2023, a document called "Guidelines on FCNs" was published. The document, of 30 pages and 12 sections, provides a standard of 1 FCNs/3,000 inhabitants, the levels of intervention (community, outpatient, home), the core skills, the organizational model, training, recruitment and allocation criteria, monitoring tools.

Discussion: The document defines the FCNs in detail, indicating regulations and standards, which the Italian regions and healthcare companies must respect. It is a useful document for the harmonization of the figure of the FCNs in the various Italian regions. The defined standard of 1FCNs/3,000 inhabitants reflects the standard that derives from the literature review, from the already active regional experiences and from the various position papers. The identified skills are applied to individual contexts and reflect the desire to strengthen territorial assistance already envisaged in Italy with other reforms (DM77/2022).

The moderating role of managerial support in the association between missed care and risk of burnout in nursing homes - A cross-sectional multicentre study (ID 294)

Yannai DeJonghe, Dr Herlinde Wynendaele, Prof Dr Els Clays, Prof. dr. Jeroen Trybou
Ghent University, Belgium

Context: Globally, the demand for long-term care workers is rapidly increasing due to the growing proportion of senior citizens, advancing complexity of care, and their associated workload. Care workers, including registered nurses (RNs), care assistants (CAs), and allied health professionals (AHPs), often operate in high-pressure environments. Prior research, predominantly focused on RNs, suggests this could lead to essential care tasks being left undone and heightened risks of emotional exhaustion. This paper aims to examine the association between missed care in nursing homes and risk of burnout in care workers, while exploring the moderating role of managerial support.

Methods: This is a cross-sectional, multicentre study, using survey data retrieved from 56 Belgian nursing homes. A survey instrument was developed to assess the state of staffing-related characteristics, including care workers' wellbeing, the prevalence of missed care and manager ability, leadership and support. Stratified random sampling was applied to recruit nursing homes, based on characteristics at the organisational level. Within participating nursing homes, all care workers providing direct resident care were invited to participate in the study. Multilevel analyses were conducted to ensure that each care worker was considered within the context of their respective nursing home, recognising the potential for correlated data within clusters. Linear mixed models were developed to examine the association between missed care and risk of burnout in nursing home care workers, while controlling for individual care worker characteristics. Finally, interaction terms were introduced to the model to explore the potential moderating role of managerial support.

Results: In total, we included survey data of 1,054 nursing home care workers, of whom 283 were RNs, 557 CAs and 214 AHPs. Respectively, descriptive analyses showed a substantial amount of care workers to be at high risk of emotional exhaustion (23.9%; 24.1%; 11.2%), depersonalisation (19.2%; 20.4%; 10.1%) and reduced personal accomplishment (33.8%; 32.1%; 21.2%). Linear mixed models revealed significant associations between all dimensions of missed care and emotional exhaustion, as well as depersonalisation among nursing home staff. Activities of Daily Living, Caring, Rehabilitation, and Monitoring, and Documentation were inversely associated with reduced personal accomplishment. Further analyses identified significant moderating effects of managerial support on depersonalisation for Activities of Daily Living, Caring, Rehabilitation, and Monitoring, and Documentation. Stratified analyses showed that favourable managerial support tends to attenuate these associations across all risk of burnout dimensions, while unfavourable support was likely to amplify the strength of these associations.

Discussion: Our results reveal significant associations between various dimensions of missed care and risk of burnout, highlighting the need for adequate workload distribution. Managerial support appears to buffer the association between missed care and risk of burnout, with unfavourable support exacerbating the effects, particularly with regard to depersonalisation. Conversely, favourable managerial support tends to attenuate these effects, emphasizing the value of supportive leadership. Implications for practice include informing and training care managers on how to foster a more participative and supportive work environment. Addressing nursing home working conditions could improve retention, positively impacting staffing levels and, in turn, workload distribution. Future research should focus on longitudinal designs to establish causality and evaluate interventions aimed at improving managerial support, while further examining working conditions in nursing homes and their impact on care workers' wellbeing.

295 Measuring client-centredness in Flemish disability respite care users: survey development and validation (ID 295)

Dr Eva Pattyn[1], Dr Ruben Willems[1,2], Prof Dr Jeroen Trybou[1]
[1]Ghent University, Belgium. [2]Vlaamse Vereniging voor Psychiatrie, Belgium

Context: In 2017, a two-level financing system for disability care users and a framework of minimal regulations for disability care organisations were implemented in Flanders. The financing system defines users according to their needs; people with lower needs are granted respite care, while people with higher needs receive personal budgets. The minimal regulations framework provides organisations the freedom to define services according to the perceived care needs of their clients, stimulating innovative answers. Both policies aim to foster client-centredness. Therefore, this research explores how client-centred care can be measured in a population of respite care users by developing a survey instrument.

Methods: A literature review explored the existing measurement scales of client-centred care by searching six databases (CINAHL, Embase, Medline, ProQuest (selection of databases), PubMed, and Web of Science) until July 14, 2023. Interviews with employees of the respite care-, user-, and umbrella organisations of disability care organisations were conducted to define client-centredness and assess the applicability of a validated scale. Stakeholders evaluated the draft version of the survey during a research day and a steering committee meeting. The survey was then pilot-tested in a group of respite care users between October 20, 2023, and February 3, 2024. Principal Axis Factoring (PAF) and Cronbach's Alpha explored the validity and internal consistency of the validated scale in this population of disability respite care users.

Results: The literature review found one validated scale usable in a non-clinical care context: the Client-Centred Care Questionnaire (CCCQ). Stakeholders evaluated the CCCQ as applicable to the respite care context with some needed additions, such as information accessibility, waiting time, affordability and adaptability of care, user engagement, and interdisciplinary collaboration. During the research day and the steering committee, stakeholders evaluated these added survey items.

In total, 159 respite care users participated in the pilot testing, of which 82 fully completed the survey. A significant number of respondents dropped out due to the term 'disability'. Moreover, PAF and Cronbach's Alpha showed some correlational issues in the first CCCQ subscale 'conduct by caregiver'. Therefore, stakeholders (n = 21) were asked to shorten the CCCQ to align their suggestions with the findings of the statistical analyses. The shortened survey is now available to all respite care users until February 28, 2025.

Discussion: In light of the Flemish disability policy objectives to stimulate client-centred care, monitoring care users' experiences is important. However, few validated scales developed in a non-clinical context appear to exist. Moreover, other aspects, such as waiting time and user engagement, need consideration when defining client-centred care in a respite care context. Finally, the validity and internal consistency analyses highlighted some correlational issues in the first subscale of the CCCQ, showing the importance of stakeholders' engagement in all process phases. In the next phase of the study, we thus aim to provide a baseline measurement of the client-centredness of Flemish disability respite care from a user's perspective and to enable policymakers and care providers to evaluate their policies and working practices.

Evaluating the ethical and legal considerations of AI-based clinical decision support: insights from a multinational iCARE-tool pilot study with healthcare professionals (ID 298)

Anna-Maria Hiltunen[1], Dr Ira Haavisto[1], Anna Salminen[1], Maikki Messo[1], Agata Stodolska[2], Dr Federica Mammarella, MD[3], Dr Johanna de Almeida Mello[4], Collin Exmann, MD[5,6], Vanja Pesic[7], Dr Katerina Langmaierova[8], Olena Antonenko[8], Prof Katarzyna Szczerbińska[2], Dr Rosa Liperoti, MD[9], Assoc. Prof Daniela Fialová[8], Prof Hein van Hout[10], Prof Elizabeth P. Howard[11], Dr Johanna Edgren[12], Mikko Nuutinen[1]

[1]Nordic Healthcare Group, Finland. [2]Jagiellonian University Medical College, Poland. [3]Fondazione Policlinico Universitario "Agostino Gemelli" IRCCS, Italy. [4]LUCAS – Center for Care Research and Consultancy, KU Leuven, Belgium. [5]Department of General Practice, Amsterdam UMC, Netherlands. [6]6. Amsterdam Public Health research institute, Aging & Later Life, Netherlands. [7]Boston College School of Social Work, USA. [8]Charles University, Czech Republic, Faculty of Pharmacy, Department of Social and Clinical Pharmacy and 1st Faculty of Medicine, Department of Geriatrics and Gerontology, Czech Republic. [9]Università Cattolica del Sacro Cuore, Italy. [10]Amsterdam UMC, Netherlands. [11]Connell School of Nursing, Boston College, USA. [12]Finnish Institute for Health and Welfare, Finland

Providing optimal care for older adults with complex chronic conditions (CCC) is challenging due to medical, functional, and psychosocial factors. The EU-Horizon 2020 project I-CARE4OLD developed the iCARE-tool, an advanced decision support system leveraging longitudinal data from 52 million home care and nursing home recipients across eight countries. Using machine learning, it analyses interRAI assessments and registry data to predict health trajectories and assess interventions. This study piloted the tool, evaluating feasibility, usability, and clinical impact. This study reports pilot participants' perspectives on its ethical and legal implications in clinical use.

Participants from seven countries (Italy, Belgium, the Netherlands, Poland, Finland, Czechia, and the USA) were recruited to evaluate the iCARE-tool. The study design included pre- and post-surveys, tool testing with hypothetical patient cases, and assessments of its predictions and treatment recommendations. Two pilot modalities—decision loop and non-decision loop—were implemented to examine the tool's impact on clinical decision-making. Data analysis comprised descriptive statistics and qualitative methods. A total of 156 participants took part, with a mean age of 44.5 years. The majority were female (N=109, 69.9%), and most were physicians (N=99, 63.5%) or nurses (N=48, 30.8%). Overall, 52.1% (N=86) of participants perceived no ethical or legal concerns regarding the tool's clinical use. Czech participants were the most likely to hold this view, while Dutch and Italian participants were the most reserved. Participants from other countries fell between these two positions. Among those who did not perceive ethical or legal concerns, the primary justification was that clinical decisions should always remain the responsibility of healthcare professionals, with the tool serving strictly as a supportive aid. Some also emphasized the importance of patient and family consent, compliance with medical device regulations, and adherence to information security standards. Among those who identified ethical or legal concerns, key issues included data security, reliance on AI, prediction reliability, responsibility allocation, patient involvement, and the need for a holistic care approach, which they felt was not fully realized in this pilot.

The findings highlight variations in ethical and legal concerns across countries, suggesting that national regulations, healthcare culture, and AI acceptance influence adoption of clinical decision support. While most participants viewed the iCARE-tool as a supportive aid rather than a decision-maker, concerns were raised about information security, transparency, and responsibility division. Ensuring data protection and clarifying liability in AI-assisted decisions remain critical challenges. Additionally, some participants felt the tool did not fully support a holistic approach to care, emphasizing the need for AI integration that complements, rather than limits, comprehensive clinical assessments. Differences in perceptions indicate the importance of adapting AI tools to local healthcare contexts. Future research should explore the tool's real-world clinical implementation beyond hypothetical cases, assessing its impact on patient outcomes, workflow efficiency and integration in interRAI procedures. Addressing transparency, explainability, and usability concerns will be essential to ensure broader acceptance and responsible AI integration into clinical practice.

Advancing health governance in the WHO European Region: a new evaluation mechanism (ID 299)

Anastasia Erin Verheyen
Queen Mary University of London, United Kingdom

Abstract: Effective health governance is fundamental to achieving the UN 2030 Agenda for Sustainable Development, yet standardised assessment methodologies remain scarce. A forthcoming research initiative aims to bridge this gap by developing a comprehensive evaluation mechanism for assessing health governance in WHO European Region countries. This study will introduce a transparent, standardised assessment tool designed to enhance national strategies, inform policy decisions, and foster health system improvements across the region.

Introduction: Governance plays a pivotal role in shaping public health systems, ensuring equitable access to care, and improving overall health outcomes. The COVID-19 pandemic underscored the urgent need for resilient and well-governed health systems, yet existing evaluation frameworks are fragmented and inconsistently applied. While numerous health governance models exist, few provide a holistic, actionable framework that can guide policymakers in identifying gaps, implementing best practices, and strengthening health governance structures at national and regional levels.

Research Objectives: This study seeks to develop an integrated assessment framework encompassing governance principles such as transparency, accountability, participation, integrity, and capacity. Through a systematic literature review, stakeholder consultations, and a comparative analysis of health governance systems across WHO European Region countries, the research will:

- Identify best practices and gaps in existing governance models.
- Develop a set of standardised indicators to assess governance effectiveness.
- Establish a mathematical formula to quantify governance performance.
- Create a digital platform for monitoring governance metrics and facilitating data-driven policy adjustments.

Methodology: A mixed-methods approach will be employed, combining qualitative and quantitative analyses. Systematic reviews will assess existing governance evaluation frameworks, while sociological research will capture insights from public health professionals, policymakers, and international health organisations. Comparative statistical analyses will enable cross-country evaluations, and mathematical modelling will support the creation of a governance index. The final output will be a web-based platform integrating governance metrics, potentially incorporated into existing WHO and European Union health monitoring tools.

Expected Outcomes and Impact: By providing a robust, evidence-based governance assessment mechanism, this research aims to:

- Enhance policymaker capacity to identify and address governance deficiencies.
- Promote replicable models of best practice in health governance.
- Support national and regional health authorities in optimising strategy implementation.
- Contribute to global discussions on standardising health governance evaluation methods.

This study will offer a transformative tool for improving governance effectiveness, ultimately fostering more equitable, resilient, and efficient health systems across the WHO European Region.

Conclusion: As the global health landscape evolves, a systematic approach to health governance assessment is crucial. This research will fill a critical gap, equipping decision-makers with the tools needed to drive effective governance reforms and strengthen public health systems. By setting a new benchmark for evaluating health governance, this study will support sustainable development goals and contribute to the broader advancement of global health security.

Nurses role and climate change: how health organizations are questioned by this relation? (ID 301)

Rozenn Decout[1], Prof Dominique Somme[2,3], Prof Virginie Migeot[3]
[1]Pôle Gériatrique Rennais, France. [2]Université de Rennes, France. [3]CHU Rennes, France

Context: The health sector, with 4.4% of global greenhouse gas emissions, contributes to climate change, particularly within hospital settings (38% of the sector's emissions), while at the same time, the consequences of climate change impact human health. The increase in the spread of infectious diseases, the incidence of cardiovascular, respiratory, neurological diseases, and mental health issues are just a few examples. The nursing profession, through its representative organizations, is committed to playing a leading role in addressing the challenges posed by climate change. Nevertheless, do nurses understand their role in this context?

Methods: This qualitative research aimed to explore nurses' understanding of their role in addressing climate change challenges. To this end, semi-structured interviews were conducted with 9 nurses (8 women, 1 man) in various care Rennes University Hospital departments using an interview guide from February 5 to April 5, 2024. The interviews were transcribed verbatim. The transcripts were manually grouped into themes and sub-themes. An inductive analysis highlighted the links that connected the themes to each other and to the different dimensions of the role to generate hypotheses and develop a synthesis. During the analysis process, regular exchanges between the author and her co-director helped reach a consensus on the themes, sub-themes, and their connections.

Results: The nurses expressed that climate change challenges were an integral part of their civic role, their perception of it as part of their professional role was more heterogeneous. They described this role to combat climate change by some professional's example of action like being informants, supporting their patients whether in dealing with the consequences of climate change or in health education. The care context, with its hygiene and safety rules like technological advancements, was a hindrance to greener practices, and the nurses advocated for a return to simplicity as a framework of a green health sector. The nurses felt that the hospital institution was not adequately addressing this issue. They also expressed the wish to be supported by it, considering it a crucial aid in better understanding and investing this role. They analysed that their personal involvement, the support of a leader, and teamwork were factors in the success of actions.

Discussion: Considering theories from the change sociology, our results point that nurses as a social group is at the very beginning of the process: "awareness of the problem". They realized that there is a role to play but vaguely described and invocating great principles from which the debate is limited. To transform this "ideological" adhesion that "there is a problem and we have something to do" to practical change, there is a need to accompany the steps forward. To fully embrace this role, the nurses need to adopt new concrete behaviours, in their own field of expertise and control, which they seem ready for but still find challenging to completely invest in. Health organizations need to take up this study to better support this shift within their teams by developing actions that will lead to change, such as communication, involvement of "champions", and organizational support, and by reducing the intensity of obstacles to their implementation.

Assessing Quality of Life in Residential Care: A Systematic Review of Measurement Tools (ID 302)

Candice Gruyaert, Dr Eva Pattyn, Prof Dr Jeroen Trybou
Ghent University, Belgium

Context: Over time, approaches to monitor nursing home (NH) quality have shifted, with growing attention to residents' emotional and psychological well-being and self-reported "quality of life" (QoL), which plays a significant role in their overall care experience. As the global elderly population rises, placing strain on long-term care facilities, understanding and assessing QoL becomes increasingly important. The concept of QoL in NHs is complex, involving both subjective and objective factors, requiring a multifaceted assessment approach. This literature review aims to identify key QoL determinants and examine the tools used to assess them, ensuring they reflect the unique needs and challenges of NH residents.

Methodology: A systematic review on the quality of life of nursing home residents, focusing on its determinants and measurement tools, is being conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. In January 2025, five databases - PubMed, Web of Science, Scopus, Embase, and CINAHL - were searched to identify key factors influencing QoL and measurement methods used for NH residents. The initial search yielded a large number of hits, which are being screened by two reviewers independently, based on predefined eligibility criteria. Any discrepancies are being resolved through discussion. After reviewing the full texts, a selection of articles will be chosen for further analysis.

Results: The preliminary analysis identified a wide range of determinants impacting quality of life (QoL), categorized into individual, organizational, and social factors. Key factors that enhance nursing home residents' QoL include improving subjective health perceptions, strengthening social networks, and supporting autonomy. Positive relationships between professionals and residents, along with family involvement and opportunities for meaningful activities, further contribute to improved self-reported QoL.

Our findings also highlight the variability in QoL measurement approaches, which were divided into generic measures and tools specifically adapted for nursing home residents. Generic measures, such as the EQ-5D and WHOQOL-BREF, assess health-related QoL across multiple dimensions and are commonly used in general population assessments. In contrast, tools like the interRAI Self-Reported Quality of Life Survey for Long-Term Care Facilities focus on QoL domains tailored to the unique needs of nursing home residents, providing a more specific and context-relevant assessment of their experiences.

Discussion: This review shows the complexity of quality of life for nursing home residents, revealing how it varies based on individual demographics, location, and facility-specific factors. Additionally, it underscores the differences in perspectives among various stakeholders, including residents, caregivers, and family members. While generic QoL measures often overlook the unique needs of nursing home residents, specific measures provide a more individualized evaluation by addressing various QoL domains. However, these measures are rarely used in practice and are underrepresented in the literature. Furthermore, there is no standardized process for measuring quality of life in nursing homes. The findings highlight the need for further research to explore these gaps and the importance of the development of a holistic, personalized model of quality of life for the elderly. The model should be adapted to both the individual needs of residents and the unique setting of long-term care facilities, ultimately enhancing NH residents' life satisfaction.

Atento – Telehealth centre of ULS São José (ID 303)

Dr Paulo Espiga, Paulo Feio, Neuza Reis, Dr Ana Santos, Dr Miguel Rico
ULS São José, Portugal

Context: The ATENTO – Telehealth Centre of ULS São José is a centralized telehealth hub designed to enhance chronic disease management and optimize patient journey through teleconsultations, telerehabilitation, and telemonitoring. It operates within ULS São José, a comprehensive healthcare organization comprising 8 hospitals and 35 primary care units, serving a population of 430,000 patients. By integrating innovative digital health solutions, ATENTO addresses the challenges of chronic disease management, such as care fragmentation, high costs, and limited patient self-management, while ensuring equitable and personalized access to healthcare. This model not only improves clinical outcomes and reduces hospital visits but also serves as a scalable blueprint for other ULS in Portugal.

Methods: ATENTO follows a structured, multidisciplinary approach to remote patient monitoring (RPM), tracking biosignals such as blood pressure, heart rate, oxygen saturation, weight, and glucose levels. A core principle is the integration of data from Class III medical devices (cardiac implantable devices) into a unified dashboard for triage teams, facilitating real-time clinical decision-making. This dashboard is fully interoperable with SClinico, the national hospitals information system, ensuring seamless communication across the SNS. A phased implementation strategy was adopted, prioritizing prevalent chronic conditions such as heart failure, diabetes, and COPD, with subsequent expansion into lung transplant patients and bariatric surgery cases at the hospital level, and hypertension and diabetes management in primary healthcare. ATENTO is also leveraging external funding, including support from the Calouste Gulbenkian Foundation, to further expand telemonitoring capabilities.

Results: In its first year of operation, ATENTO aims to remotely monitor 300 patients via biosignal tracking and 1,500 patients with implantable devices, leading to a 30% reduction in emergency visits and hospital admissions. Early data indicate a significant decrease in healthcare resource utilization, improved patient self-management, and greater clinical stability through proactive interventions. Currently, ATENTO has already achieved:

- 1,003 patients actively monitored for heart failure, COPD, diabetes, hypertension, and cardiac implantable devices.
- Expansion into new surgical areas, such as lung transplants, obstetrics and bariatric surgery, and ambulatory areas, like domiciliary hospitalization.
- Deployment of 100 additional telemonitoring kits, enhancing accessibility and coverage.
- By integrating structured telemonitoring pathways, ATENTO bridges gaps in healthcare while addressing systemic inefficiencies in disease management and patient journeys.

Discussion: ATENTO demonstrates the transformative potential of telehealth in optimizing chronic disease management, reducing care disparities, and promoting patient self-management. Several other ULS in Portugal are already following similar concepts, with ATENTO serving as a blueprint for replication across the country. The next phase of development includes the integration of predictive analytics and artificial intelligence, leveraging tested algorithms from ATENTO's technology partner. These AI-driven predictive models have already demonstrated the potential to detect acute exacerbations up to five days in advance, allowing preventive clinical intervention. ATENTO is actively working on regulatory and technical conditions required for full AI implementation in clinical workflows. Beyond clinical and operational efficiencies, ATENTO also contributes to broader ESG and SDGs objectives, particularly in linking SNS equity and equality principles with global sustainability initiatives. By pioneering scalable, data-driven telehealth solutions, ATENTO is setting a new benchmark for integrated care, ensuring that healthcare remains accessible, personalized, and sustainable.

A cross-country comparison of policies to tackle delayed discharges from hospital in six European countries (ID 304)

Astrid Eriksen[1,2], Dr Bernd Rechel[3], Prof Luigi Siciliani[4], Dr Ewout van Ginneken[5]

[1]European Observatory on Health Systems and Policies, Germany. [2]Technische Universität Berlin, Department of Health Care Management, Germany. [3]European Observatory on Health Systems and Policies, United Kingdom. [4]University of York, Department of Economics and Related Studies, United Kingdom. [5]European Observatory on Health Systems and Policies, Belgium

Context: Delayed discharges for patients ready for discharge from hospital to the next point of care is a common health system challenge. Ensuring safe and effective discharge holds new urgency, given the growing backlogs and waiting times for inpatient services in many countries after the COVID-19 pandemic. Delayed discharges are often a result of inefficiencies and coordination problems between the health and social care systems. They have implications for patients' health and well-being, health professionals, and provider organisations, as well as broader societal costs.

Methods: The research presented here is a qualitative, cross-country comparative analysis of how selected European countries manage delayed discharges of patients from hospital. The countries chosen for the study followed the premise that health systems with comparatively fewer acute hospital beds per capita and shorter average lengths of stay can be expected to be under more pressure to avoid delayed discharges from hospitals and might offer interesting insights for health managers and policymakers in other countries. These were Denmark, the Netherlands, Norway, and Sweden. In addition, the analysis includes France and Germany, two large countries with comparatively higher numbers of acute hospital beds per capita and longer average lengths of stay but still face challenges with delayed discharges. We used experts from the Health System Policy Monitor network from the European Observatory on Health Systems and Policies to collect information on policies to manage delayed discharges from hospitals.

Results: A total of 17 policies were identified in the study countries. The policies were organised into four categories, three of which were defined by the care provider responsible for managing the discharge process or pathway. Policies were classified as hospital-based when the responsibility for discharge primarily rested with the hospital, such as discharge planning in Germany. They were classified as community-based when municipalities or local authorities, often in charge of primary or community care, held the responsibility, as exemplified by the home return assistance programme in France. Last, they were classified as cross-sectoral when the responsibility is shared between administrative units, such as regional coordination efforts in the Netherlands. In addition, some policies aimed to prevent hospital admissions altogether and were classified as prevention policies, including proactive care for frail and older people in Sweden.

Discussion: Our comparative analysis offers insights into approaches selected European countries are taking to manage delayed discharges from hospitals. The analysis identifies common factors or principles that underpin many of these initiatives and that hold relevant learnings for health managers and policymakers. First, defining the clarity of responsibility at the legislative, structural, and provider levels is crucial. Second, advance planning, timely communication, and the flow of good quality information are essential to effective discharge processes. Third, sufficient resourcing to enhance community-based capacity is a fundamental determinant of timely discharge and allows for flexibility at discharge. Fourth, several of the studied countries use financial incentives. While they appear powerful, they must operate in a balanced system, and they can have unintended consequences and behaviours. Finally, discharge delays need to be seen as one symptom of wider systemic issues.

Guided open collaborative ecosystems as a major disruption in health systems (306)

Prof Martin Gerard Curley
Maynooth University, Ireland

Context: Healthcare systems face challenges like rising costs and limited access, but a focus on prevention, early intervention and digital innovation can transform outcomes. A shift toward home-based care and guided open collaborative ecosystems involving governments, clinicians, digital, pharma and med-tech industries and patients can reduce costs, enhance quality of life and address health inequities. This proactive strategy fosters innovation and systemic improvement, dissolving some demands for healthcare and meeting other growing demands.

Methods: Rather than taking a problem solving approach, a new paradigm Stay Left, Shift Left-10X (SL2-10X) takes a problem dissolution approach attempting to turn off the ever growing demand for acute hospital services by creating a vision of a new health system which focuses on proactive participative health and early detection all supported by digital enabled patient empowerment. A new type of business configuration has emerged, known as an open collaborative ecosystem (OCE). OCEs represent a fundamental shift in the business and health competitive landscape. An OCE is characterised by a high trust, high capability relationships, where intensive interaction and innovation occur among participants across the quadruple helix—government, industry, academia and citizens/patients. These actors work interdependently to achieve aligned, amplified and accelerated transformation and results. In Ireland both forms of OCE, Directed and Guided have been used with the orchestration of each leading to results that no one actor could deliver on their own.

Results: This paper presents the significant results and advances delivered through use of a shared strategy (SL2-10X) and the synthesis and synergy that can occur in an OCE where the right combination of chemistry, capability and character exists. This paper discusses some of the remarkable results achieved and the advances for the health system where there is shared vision and values, underpinned by a platform which enables shared value and velocity creation. Several examples are shared where companies have integrated their products into higher performing services which would not otherwise have happened without the primordial soup conditions of a guided OCE.

Discussion: OCEs are emerging as a fundamental mutation in the business competitive landscape. This paper and case-study shares the remarkable results achieved in Ireland from both a directed and guided OCE. The paper shares the relative merits and appropriateness of either a directed or guided OCE depending on where the locus of leadership is in a particular country or region. The paper also discusses the importance of educating clinical leaders and managers in both new health paradigms and novel new management and business approaches. The future is bright for health if these new leadership and management approaches are adopted.

Should I stay or should I go? Exploring the motivations behind the decision to leave (or stay) of Italian healthcare professionals (307)

Antonella Saponiero, MD[1], Mario Masiello[2], Dr Giancarlo Gualtieri[3], Antonio Cossu, MD[4], Prof Federica Morandi[2]
[1]ASL Roma 1, Italy. [2]Università Cattolica del Sacro Cuore, Italy. [3]ISTAT, Italy. [4]AOU Sassari, Italy

Context: The decision of Italian healthcare professionals to migrate abroad is a complex phenomenon influenced by individual, work-related, socio-economic, and political factors. Since the Covid-19 pandemic, healthcare professionals have become increasingly aware of the lack of professional recognition, both in terms of economic rewards and career opportunities. Concurrently, the so-called "Great Resignation" has reduced the number of available professionals, increasing the workload for those remaining. This study aims to explore the motivations behind healthcare professionals' decisions to leave or stay in the Italian healthcare system, with a focus on retention strategies that address their needs and expectations.

Method: Between June 22, 2024, and January 13, 2025, a survey titled "Migration of Healthcare Personnel" was conducted with a random sample of working-age doctors and nurses. The survey was distributed via email, WhatsApp, Facebook, and LinkedIn. It included 25 questions on demographics (such as age, gender, marital status, education, and regions of residence and work), as well as questions on job satisfaction and the intention to leave employment. A descriptive analysis was performed, followed by a comparative analysis using Pearson's chi-square test, with a $p\text{-value} < 0.05$ considered statistically significant. A convenience sampling method was employed. This research is ongoing and will evolve in future phases.

Results: The sample consisted of 275 healthcare professionals: 101 nurses and 174 doctors. The main reasons for considering migration were inadequate compensation (63.4%) and lack of career growth (63.4%). Nurses were significantly more motivated by economic factors than doctors. Key factors contributing to job satisfaction included mutual respect (73.5%), work organization (63.3%), autonomy (57.8%), accessibility (56%), and work-life balance (57.1%). Financial recognition and salary increases were identified as crucial for improving retention. 39.3% of participants expressed no intention to change jobs, valuing good relationships and work-life balance. Retention factors showed significant differences across personal (56.3%), economic (18.3%), and work-related (56.8%) aspects.

Discussion: Based on our preliminary results, we can conclude that the decision of healthcare professionals to leave Italy for other countries is driven by poor planning, unfavourable working conditions, excessive workloads, and low compensation. Despite efforts by Italy and the WHO to improve the healthcare system, 61.1% of staff are willing to change jobs, with 43.6% considering relocation abroad. Those choosing to remain in Italy primarily do so for non-economic reasons, as only 18.3% cite financial motivations. Approximately 80% value the rewarding nature of their work, while 73.9% appreciate a positive work atmosphere. Based on these findings, it is crucial to invest in improving the work environment through initiatives such as team building, value sharing, and more accurate performance evaluations. Immediate interventions could include assigning psychologists to support critical units. Additionally, future strategies aimed at improving work organization through task shifting and workload reduction may be beneficial.

Exploring management capacity and capability in the National Health Service in England - implications for policy and practice (ID 310)

Dr Tina Kowalski[1], Dr Shuyi Liu[1], Dr Ross Goldstone[2], Prof Ian Kirkpatrick[1]
[1]University of York, United Kingdom. [2]The Health Foundation, United Kingdom

Research by the REAL centre in 2022 reports comparisons of health spending across Europe over the last decade. Findings indicate that UK investment in health service provision has been significantly lower than in other European countries. This has been evidenced through less capacity and fewer physical resources, which in turn has led to vulnerabilities in the UK's national health service system to meet increasing demands during this period. Hospital management is one key area of under-investment. Indeed, statistics show the growth of managers has been outstripped by overall staff increase in NHS hospitals, However, there is a widely held view that the UK NHS is 'over-managed', to the point where further investments in management would be perceived as wasteful and counterproductive. This view is exacerbated by a long-standing tendency among the UK media and the public to denigrate and undervalue NHS managers.

More recently, there seems to be a positive policy turn in the UK with regard to management in the health service. This is supported by a robust and growing evidence base showing investments in management and leadership capacity can make a difference to the performance of healthcare systems. Following his review of NHS leadership, Sir Gordon Messenger highlighted the 'very real difference that first-rate leadership can make in health and social care, with many outstanding examples contributing directly to better service'. Nevertheless, it is still less clear how this could happen. The very nature of management and leadership in the NHS is complex and unclear. What exactly is management and leadership in this context and who, and where, are the managers? How exactly does management add value to NHS service delivery and improvement?

In a two-year project, we aim to closely examine these questions using a mixed-methods approach. Through conducting qualitative case studies, quantitative surveys, and secondary data analysis, we explore the relationship between management capacity and capability. Our research involves NHS Ambulance Trusts and Mental Health Trusts in addition to Non-specialist Acute Trusts. In so doing, our research makes a unique contribution to healthcare management, particularly, given the scarcity of research on management in ambulance and mental health services.

In this presentation, we synthesise findings from our interdisciplinary literature review, stakeholder engagement activities, and case study interviews with managers. Our reflections will focus on the following areas:

- The role of management in improving performance through knowledge mobilisation and implementation of new technologies and innovations
- The significant variations in performance outcomes across NHS organisations.
- The conditions and factors which enable or constrain management in high-performing and low-performing organisations.

Implications in relation to the methodologies adopted and the substantive findings will have relevance to healthcare management scholars, healthcare providers, and policymakers, within and beyond the UK context.

Dynamics and processes of transition(s) in health: what if the question was work? (ID 311)

Dr Marine Dagorn[1], Prof Laurie Marrauld[2]
[1]EHESP, France. [2]EHESP, France

Context: Faced with the climate and environmental crisis, many healthcare institutions are concerned about their carbon impact. The hospital and the healthcare sector are major emitters. In this context, the Bordeaux University Hospital recently launched the “Sustainable Units” project, units labeled for their ecological actions. To date, at an organizational level, we know little about the health practices with an environmental impact. How do these practices emerge, how do they spread, and how do they last? And beyond being an carbon emitter, how could the hospital be a lever for the ecological transition?

Methods: The qualitative study includes interviews (17) with the project founders and leaders of "sustainable units" (doctors, health managers) as well as the observation of the internal training "sustainable units" (3.5 days). Some actions of these units are more focused on the issue of waste sorting, others seek to reduce waste production or consumption by questioning the relevance of medical prescriptions (reviewing the prescription only for medication, allowing nurses to prescribe dressings to reduce unused dressings for example and achieve a wiser prescription) or by designing care in a more ecological way (eco-designed toilet, single use, etc.). We observed the sustainable units of the Bordeaux University Hospital in order to better understand how the first units were set up and how they spread. What dynamics, what processes, for an ecological practice at work?

Results: The emergence of practices in favour of the Ecological Transition seems to be the result of individual and collective dynamics. However, to last, organizational conditions seem necessary and in particular the managerial support, but also the convergence between the medical and paramedical spheres for real team projects, supported by the entire system (including the administration). The study showed limits to this type of approach such as the turnover of supervisors, impacting sustainability (difficulty for the organization to take over beyond the people), and conversely the risks, during the desire for institutionalization (temptation to reproduce the results more than the conditions favourable to their achievement). The lack of valorisation and recognition of the staff involved in these approaches was also highlighted as well as the crucial and permanent question of time (the space-time necessary to think and reinvent one's practice versus the constrained time of the care professions).

Discussion: We observe a sustainable approach that seems for the moment to be focused on "ecological" aspects and that could benefit from including sustainability for people by focusing on the conditions in which they carry out their activity. However, we note that indirectly, this approach seems to partly cover this issue since it ultimately "authorizes" and "values" institutionally, those wishing to function differently in teams, to do so, through the somewhat ecological "pretext". Indeed, the space-time created to question one's professional practice and allow it to be reinvented and the conditions allowing the expression of a power to act, appear here to be fundamental in the sustainability of sustainable practices at work. Would this not be, through the transition emergency, the opportunity to overhaul the conditions in which the activity is carried out (and therefore work practices)?

Fostering regional patient safety through a new collaborative bulletin (ID 312)

Dr Laura Giménez Jordán[1], Dr lavinia Vico Beso[2], Dr Natalia Cabeza Hurtado[2], Dolors Blanch[1], Dr Jordi Milozzi[1], Victoria Ariza[1], Regina LLimona[1], Rosa Simo[1]
[1]Consorci Sanitari Alt Penedes Garraf, Spain. [2]Institut Catala de la Salut, Spain

Context: The "Regió Penedès" is a recently established entity in Catalonia within the healthcare network, committed to fostering collaboration and improving patient safety. Recognizing the need for stronger communication and a unified safety culture, the Patient Safety Territorial Unit, spanning Primary Care Penedès and Hospital Consorci Sanitari Alt Penedès Garraf is developing a regional, quarterly bulletin. Drawing inspiration from the Department of Health's "Newspacient Segur" bulletin, this initiative will focus on local improvement efforts, sharing updates on incidents, successful interventions, and ongoing safety projects. The bulletin aims to engage all healthcare professionals, providing a clear, accessible platform to promote continuous learning and encourage participation in safety initiatives.

Methods: The bulletin will be organized into concise sections that present practical examples of safety improvements, highlight project outcomes, and share new initiatives launched by the Territorial Unit. Contributors from both primary and hospital care will provide diverse perspectives and relevant insights. The content will be based on incident reports, data from the SNISP platform, and expert input, ensuring accuracy and relevance. To reach all professionals, the bulletin will be distributed electronically and in print. Feedback will be collected regularly to ensure the content remains valuable and to adapt to emerging safety challenges. By offering locally focused information and actionable recommendations, the bulletin will serve as more than an informational resource; it will become a key driver of a unified, patient-centered safety culture across the newly formed Penedès Regional Management area.

Results: Although still in development, the bulletin is anticipated to significantly enhance communication and strengthen the safety culture within the Penedès Region. By making local safety improvements visible and relevant, it will encourage a broader range of professionals to engage with patient safety initiatives. The bulletin will showcase the work of the Patient Safety Territorial Unit, making its contributions and impact more transparent. As awareness grows, the bulletin is expected to increase reporting rates, improve adherence to safety protocols, and foster a more cohesive approach to continuous improvement. By featuring local success stories and providing clear, practical guidance, the bulletin will help bridge knowledge gaps and ensure that patient safety efforts are recognized, understood, and embraced by all staff, contributing to a safer, more reliable healthcare environment.

Discussion: This project highlights the importance of clear, localized communication in fostering a patient safety culture. The Penedès Regional Management, as a newly established entity, faces the challenge of aligning a diverse group of professionals around common safety goals. The bulletin will serve as a strategic tool to address this challenge, offering regular updates and practical examples that demonstrate the value of collaborative safety efforts. By focusing on local initiatives and real-world outcomes, it aims to engage all staff, from frontline workers to administrators, reinforcing the idea that patient safety is everyone's responsibility. Over time, this initiative is expected to strengthen not only safety outcomes but also a shared sense of purpose and collaboration. By providing a consistent, accessible channel for safety-related communication, the bulletin will help ensure that patient safety remains a priority and that improvement efforts continue to evolve within the growing Penedès Regional Management framework.

Mapping EU health policy relations: a framework for a sustainable and harmonised collaboration with neighbouring countries (ID 314)

Julidè Mayer[1], Dr Scott L. Greer[1,2], Prof Tamara Hervey[3]
[1]University of Michigan, USA. [2]European Observatory on Health Systems and Policies, Belgium. [3]City University of London, United Kingdom

Context: The European Union (EU) plays a pivotal role in shaping global health policy. Its relationships with Member States and neighbouring countries are particularly complex, interconnected and interdependent, which can sometimes lead to policy problems. To avoid such fragmentation, it is crucial for the EU to foster a collective, effective, and harmonised alignment within its community – the member states and accession states. A coherent and harmonised EU approach to its neighbours could improve the governance of EU health policy and enhance its influence on global health policies. While there are studies of EU health relations with individual countries, there has been no effort to develop a broad framework. We seek to fill that gap.

Methods: This literature review exploits the four-axis framework developed by Dayan and Hervey (2024) to identify types of relationships and develop ideal types for relationships in health. The four-axis framework is used to categorise health relations between the EU and a number of existing accession states, such as the United Kingdom, Switzerland, the European Free Trade Association (including Norway), Ukraine, and Moldova. Using the World Health Organization building blocks approach and European Observatory tools analysis (Fahy et al. 2022, Greer et al. 2024) to identify key areas, we draw on scoping review methods incorporating grey and scientific literature to map relationships relevant to each building block and their governance. Then, we cluster these relations on the four-axis framework in order to cluster these attributes as models that the EU can rely on when negotiating with third countries.

Results: There is a large scope for creativity in addressing shared health policy problems collaboratively, and considerable variation in relationships, but emerging patterns in relations appear to increasingly reflect EU strategies and preferences for consistent governance approaches and a reluctance to engage in specific sectoral bargains. The relations with all of Europe's near neighbours have a large scope for increased collaboration with the EU to improve health, which can result in actions to improve health collaborations. Using the four-axis framework, we identify several types of workable models for the EU's external relationships that could apply to deepen relations around healthcare.

Discussion: This exercise in identifying models and evaluating their impact and sustainability on global health shows a number of different options that can be combined to reflect on the EU and the third countries' preferences and create scope for collaboration on health. Health policy is a crucial and promising area in which to expand and regularise EU collaborations. The EU can use its considerable leverage to create promising positive-sum health policy models for relations with its neighbours.

Does price disclosure lower prices in private MRI? (ID 315)

Dr Riina Hiltunen
Kela, Finland. University of Turku, Finland

Context: In Finland's private health care markets, the lack of price transparency has historically made price shopping difficult for consumers. To address this issue, two online price comparison tools were introduced. The first tool disclosed average prices for private health services at the municipality level, while the second tool provided prices at the practice level. Economic theory and empirical research suggest that increasing price transparency can lower prices, but the impact depends on market conditions and the design of the price disclosure. This paper examines the effect of these two price disclosures on the prices of private magnetic resonance imaging (MRI) in Finland.

Methods: We utilize comprehensive administrative data from the National Health Insurance of Finland, which includes all reimbursed procedures and prices in the private sector from 2008 to 2017. Our difference-in-differences approach leverages the difference in price information disclosure between closely similar MRI procedures to identify the causal effect of the two different price disclosures on prices. We employ a two-way fixed effects (TWFE) regression model with controlling variables and fixed effects to account for differences in patient, physician, and provider settings. Additionally, we analyze separate effects for regions, procedures, and quarter years, and use a market concentration index to control for the ex ante level of competition and to explore whether market concentration is associated with the price effects. Finally, we analyze pre-trends to evaluate the validity of our identification strategy.

Results: Our findings indicate that only the second price disclosure reduced MRI prices, with market prices decreasing by 10.6% and provider prices by 5.2% relative to the nondisclosed MRI procedures. The estimated effects are relatively insensitive to the inclusion of patient and physician characteristics, but the effects vary across regions. We also find that providers lower prices by 4.1% immediately after the price disclosure, followed by a declining trend. However, after a year, the provider price effect becomes statistically insignificant. For the market prices, the effect remains statistically significant throughout the six-quarter study period with the price reduction reaching -12%. The effect is also stronger in concentrated markets, suggesting that price transparency inhibits companies' ability to exert monopoly power. Additionally, the pre-trend analysis confirms that the critical assumptions behind our method hold.

Discussion: The results align with previous literature indicating that price competition can be promoted through price transparency and that information disclosure is more effective when baseline market performance is low. Our results also indicate that there are unobserved differences between practices regarding their sensitivity to price information.

The different effects of the two price disclosures highlight the importance of design and market conditions in promoting competition and gaining savings. We conclude that the failure of the first price disclosure related to two main aspects: the small increase in relevant price information; and the poor level of ex ante price information and collusive pricing, lowering price sensitivity of both the consumers and providers.

As MRI services are highly standardized, it is unlikely that providers lower prices by compromising quality. However, a definitive conclusion on consumer welfare gains cannot be made, as prices could be increased elsewhere to compensate for the loss.

Nothing about us without us': an investigation into the conditions and mechanisms enabling frontline care workers to exercise employee voice (ID 316)

Karin Kee
Vrije Universiteit, Netherlands

Context: Through *employee voice* – the communication of ideas and concerns to those who can instigate changes (e.g., managers) – frontline care workers can enhance care quality and organizational performance. However, frontline staff often hesitate to speak up. While research has explored registered nurses' voice in hospitals, research has overlooked low-status care workers in long-term care – a low-status sector compared to hospitals. This is striking, as these workers provide most hands-on care, yet struggle the most to have a say in their organizations. Therefore, I explored: "What conditions and mechanisms enable frontline, low-status healthcare workers in long-term care settings to exercise voice?"

Methods: Empirically, my research focused on the largest occupational group in Dutch long-term care: certified nursing assistants (CNAs). Dutch CNAs are primarily responsible for providing personal care to clients but are also allowed to perform primary nursing tasks (e.g., giving injections). Despite them spending most time with clients and their intimate knowledge of frontline operations, CNAs have long been marginalized and face difficulties making their voices heard. This has been much to the despair of CNAs, who often feel undervalued, overlooked in decision-making, and unable to advocate for the changes they believe are necessary to improve both their working conditions and client care. Against this backdrop, I conducted a multi-method study comprising survey research, focus groups, and two qualitative case studies, aiming to shed light on the conditions and mechanisms that enable CNAs who wish to exercise voice to actually do so.

Results: Willingness to exercise voice emerged as a critical condition. While the majority of CNAs lacked this willingness, perceiving that speaking up would be futile or unlikely to lead to desired outcomes, this was not the case for CNAs who experienced supportive relationships with higher-ranked care professionals and managers. These relationships could be fostered through organizational roles where CNAs engaged with higher-ups or through initiatives that encouraged such interactions. Secondly, CNAs needed to be facilitated to exercise voice, including being compensated for their time and granted access to clear information in order for them to develop informed opinions. Finally, CNAs needed to possess the necessary self-advocacy and communication skills to convey their ideas, concerns, and perspectives, effectively. While these conditions empowered CNAs to speak up, they did not guarantee influence. To achieve that, their insights need to be heard and meaningfully integrated into organizational decisions as well.

Discussion: Exercising voice does not come naturally to low-status care workers, such as CNAs. The research highlights that structural and policy solutions alone are insufficient to stimulate voice; what truly matters is developing competencies, positioning and equipping lower-status employees so they can have a meaningful say in organizational matters, and building relationships. The latter is an area where healthcare managers could take the lead. This requires efforts, and the costs may precede the benefits. Yet, beyond shedding light on conditions and mechanisms enabling low-status care workers to exercise voice, my research shows that voice is a significant predictor of CNAs' job satisfaction and retention. Hence, in today's challenging healthcare landscape, where there is a growing demand for (long-term) care services and pressing staff shortages, the development of voice by members of frontline, low-status occupational groups is critical.

Developing patient-centred care (PCC) in Multiple Sclerosis: French preliminary results from a European project (ID 319)

Anne-Lise Le Hesran[1], Dr Christelle Routelous[1], Dr Anne Girault[2], Dr Emmanuelle Leray[1]
[1]EHESP, France. [2]EHESP, France

Context: Multiple Sclerosis (MS) is a chronic lifelong neurological disease starting in young adulthood with diverse symptoms and unpredictable evolution, affecting 2.8 million people worldwide. MS care involves a complex blend of health and social care and expertise. Consequently, it necessitates a high degree of coordination to guarantee continuity of care and fulfill as much as possible specific and always evolving patients' needs. In this context, the development of MS care units (MSCUs), gathering a multidisciplinary team of MS experts in a single place, has progressively emerged, with the aim to offer seamless, efficient and personalized care to people with MS.

Methods: The aim of the research is to measure the impact of MSCU on patients' and health care providers' experience and outcomes, and on the care systems, in France and in Italy. With that purpose, we will use mixed methods (combination of qualitative and quantitative methods) in an interdisciplinary approach (epidemiology, political and management sciences). The project relies on insights from multiple stakeholders (people affected by MS, health care providers, policy makers) and puts emphasis on co-construction.

Data collection will focus on existing models of MS care (online survey), perceptions of persons living with MS and that of health care providers regarding the ideal models of care (focus groups), patient-reported outcomes and experiences of care (quantitative analysis of linked clinical and administrative data), and conditions to promote care integration (in-depth semi-structured interviews and comparative case studies).

Expected results: We will explore the rationale of PCC from the perspectives of patients and professionals and understand to what extent it is particularly relevant for MS. The chronic nature of MS and the impacts it has on all aspects of daily life (work, leisure, family etc.), make PCC particularly relevant.

Second, MSCUs have a strong potential to support PCC, but to date, little is known about their impact on patients' and health care providers' experience and outcomes. In France, 23 expert centres were labeled by the Ministry of Health in 2017 while in Italy, there are about 240 centres. Our preliminary results will provide information on the typology of MSCUs in France.

Third, we will depict the « ideal » care according to patients in France. Our objective is to better identify for whom and why MSCUs work or not and how it can lead to better care integration and outcomes for patients.

Discussion: Patients with complex needs have to take primary responsibility for their own journey through services and providers and their experience is often considered as confusing and overwhelming. For these patients, coordination of care and integration of health and social care services are all the more important. Care integration should avoid care discontinuities and targets that people receive the right care in the right place at the right time. Indeed, it aims to get a simultaneous focus on improving population health, patient experience, healthcare providers' work experience and health equity.

Assessing time spent on care information management in home care in Finland (ID 321)

Inka Sylgren, Prof Esa Jämsen, Assoc. Prof Paulus Torkki
University of Helsinki, Finland

Context: Health and social care services are facing increased demand due to the aging of the population and increasing multimorbidity. In Finland, home care is the primary service for older adults with disability, with 15% of >75-year-olds using it regularly. To provide high-quality care, home care professionals (HCPs) must understand the client's relevant history and treatments. This takes time if care-related information is not easily accessible and, especially when clients' care is fragmented to multiple providers. We hypothesize that HCPs spend a significant amount of time on care information management, which could be optimized to allow more time for direct care.

Methods: To study the time spent on care information management, we identified tasks related to retrieving client information, coordination, and communication. We conducted an online survey aimed for HCPs (practical nurses, nurse, physician and therapists) across four regional organizations in Finland, covering 22% of the country's long-term home care clients. Participants estimated their weekly time spent on five tasks using a seven-point time scale (0min-5h), with a "Not applicable" option. We collected demographic and work-related information from the respondents.

We began with descriptive analysis and summed the time spent on each task for each respondent to calculate the total time and standard deviation (SD). We used linear regression to assess how well the independent variables predict the total time (dependent variable), with R^2 indicating the proportion of variance explained. Additionally, we used ANOVA to evaluate differences in total time across demographic and work-related groups. All analyses were performed using R software.

Results: We received 625 responses, with a response rate ranging from 14.2% to 21.3% across the regions, with a weighted average of 17.1%. Most responses came from practical nurses (n=421) and nurses (n=124). On average, HCPs spend 258 minutes (SD=278) on care information management: nurses spent 513 minutes (SD=373), physicians 336 minutes (SD=271), practical nurses 185 minutes (SD=195), and professionals in other roles 208 minutes (SD=225). All professions spent at least 2 hours on information retrieval, with physicians spending the most time at 164 minutes, followed by nurses at 137 minutes. Nurses spent the most time on coordination (117 minutes), while practical nurses spent the least (35 minutes). Communication accounted for 92–278 minutes across the groups. Profession was the only significant control variable explaining time variation ($p<0.001$). The regression model had an R^2 of 0.245 (adjusted $R^2=0.221$).

Discussion: Despite Finland's integrated administration in public health and social care system, HCPs use a significant amount of time on care information management. Our results suggest that current methods of managing client information take time and might be nonoptimal for clients with complex needs who require more detailed information for effective care. Additionally, information retrieval and care coordination tasks especially burden highly educated professionals (nurses and physicians), who are in short supply in home care. Overall, we suggest that all professionals could benefit from a more accessible and time-efficient way of presenting care information to deliver high-quality care. We recommend further research into the factors contributing to the time-consuming nature of care information management and the information solutions that could help reduce time consumption.

Standard operating procedures for health managers (ID 322)

Beatriz Seco, Joana Seringa, Dr Alexandre Lourenço, Dr Rui Santana, Dr Teresa Magalhães
Escola Nacional de Saúde Pública, Portugal

The professionalization of health management is essential for improving health systems' efficiency and quality. Standard Operating Procedures (SOPs) play a crucial role by ensuring consistency, regulatory compliance, and operational excellence. This framework enhances management competencies, enables effective leadership, and supports decision-making in complex health environments. With increasing challenges in recruitment, lifelong learning, and career progression, the development of standardized competencies and processes is vital. This study aims to address these needs by analyzing expert consensus on essential competencies, recruitment methods, and training strategies that align with international standards, contributing to advancing health management practices.

The study adopts a Delphi consensus methodology, leveraging expert insights to define key competencies, recruitment processes, and lifelong learning strategies for health managers. Initially, a literature review will provide a foundational understanding of current practices and gaps. A panel of 20 international health management experts will be recruited using snowball sampling, ensuring diverse and experienced participation. The Delphi process will be conducted online to maximize feasibility and reduce logistical constraints. Responses will be anonymized to maintain confidentiality and analyzed using descriptive and thematic techniques. Ethical considerations, including informed consent and secure data storage, will be strictly adhered to. This methodology ensures a robust and cost-effective approach to building consensus on professionalizing health management.

The expected outcomes include a clear definition of core competencies essential for health managers to lead effectively in complex environments. These competencies will focus on adaptability, leadership, and strategic decision-making, aligned with international standards. Insights into recruitment processes will highlight methods to prioritize professional qualifications and practical experience, ensuring high-quality leadership in health management. Furthermore, recommendations for lifelong learning and professional development will emphasize innovative training methods, continuous education, and mentorship opportunities. The study aims to provide a structured framework for integrating SOPs into management practices, supporting the professional growth of health managers. These findings will contribute to reducing variability in health management practices, enhancing accountability, and fostering a culture of excellence and innovation within health systems.

Looking ahead, integrating SOPs and structured management processes will be fundamental in advancing the professionalization of health management. The findings of this study can serve as a foundation for developing standardized frameworks that will shape the future of health leadership. By fostering expert consensus, this research paves the way for harmonizing competencies, refining recruitment methods, and strengthening lifelong learning strategies globally. Future efforts should ensure that SOPs evolve alongside technological advancements and emerging challenges in healthcare, enhancing their applicability and effectiveness. Additionally, greater international collaboration will be needed to align local management practices with global standards, ensuring a consistent and high-quality approach across diverse health systems. By embedding continuous education and leadership development into management structures, health organizations can cultivate resilient, adaptable leaders who are prepared to navigate the complexities of future healthcare landscapes. Ultimately, this research contributes to laying the groundwork for a more efficient, innovative, and sustainable health management system worldwide.

The impact from integration of performance management and health technology assessment: a case study in Malta (ID 323)

Esther Oluwatosin Akinbobola[1,2], Dr Gianpaolo Tomaselli[2], Dr Patricia Vella Bonanno[2], Prof Sandra C. Buttigieg[2], Prof Guido Noto[1]
[1]University of Messina, Italy. [2]University of Malta, Malta

Background: The Maltese healthcare system, like many of its European counterparts, faces an evolving landscape of challenges driven by increasing demand for transparency, accountability, efficiency, and sustainability. Central to addressing these challenges are two key concepts: Performance Management (PM) and Health Technology Assessment (HTA). PM focuses on systematically measuring, monitoring, and enhancing the effectiveness of healthcare services, ensuring that resources are utilised optimally to meet predefined goals. Meanwhile, HTA evaluates the clinical, social, and economic impacts of health technologies to inform decision-making. Aligning these concepts provides continuous feedback loops, optimising decision-making.

The Maltese healthcare system, characterised by its centralisation and resource constraints, provides an ideal environment for studying the practical implications of this integration. Malta's unique position within the EU adds another layer of complexity, requiring adherence to EU-level HTA guidelines while navigating local challenges. Moreover, the interaction between PM metrics and HTA evaluations is essential for aligning clinical and economic objectives, fostering transparency, and promoting innovation.

Research Aims and Objectives: The primary aim of this research is to examine the impact of integrating PM and HTA frameworks within the Maltese healthcare system. The impact of this integration on resource allocation, implementation of innovation and regulatory compliance will be investigated. Facilitators and barriers to harmonisation will be studied. The objectives are exploring the role of collaborative procurement in enhancing access to innovative technologies. Also, understanding the implications of PM metrics on the performance of deployed technologies and overall healthcare delivery.

Methodology: The research employs a qualitative methodology to meticulously explore the intricate challenges and potential opportunities linked to the integration of PM and HTA. Data collection is executed through a series of structured focus group interviews that engage a diverse array of stakeholders, including policymakers who shape healthcare regulations, healthcare administrators responsible for operational management, clinicians who deliver patient care, and experts in HTA who evaluate medical technologies. This comprehensive approach guarantees a multifaceted understanding of the facilitators and barriers to effective integration, enabling the identification of key themes and insights that can inform future strategies for improved healthcare decision-making and patient outcomes.

Expected Result: A validated framework for integrating PM and HTA tailored to the Maltese healthcare system can serve as a vital tool for enhancing the efficiency and effectiveness of healthcare delivery. This framework offers insights into how the integration of PM and HTA impacts system-wide efficiency, strengthens decision-making processes, and improves patient outcomes by aligning resources, policies, and stakeholder goals. Additionally, it identifies the barriers and enablers specific to PM-HTA integration in Malta, such as challenges in governance, data interoperability, workforce capacity, and cultural readiness for change. Based on these insights, comprehensive policy and practice recommendations can be developed, ensuring that Malta's healthcare system achieves sustainable improvements.

Promoting digital health literacy among adolescents living in inner areas: a comparative study of top-down and bottom-up approaches (ID 324)

Chiara Notarangelo, Dr Francesca Pennucci, Dr Filippo Quattrone, Prof Sabina Nuti
Interdisciplinary Research Center "Health Science", Italy

Adolescents living in inner areas face significant barriers to accessing healthcare, including geographic isolation and limited awareness of available health services. Digital Health Literacy (DHL) plays a crucial role in overcoming these challenges, enabling adolescents to seek, understand, and use digital health resources effectively. In Tuscany, two digital health tools are available: (1) the Toscana Salute app (TSa), developed by public health institutions through a top-down approach, providing access to personal health records and online health services; and (2) a WebApp, created with a bottom-up approach, designed to enhance access to health information and services in inner areas.

This study aims to explore how exposure to digital tools developed through different approaches influences DHL among adolescents in inner areas. The specific objectives include:

1. Assessing adolescents' awareness, perceptions, and preferences regarding TSa and the WebApp, identifying key barriers and motivations.
2. Evaluating the potential of peer-to-peer and intergenerational strategies in increasing DHL awareness and adoption.
3. Comparing the effectiveness of top-down and bottom-up approaches in fostering digital health engagement among adolescents.

The study will adopt a participatory research approach, involving high school students (aged 14-19) from inner areas of Tuscany. The research design consists of three key phases:

1. Baseline Assessment – A pre-survey will measure adolescents' familiarity with DHL, followed by an informational session introducing the functionalities of both tools.
2. Hands-on Exploration – Participants will engage in guided demonstrations, test both tools, and take part in iterative focus groups to discuss usability, relevance, and critical barriers.
3. Evaluation & Feedback – Brainstorming sessions will explore motivations and obstacles to DHL adoption, followed by a post-survey to quantify preferences and identify key factors influencing digital health engagement.

Expected results include insights into barriers to DHL adoption, factors influencing engagement, and differences in the effectiveness of top-down vs. bottom-up digital health strategies. We anticipate that TSa may be perceived as less accessible due to administrative constraints, while the WebApp may be valued for its ease of access and user-friendly approach. However, the lack of personalization in the WebApp might limit its perceived utility.

Findings from this study will provide actionable recommendations for public health institutions on how to optimize digital health strategies for adolescents in underserved areas. A hybrid approach, combining the structured functionalities of top-down tools with the accessibility of bottom-up initiatives, could enhance DHL and improve health service utilization among younger populations.

By contributing empirical evidence to the ongoing discourse on DHL, this study will highlight the importance of participatory and user-centered approaches in the design and implementation of digital health tools.

Advancing people-centred care and social participation through community health needs and assets assessment in the Eastern Mediterranean Region: guide development and pilot study (ID 325)

Dr Zhaleh Abdi[1], Dr Hamid Ravaghi[2]
[1]Tehran University of Medical Sciences, Iran. [2]WHO Eastern Mediterranean Region Office (EMRO), Egypt

Context: People-centered care is critical to ensuring that health services are accessible, equitable, and responsive to the diverse needs of communities. By transitioning from fragmented, disease-focused models to integrated, participatory approaches, health systems can effectively engage individuals, families, and communities in shaping their healthcare experiences. Social participation is key to this transformation, enabling communities to influence health system decision-making and ensure services align with real-world needs. However, mechanisms for effective community engagement remain underdeveloped. To address this gap, a Community Health Needs and Assets Assessment (CHNAA) guide was developed to support member states in the WHO Eastern Mediterranean Region.

Methods: The CHNAA guide was developed through a systematic, multi-phase process to ensure its relevance and effectiveness in diverse settings. First, a scoping review examined the scope, tools, methods, and applications of community health needs and assets assessment globally, consolidating evidence to inform the guide's design. Second, a comparative review of CHNAA tools worldwide provided insights into existing guides and frameworks, enabling the development of a regionally tailored and context-specific guide. Third, expert consultations with policymakers, healthcare professionals, and community representatives at the regional level refined the guide's usability, feasibility, and applicability, addressing diverse stakeholder needs and perspectives. Finally, a pilot study conducted in Tehran, Iran (2023–2024), tested the guide's practicality in a real-world setting and evaluated its capacity to systematically assess community health needs and assets. This iterative process incorporated lessons learned to further refine the guide, ensuring it provides a robust step-by-step framework for CHNAA.

Results: The CHNAA guide's development involved a multi-step process, with each phase contributing valuable insights. The desk review and comparative analysis identified best practices and gaps in CHNAA tools, guiding the design of a framework tailored to the Eastern Mediterranean Region. Expert consultations refined the guide to address challenges such as defining vulnerable populations, clarifying data collection methodologies, and enhancing usability for diverse stakeholders. The guide consists of six steps: organizing a CHNAA team, collecting primary and secondary data, analyzing data, prioritizing health needs, developing a health improvement plan, and disseminating results to communities and stakeholders. The pilot study revealed several challenges in the CHNAA process, including stakeholder engagement, data integration, and translating findings into actionable plans. Refinements incorporated clearer instructions, stronger stakeholder strategies, and improved methods for linking CHNAA outputs to health planning processes, making the guide a robust, evidence-based tool for advancing people-centered care and promoting social participation.

Discussion: Integrating CHNAA into PHC-oriented health systems represents a strategic shift toward people-centered care and participatory health governance. Institutionalizing community engagement through CHNAA empowers local health authorities, enhances trust in health systems, and strengthens bottom-up planning. Regional adoption of CHNAA provides a pathway to advance Universal Health Coverage (UHC), health equity, and social participation. Moving forward, CHNAA will play a pivotal role in embedding community voices into health policy and service design. By leveraging this guide, countries in the Eastern Mediterranean Region can build resilient, inclusive, and sustainable health systems that reflect the aspirations of their populations and address their most pressing health priorities. The WHO Eastern Mediterranean Region Office (EMRO) is supporting the adoption of the CHNAA by member states, offering technical assistance for implementation, documentation, and integration into national health strategies and planning.

Towards sustainable and resilient health systems and workforce in future – the *CliMent* example (COST CA23113) (ID 326)

Prof Marija Jevtic[1,2,3], Dr Biljana Gjoneska[4], Prof Nona Brrkic Jovanovic[1], Dr Julius Burkauskas[5], Prof Chiara Cadeddu[6], Prof Francisco Sampaio[7,8]

[1]Faculty of Medicine University of Novi Sad, Serbia. [2]Institute of Public Health of Vojvodina, Serbia. [3]Université Libre de Bruxelles (ULB), Research centre on Environmental and Occupational Health, School of Public Health, Belgium. [4]Macedonian Academy of Sciences and Arts, North Macedonia. [5]Laboratory of Behavioural Medicine, Neuroscience Institute, Lithuanian University of Health Sciences, Lithuania. [6]Erasmus School of Health Policy & Management, Netherlands. [7]Nursing School of Porto, Portugal. [8]RISE-Health, Nursing School of Porto, Portugal

Sustainable and resilient health systems must address both physical and psychological health challenges, including the effects of climate change. Four main effects are: losses due to extreme weather, increasing temperatures (especially in urban areas), distress from ongoing and future changes, and community-level effects. These factors affect mental health directly and indirectly. Climate change not only causes physical harm, but also mental health issues like anxiety, depression, and posttraumatic stress disorder, due to extreme weather events, rising temperatures and ongoing environmental distress.

Mental health problems are a major issue in Europe and climate change is a *force majeure* that poses a tangible risk with unforeseeable consequences. The link between climate change and mental health remains largely unexplored, especially with respect to impact assessments at both individual and societal levels, and treatment possibilities. These investigations are crucial for healthcare systems as well.

The goal of this work is to present the *CliMent* project, which aims to understand how climate change impacts mental health in Europe, explore coping strategies, and develop short- and long-term interventions. It will assess mental health impacts, identify adaptive strategies, and empower citizens and policymakers to act, ensuring societal well-being despite climate challenges.

CliMent aims to better understand how climate change affects mental health in Europe; explore and further develop coping strategies; implement short-term behavioural interventions to initiate societal action; and establish long-term ways to promote sustainability. *CliMent* is organized through four working groups working in coordination to conduct systematic and scoping reviews, produce surveys and reports, and organise knowledge dissemination.

One of the main areas of interest revolve on analysing, prioritising, and promoting short-term (immediately effective, actionable) and bottom-up (community-driven) approaches to help shift societal behaviour towards facilitating climate action. The tasks will serve to provide a holistic perspective on the key actors (healthcare professionals), effective interventions, strategies, best practices, and regions that can contribute meaningfully to the global efforts to mitigate the adverse effects of climate change. The project also focuses on long-term (durable, sustainable) and top-down (systemic-oriented) strategies and policies to enable pro-environmental behaviour. It explores the intersection of mental health and sustainability while addressing the needs of long-term strategies, policy development, and advocacy at national, regional, and international levels, as well as training for practitioners who are currently active.

Results will be important for healthcare systems, as well as for communities and urban areas with high density of population. *CliMent* will contribute to improving the resilience of healthcare institutions by planning for the healthcare workforce, enhancing protocols for patients, and upgrading infrastructures, supporting the case for greening hospitals.

CliMent is an example of taking action to improve health for all, considering challenges such as climate change and mental health, and especially acknowledging their interconnection.

A collaborative approach for resilient healthcare: insights from the HEROES Joint Action (ID 327)

Giulia Menin[1], Dr Lisa Baldini[1], Marco Di Marco, MD[1], Dr Alessandra Cese[1], Giacomo Diedenhofen, MD[1,2]
[1]AGENAS, Italy. [2]Sapienza University of Rome, Italy

The Joint Action HEROES (HEalth woRkfOrcE to meet health challengeS) is the only active European-level initiative dedicated to health workforce (HWF) planning. Its primary aim is to enhance Member States' capacities to ensure accessible, sustainable, and resilient healthcare services. With 19 participating countries and a total of 51 partners, the project, which began in 2023, is set to conclude in 2026.

The joint action (JA) focuses on four key and transversal dimensions in HWF planning – data, tools, skills and stakeholder involvement – and follows a structured approach consisting of three phases: the "AS-IS" phase, where countries assessed their current workforce planning capabilities in each of the four dimensions; the "TO-BE" phase, which outlined objectives and strategies; and the current "TO-DO" phase, where implementation is underway. A crucial aspect of the current phase is to ensure the sustainability of JA outputs, with actions such as policy dialogues aimed at engaging key stakeholders to ensure they collaborate to improve workforce planning at both the national and international level.

All countries completed a baseline assessment and AS-IS report of their current capabilities, and developed dedicated Action Plans to tackle context-specific issues in HWF planning data, tools and skills. As their implementation progresses, one of HEROES' key contributions is facilitating knowledge exchange, with overarching analyses of common challenges and dedicated workshops to exchange best practices and develop workforce planning strategies. Participating countries are furthermore engaging in bilateral mutual learning activities, with currently 31 such processes in progress. This interaction fosters innovation and allows countries to adapt successful models to their own contexts. The JA recognizes the significance of these efforts and is supporting and strengthening them.

Insights from the JA confirm that data availability and quality remain a significant challenge for workforce planning across countries. Many countries struggle with employment data, workforce supply tracking, and infrastructure for data collection. Additionally, qualitative data on factors like burnout, stress levels, and workforce mobility require further attention. Countries are also striving to improve their workforce planning models, with particular common challenges identified on demand forecasting, skill mix considerations, and multi-occupation planning. Another critical aspect is skills development. While technical training on workforce data and analytics is progressing, soft skills such as strategic planning, stakeholder engagement, and change management need to be prioritized as well. There is a growing need for cross-country collaboration to provide specialized training for decision-makers.

HEROES is making significant strides in strengthening workforce planning across Europe. Through structured policy dialogues, mutual learning, and strategic action plans, the initiative is driving sustainable improvements in healthcare workforce management.

Digitalisation for co-production in healthcare: a systematic literature review (ID 328)

Antonella Cavalieri, Martina Pisarra, Prof Marta Marsilio
University of Milan, Italy

Context: The use of digitalization in co-production models is becoming prominent to obtain several outcomes, such as patient engagement and empowerment, personalized care, increased efficiency in service delivery. Digital technologies have the potential to enhance patient and caregiver participation in service design and delivery. However, further research is needed to systematically identify the key determinants that drive co-creation outcomes in digital healthcare settings. To achieve this, the paper relies on the Health Co-creation Framework proposed by Fusco and colleagues (2023).

Methods: A systematic literature review (SLR) was conducted using a comprehensive keyword search on the Scopus database, focusing on healthcare, digital technologies, co-production, and patient/caregiver engagement. The search initially yielded 1,625 documents, which were subsequently screened and refined for inclusion, with particular attention given to studies referencing case studies, which were highlighted in the results.

Results: The selected studies were analysed using the co-creation framework of Fusco et al. (2023), which outlines the key determinants and outcomes of co-creation in healthcare settings. The analysis reveals that the integration of digital technologies with co-production models significantly enhances patient and caregiver engagement, improving healthcare delivery. Specifically, tools such as telemedicine, e-health platforms, mobile health applications, and remote monitoring systems facilitate better communication, personalized care, and collaborative decision-making. Fusco et al.'s (2023) framework provides a valuable lens for understanding how the co-creation process can be optimized in the context of digital healthcare, highlighting the importance of contextual factors such as patient and caregiver readiness and the technological infrastructure available.

Discussion: In conclusion, the integration of digitalization and co-production models presents significant potential for improving healthcare services. The research conducted has identified several key gaps in the current literature, particularly concerning the practical implementation of these models across diverse healthcare settings. These findings emphasize the need for further exploration into how digitalization can be effectively integrated into co-production models, especially in the context of personalized treatments and patient empowerment. Additionally, the framework proposed by Fusco et al. (2023) underscores the importance of addressing technological and organizational barriers to ensure a seamless transition to digital and co-produced healthcare practices. Future research should prioritize investigating the long-term impact of these practices on care quality and patient satisfaction, with a particular focus on enhancing the digital readiness of both healthcare providers and patients to support the success of these initiatives

Advancing demand-driven innovation adoption in paediatrics through the theory of change: insights from the ADD4kids project working groups (ID 329)

Dr Anael Barberan-Garcia, Olman Elizondo, Rossana Alessandrello, Ramon Maspons
Agency for Health Quality and Assessment of Catalonia (AQuAS), Spain

Context: Demand-driven innovation (DDI) adoption is crucial for improving healthcare delivery, yet value-based procurement faces challenges such as regulatory barriers, lack of awareness, and risk aversion. Paediatrics encounters additional hurdles, including inadequate reimbursement, limited procurement strategies, and a restricted market. Despite various initiatives, a European consensus on paediatric DDI adoption is lacking. This abstract presents findings from nine working groups nested in the work package (WP) 2 of the ADD4kids project. The main objective of WP2 is to develop a framework to mainstream DDI instruments for paediatrics. ADD4kids aims to create a structured roadmap for mainstreaming paediatric DDI adoption.

Methods: We applied the Theory of Change (ToC) to define the strategic vision of WP2, structured into Inputs, Activities, and Short, Mid, and Long-Term Outcomes. The Long-Term Outcome (2027) aligns with ADD4kids' mission: enhancing paediatric healthcare. The Mid-Term Outcome (2026) is to identify, prioritize and address cross-border challenges through DDI adoption. Short-Term Outcomes (2025) include: (i) publishing a white paper on strategies to enhance DDI adoption in paediatrics and (ii) developing an EU action plan for sustainable paediatric innovation adoption. In 2024, WP2's main Activities involved nine online working groups tackling key DDI adoption challenges, including internal alignment, upskilling, policy and funding, cross-border procurement, and health system interventions. Using collaborative tools, these groups conducted SWOT and root cause analyses, brainstorming sessions, and surveys, refining insights iteratively. Inputs (2024) included European Commission funding, along with a WP1-derived desk review on DDI and structured expert interviews.

Results: The working groups' findings represent the Short-Term Outcomes identified through the ToC. Below, the summarized insights categorized into five key themes:

1. Governance and Policy Alignment
   - Challenges: Lack of coordination, regulatory discrepancies, low policy prioritization.
   - Solutions: Establish an EU Paediatric Procurement Governance Hub, harmonize regulations, strengthen advocacy
2. Funding and Sustainability
   - Challenges: Reliance on short-term funding, low private sector investment, insufficient hospital incentives.
   - Solutions: Implement long-term public-private funding, develop financial incentives, attract venture capital
3. Data and Digital Health Integration
   - Challenges: Fragmented data, legal constraints, lack of AI integration.
   - Solutions: Standardize paediatric data, enable GDPR-compliant sharing, integrate AI-driven analytics.
4. Procurement and Market Engagement
   - Challenges: Small market size, complex procurement, fragmented demand.
   - Solutions: Develop joint procurement alliances, simplify processes, enhance procurement training.
5. Clinical and Patient-Centred Innovation
   - Challenges: Limited clinician participation, overlooked patient perspectives, institutional barriers.
   - Solutions: Institutionalize "Innovation Time," create patient advisory boards, foster risk-tolerance culture.

Discussion: This study identified key challenges of paediatric DDI adoption and its potential solutions. Key takeaways include:

- DDI efforts fragmentation hinders paediatric innovation highlighting the need for strong cross-border governance
- Financial sustainability remains a challenge due to reliance on short-term EU funding.
- Data sharing and standardization play a crucial role in regulatory approval and adoption.
- Stakeholder misalignment slows progress, requiring structured engagement strategies.
- Procurement complexities hinder DDI adoption, necessitating targeted solutions.

The ToC provides a structured framework to align activities with outcomes, laying the groundwork for a collaborative and comprehensive EU action plan for paediatric DDI adoption.

Overview of the Western Balkans Region on its pathway towards modern health policy (ID 331)

Prof Marija Jevtic[1,2,3], Dr Sanja Damjanovic[4], Elke Dall[5]
[1]Faculty of Medicine University of Novi Sad, Serbia. [2]Institute of Public Health of Vojvodina, Serbia. [3]Université Libre de Bruxelles (ULB), Research centre on Environmental and Occupational Health, School of Public Health, Belgium. [4]GSI Helmholtz Centre for Heavy Ion Research, Germany. [5]Centre for Social Innovation (ZSI), Austria

One of the main goals of the POLICY ANSWERS - R&I POLICY Project* is to support the development of health policies in the Western Balkans (WB), aiming to improve citizens' health and the contribute to a sustainable economy.

The desk research and situation analysis involved collecting data from all six Western Balkan economies, covering: demographic data, data on human resources in healthcare, a summary of the health condition of the population, organization of healthcare, allocation of funds for healthcare, digitization in healthcare – examples and available data analysis, collection of sources of data for later discussion with experts, and the legal framework of healthcare.

During this project, more than 12 interviews with experts from WB economies were conducted, as well as discussions with representatives from EU countries. Through these expert consultations, the following priorities have been identified as key challenges in achieving health-related goals: organizational challenges, human resources – health workforce, financing and mobility, private health sector - strengths and opportunities, digitalization in healthcare – as both an opportunity and necessity, as well as the importance of infrastructure, sustainability, and the green agenda in healthcare.

Experts have shared similar opinions, leading to some key alignments - for example, the need for stronger health policy implementation and reduced political influence in the sector. Additionally, there is a critical need for implementation at both the strategic and individual levels. Applying the principles of "Health in all Policies" and insisting on the green agenda and digitalization in healthcare are vital.

The goal is to have the WB as a region that understands how to preserve health through various remedies: healthier organizational culture, healthier leadership, healthier environment for the healthcare workforce, an educational process and curricula enriched with digital and AI-related issues, sustainable healthcare through energy efficiency and environmental considerations, Reforming health systems to close the health gap between the WB and the EU is essential.

High-impact action areas and reform initiatives should enable results in the following key areas: Increasing resilience to health emergencies, ensuring financial protection and access to medicines, strengthening primary healthcare through digital transformation, safeguarding the quality of healthcare and patient safety, promoting mental health and social care services, preserving human capital for health, combating avoidable noncommunicable diseases, creating healthy and green environments, extending vaccination benefits across the life course and combating antimicrobial resistance.

The pursuit of better health should unite us in the Western Balkans, despite existing challenges. The goal of becoming a part of the EU could be achievable by using "Health in all Policies," fostering friendly and close communication, and collaborating through action and research with digital and sustainable components.

POLICY ANSWERS - R&I POLICY Making, Implementation, and Support in the Western Balkans Funded by the European Region - GRANT AGREEMENT Nº 101058873

Systemic implementation of harmonics high-value integrated stroke care: analysis from Catalonia and Portugal (ID 332)

Olman Elizondo (AQUAS)[1], Dr Victòria Valls-Comamala[1], María Franco[2,3], Marta Rubiera, MD[3,2], María Ángeles, MD[3,2], Maria Dolors, MD[2,4], Elisabet Ortiz[2,5], Judit Avellí[4,2], Luis Mambrona, MD, Dr Xavier Cos, MD[2], Joan Grasas[2], Rossana Alessandrello[1], Dr Ramon Maspons[1], Dr Carlos A Molina, MD[7], Giorgio Colangelo[7,8]

[1]Agency for Health Quality and Assessment of Catalonia, Spain. [2]Institut Català de la Salut, Spain. [3]Vall d'Hebron University Hospital, Spain. [4]Girona Primary Care, Spain. [5]Hospital Universitari Dr. Josep Trueta, Spain. [7]Vall d'Hebron Institut de Recerca, Spain. [8]Nora, Spain

Context: The Harmonics project tackled silos between acute care and post-discharge, which lead to fragmented care and poorer health outcomes. Implemented across multiple healthcare providers and systems in Europe, it aimed to improve continuity of care, patient outcomes, and efficiency. This study examines adoption in Catalonia and Portugal, where high-value care methodologies for systemic transformation were applied. While a multi-provider, multi-system adoption began, systemic adoption may now be addressed using lessons learned. Catalonia transformation is being bottom up with strong participation from all stakeholders, while Portugal one is top down with health reform supporting it.

Methods: The analysis used a mixed-methods approach, integrating PiPPi D5.4 outcome indicators to assess long-term impact and health system value. A gap analysis compared standard care with the Harmonics model in Catalonia and Portugal. Interviews with clinical professionals, technology partners, and health administrators, along with working group participation, informed the study. The multidisciplinary Core Team applied PiPPi results to define KPIs for the Girona pilot. Further interviews with clinical, IT, innovation, and economic departments ensured alignment with existing programs. AQuAS structured lessons learned to contextualize Harmonics' high-value care intervention for future systemic adoption.

Results: The Harmonics project enhances stroke care through an integrated, holistic approach to reduce fragmentation and improve continuity. Personalized case management and the Nora digital platform improved follow-up, communication, and care pathway monitoring, while early psychosocial risk assessments enabled timely interventions. The Girona pilot successfully implemented primary care stroke case management, leading to expansion in three more health local areas. Key enablers for systemic adoption include alignment with strategic plans, robust business cases and healthcare interoperability. The project also tackled the complexity of integrating high-value care into health system operations by engaging multiple stakeholders and adapting to diverse healthcare contexts. Clinical maps, economic analysis and process mappings showcased the heterogeneity of health systems and the need for a multidimensional vision. Addressing current fragmentation, disconnected data and siloed services, Harmonics seeks to establish adaptable, replicable, and interconnected care pathways, guided by KPIs and evidence-based decision-making to achieve measurable impact across healthcare systems.

Discussion: The Harmonics project enhances stroke care through an integrated approach, reducing fragmentation and improving continuity. Personalized case management and the Nora digital platform improved follow-up, communication, and risk assessment. The Girona pilot successfully implemented primary care stroke case management, leading to expansion in three more regions. Key enablers for systemic adoption include strategic alignment, robust business cases, and healthcare interoperability. The study highlights the importance of context-specific factors for equitable implementation of integrated stroke care. In Catalonia, the Catalan Stroke Plan will guide next steps, while Portugal's NHS LHUs align with Harmonics' goal of high-value integrated care. This favourable context supports a plan for systemic adoption in LHUs.

Thanks to the entire Harmonics consortium institutions, the professionals from Clinical Core Team group and the interviewees from technological partners, ICS corporate management, Catalan Stroke Programme, CatSalut, CHUC and ACSS, and the EU-funded projects ADD4kids (GA101134907) and HIPSS (GA101158221).

The serious game: a tool for transforming tacit knowledge in the social and medico-social sector? insights from action research on the 'Tous Accompagnés!' game (ID 333)

Hélène Croguennec-Le Saout[1,2], Gaëlle Chesnais[1]
[1]EHESP, France. [2]EHESP, France

Each year, the École des Hautes Etudes en Santé Publique (EHESP) trains more than 8,000 students to work in the social and medico-social field. In order to ensure that the training offered meets the expectations of a constantly changing professional environment, this higher education institution decided to use the competency-based approach to structure its training programme. This research questions the relevance of edutainment in such a context and its ability to transform learners' tacit knowledge into explicit knowledge in the light of Nonaka & Takeuchi's model (1995).

According to Michel & Mc Namara (2014), serious games use the motivational levers of game design to increase participants' motivation to engage in tasks that are considered complex or daunting. Alves et al (2020) suggest that in healthcare, carers, patients and their environment have a range of experiences that are likely to generate learning. Borkman (1976) proposes the following definition of experiential knowledge: 'a truth learned through personal experience of a phenomenon rather than a truth acquired through discursive reasoning, observation or reflection on information provided by others'. The aim of the Tous accompagnés! game is to mobilise learners' experiential knowledge acquired through their life or work experience, to help them make this knowledge explicit and to create a framework for sharing and validating this knowledge among peers. We hypothesise that by mobilising the different stages of the SECI model proposed by Nonaka & Takeuchi (1995), the game can provide support for the transformation of tacit knowledge into explicit knowledge.

Our research approach fits the definition of action research proposed by Hugon & Seibel (1988: 13). The collaborative dimension of this research (Heron, 1996) is based on the desire to involve EHESP students at a very early stage in experimenting with the game, on the assumption that they are part of the solution to making the social and medico-social sector easier to understand. The game was developed in stages, based on successive observation sessions with groups of players from different year groups. At the same time, the game sessions led by the teachers were passively observed by two educational engineers. In total, almost ten different courses were involved in experimenting with the game, both inside and outside the school. At the end of the experimental sessions, 131 questionnaires were distributed to the students were used.

The results of this research show that 91% of students feel that the Tous Accompagnés! game has helped them to consolidate their knowledge of the social and medico-social sector. This edutainment tool encourages the exchange of experiences between peers and thus initiates the transformation of tacit knowledge into explicit knowledge. Finally, continuing education students expressed a strong desire to play again, highlighting the effectiveness of games for interactive and iterative learning. However, the capital of tacit knowledge varies according to the stage of professional development of each learner, which may explain the greater relevance of the game for certain target groups.

Our study highlights the importance of a relaxed gaming environment that is conducive to peer interaction and knowledge sharing. This ties in with the issues of knowledge management and organisational learning, an area that extends well beyond higher education and has parallels in the way many organisations operate. Indeed, the major challenge is to create conditions conducive to the circulation of knowledge and the development of collective skills within organisations.

The role of digital mental health interventions in addressing depression among young adults in the European Union (ID 335)

Dr Marius Ciutan[1], Dr Daniela Georgeta Popovici[1], Dr Sorana Lixandru-Dohotariu[1], Dr Silvia Gabriela Scintee[1], Prof Dr Cristian Vladescu[1,2]
[1]National Institute of Health Services Management, Romania. [2]Titu Maiorescu University of Bucharest, Romania

Context: Mental health issues, particularly depression, are rising among young adults across the European Union (EU), with many not seeking traditional face-to-face therapy due to stigma, accessibility, or convenience concerns. Digital mental health interventions, such as mobile applications, teletherapy, and online cognitive behavioural therapy (CBT), have emerged as promising alternatives for addressing these challenges. These tools provide scalable and accessible solutions for mental health care, particularly in a region where mental health services are often under-resourced. The study aims to evaluate the effectiveness of digital mental health interventions in reducing depression symptoms among young adults (18-35) across the EU and explore their integration into national health systems.

Methods: The research analysed data from the European Health Interview Survey (EHIS) and digital health initiatives in EU member states, with a particular focus on mobile applications and online therapy platforms. The study also included data on the EU-funded project "eMEN" (eMental Health in Europe), which supports the implementation of digital mental health solutions. Data from 2018 to 2023 were included to assess both the uptake of these tools and their impact on depression symptoms based on validated scales like the PHQ-9.

Results:

- Use of Digital Tools: The European Health Interview Survey (2022) revealed that 38% of young adults used mental health apps or online therapy services in the previous 12 months, with the Netherlands (58%) and Sweden (50%) showing the highest adoption rates. 11% of adolescents show problematic social media behavior, up from 7% in 2018, with the girls reporting higher levels of problematic social media use (13%) compared to boys (9%)
- Effectiveness: The eMEN project demonstrated that 45% of users experienced significant reduction in depression symptoms, while specific apps like Woebot and Moodpath achieved a 30% average improvement in symptom reduction. Digital mental health interventions (DMHIs) have emerged as promising solutions for addressing mental health challenges, particularly among young people. The COVID-19 pandemic has accelerated the adoption of these technologies, with depression rates doubling among adolescents in several European countries
- Barriers and Challenges: Despite positive outcomes, several barriers persist:
- 34% of young adults lack awareness of available digital services
- Technological barriers, particularly in regions with low digital literacy
- Privacy concerns affecting user trust and adoption

Countries like Bulgaria and Romania showed notably lower engagement rates due to digital literacy challenges.

Conclusions: The study concludes that while digital mental health interventions have proven their worth in addressing depression among young adults, their full potential remains to be realized. The varying success rates across different regions emphasize the need for tailored approaches that consider local contexts and capabilities. Future success will depend on addressing identified barriers while maintaining focus on accessibility, effectiveness, and user engagement. The path forward requires a balanced approach that leverages technological innovations while ensuring equitable access and maintaining high standards of care. As the EU continues to advance its digital health agenda, the lessons learned from this study will be invaluable in shaping future initiatives and ensuring that digital mental health interventions can effectively serve all young adults across the Union, regardless of their geographical location or socioeconomic status.

Improving access to diagnostic and treatment services in breast cancer (ID 336)

Dr Marius Ciutan[1], Dr Carmen Sasu[2], Dr Daniela Georgeta Popovici[2], Dr Carmen Lavinia Panait[2]
[1]National Institute of Health Services Management, Romania. [2]lth Services Management, Romania

Context: Breast cancer has become the most common newly diagnosed cancer, the most prevalent at 5 years and the most common cause of mortality in women worldwide since 2020, the same situation being recorded in Europe. In Romania, similar to European model (ECIS), the incidence represents almost a third of total number of new cases, and share of deaths is highest of all types of neoplasia. Although age-standardized incidence rate in Romania is lower than EU average, the mortality rate exceeds European average, these data confirming the need for an intensive policy of prevention, diagnosis and early treatment of these cases, based on new progress.

Methods: A mixed approach, including both quantitative and qualitative methods:

- Retrospective analysis of national and international data on breast cancer from 2012-2022, using sources such as the Ministry of Health, National Health Services Management Institute (DRGDatabase)
- Comparative analysis correlating incidence and mortality with socioeconomic factors (income, education level) and access to healthcare services
- Spatial analysis highlighting the distribution of breast cancer cases regionally and correlating them with healthcare service accessibility
- Surveys and interviews with oncology specialists, family doctors, and patients to identify challenges in diagnosis and treatment
- Analysis of health policies, comparing national prevention and treatment programs with those implemented in other European countries

Results:

- Incidence and Mortality Trends: The number of breast cancer cases has steadily increased, with significant regional variations. Mortality is higher in regions with limited access to early diagnosis and modern treatments.
- Regional Disparities: Regions with a shortage of specialist doctors and underdeveloped medical infrastructure have the highest mortality rates.
- Correlation with Socioeconomic Factors: In areas with low incomes and limited access to healthcare, breast cancer is often diagnosed at advanced stages.
- Healthcare Professionals' Perception: Oncology specialists reported challenges related to access to modern diagnostic and treatment equipment, as well as the lack of efficient screening programs.
- Effectiveness of Health Policies: Romania has a low implementation rate of screening strategies, compared to other European countries that prioritize early detection and health education.

Discussion: Breast cancer continues to be a major public health challenge in Romania, with a significant impact on mortality, particularly in regions with limited access to healthcare services. The shortage of medical personnel and lack of proper education play a major role in late diagnosis and ineffective treatments. Prevention and screening programs are insufficiently implemented, and access to modern treatments is limited in disadvantaged areas. To improve breast cancer management, effective public health policies are needed to ensure balanced distribution of resources, expand screening programs, and increase health education. The implementation of innovative solutions, including telemedicine, would facilitate access for patients in rural areas and reduce regional disparities.

Examining specialist referrals and diagnostic tests in primary care: patterns and outcomes (ID 337)

Dr Antoni Peris, Dr Ionut Chiriac, Dr Oscar Garcia
Casap, Spain

Context: Primary care doctors play a vital role in managing overall health by making informed decisions about diagnostic tests and specialist referrals. Their ability to assess when a procedure is necessary or when a referral to a specialist is warranted can significantly impact patient outcomes. Effective primary care ensures that diagnostic tests and referrals to the specialists are only recommended when truly needed, reducing the risks of unnecessary interventions, minimizing patient stress, decreasing the chances of over-treatment or missed diagnoses and preventing excessive healthcare costs. Evaluating these two components of primary care management is a critical part of ensuring both quality care and cost-efficient healthcare.

Methods: Our primary care team, which include specialists in family and community medicine, pediatricians, nurses, social workers, a community health activities team and dentists, is in an urban area and covers 36.000 citizens (including 6000 children under the age of 14). The team has 14 doctors and each of them has an assigned list of nearly 2200 patients that are balanced for age.

The medical records are fully electronic as well as all the other documents related medical procedures, diagnostic tests, lab results and referrals, so we were able to easily extract all the needed information. We looked at the number of referrals and the number of diagnostic tests made by each doctor during 2024, comparing them with the number visits, number of patients attended during the year, severity of patients' conditions and the number of years working with the same list of patients.

Results: Because of staff changes, we assessed the practice of 12 doctors. During 2024 they performed 24.741 face-to-face visits, 768 home visits and 27.224 telephone visits together with administrative tasks. The total number of referrals was 4181 with most of them to Dermatology, Orthopedics, Ophthalmology and Physical Therapy. The number of referrals varied from a minimum of 151 of a doctor to 539 of another. The results showed with statistical significance that the higher the number of visits performed by a doctor the higher number of referrals.

In regards to diagnostic tests, we looked at the most common ones like abdominal and soft tissue ultrasound, MRI, CT scan, EMG, colonoscopy and gastroscopy. There were a total of 3431 tests performed, ranging from 98 to 434. Same results as previously showed up, more visits produce more diagnostic tests. The age of the doctor and the number of years in our clinic (with the same assigned patients) had a statistical significant inverse correlation related to both number of referrals and diagnostic tests. The number of referrals and of diagnostic tests were not related to the patient conditions, and the number of referrals were not related to the number of diagnostic tests.

Discussion: By balancing diagnostic testing with timely referrals, primary care doctors provide right care at the right time enhancing both patient satisfaction and long-term health.

Our study showed a wide variability between doctors, from the number of visits to the number of referrals and diagnostic tests performed despite a very similar number of patients with similar age and conditions. This inconsistency suggests that the medical practice is mostly influenced by the person treating the patients more than the characteristics of the patients. In order to improve the doctors' practice and reduce variation we propose reviewing the medical guidelines in regular team meetings.

Implementation of digital technologies in health management (ID 338)

Dr Daniela Georgeta Popovici, Dr Carmen Lavinia Panait, Dr Carmen Sasu
National Institute of Health Services Management, Romania

Context: Medical consultations are often critical meetings between patients and health personnel to provide treatment, health-management advice and exchange of information. The implementation of digital technologies in health management, e.g. electronic health records and telemedicine, has demonstrated significant benefits in improving the efficiency and quality of medical services. The implementation of these technologies faces challenges, such as systems interoperability, data privacy and security, user acceptance and adaptation. Objectives: To explore how digital solutions e g electronic health records and telemedicine can improve the efficiency and quality of healthcare services and to highlight the challenges and the barriers in their utilization.

Methods: We performed a literature research in PubMed and Science Direct and included relevant studies published between 2020 and 2024. We extracted and organized in categories the information about the quality of healthcare services provided with the help of digital solutions as well as the challenges and barriers occurred in their utilization. This literature review presents and discusses the findings from the included publications.

Results: From the initial number of 672 articles identified by the initial search, 239 were selected for this review. We identified numerous positive aspects, such as improved access to medical services, increased efficiency in the provision of medical services as a result of optimizing work flows and reducing the time required for various medical procedures, continuous monitoring of patients with chronic conditions and increased patient satisfaction as due to easy access to consultations and their remote monitoring. As barriers and challenges, unequal access to technology and data security and privacy were found out.

Discussions: The literature indicates that the implementation of digital technologies, such as electronic health records and telemedicine, is an essential step in the modernization of health systems and have the potential to positively transform health systems, improving access, efficiency and quality of medical services, if the associated challenges are adequately addressed by a careful approach.

Person-centred care among adult multimorbid populations: a systematic review of its effectiveness (ID 340)

Nathan Shuftan
European Observatory on Health Systems and Policies, Belgium. Berlin University of Technology, Germany

Context: With the growth of populations living with multiple chronic conditions, their health-related needs are becoming more complex and often experience discontinuity of care and a lack of care coordination across conditions, disciplines and sectors (they may also have unmet social needs). Person-centred care is considered a promising approach to overcome this fragmentation and improve experiences, outcomes and wellbeing of people with multimorbidity and requires actions at all levels of the health and care system. To create person-centred care, professionals as well as people with multimorbidity and carers need to be equipped with the right knowledge and skills, and they need an enabling and stimulating environment.

Methods: A systematic review was undertaken to synthesise the currently available evidence for implementing person-centred care to answer the following research question: is there evidence for the benefits of person-centred care among multimorbid populations? Systematic searches were conducted for relevant studies published from 2010 until June 2023 implementing one or more person-centred care interventions for adult multimorbid populations with at least one somatic morbidity living in a private household or community-dwelling. Key data extracted and analysed included settings of interventions, elements of person-centred care, and outcomes/Impact on patient-centred care according (at least one of) the domains of the Quintuple Aim. The quality and bias of all identified studies was assessed with the MMAT tool. Final results of the thematic synthesis are ongoing.

Results: 12 original studies of person-centred interventions were included; initial results of the thematic synthesis will be presented. Though person-centred care is also facilitated at the level of the health and care system (macro level), results were primarily about implementation at the micro level, where focus is around the comprehensive needs of an individual, as agreed together in a process of shared decision-making, and at the meso level (within and beyond care organisations). Evidence at the micro level included supported self-management, multidisciplinary teams, and engaging the person with multimorbidity in the process. At the meso level, benefits were found in interventions that facilitated person-centred competencies development of care professionals, shared patient information with patients, carers and other care professionals, and initiated improvement actions based on patient-reported and clinical data.

Discussion: There is reasonable evidence that person-centred care interventions may have benefits among multimorbid populations. Despite the organisational and financial challenges in bringing together health and social care systems to develop, pilot and codify such processes, pursuing person-centred care remains a worthwhile endeavour and while only increase in significance as needs grow among populations with multimorbidities.

Factors influencing the latest policies for improving access to primary health care in Romania (ID 341)

Dr. Silvia Gabriela Scintee[1], Dr. Sorana Lixandru-Dohotariu[1], Dr. Marius Ciutan[1], Dr. Aurora Dragomiristeanu[1], Prof. Dr. Cristian Vladescu[1,2]
[1]National Institute of Health Services Management, Romania. [2]Faculty of Medicine, “Titu Maiorescu” University, Romania

Context: Shifting the balance to primary care to alleviate the burden on an overcrowded hospital system has been for decades on the Romanian health policy agenda. Despite the family physicians (FPs) gatekeeper role, patients tend to seek hospital care directly, bypassing primary care and the hospital expenditure is still high. Along the years there have been taken different measures to ensure delivery of primary health care on ongoing basis, to increase the volume of services provided by FPs and to ensure universal coverage. Since primary care is still underutilized, an analysis of these policy decisions is necessary before taking further steps.

Methods: We performed an analysis of the legislation and regulations that applies to primary health care sector issued between 2017 and 2023. The findings were organized in clusters related to different aspects: continuity of care, increasing the volume of paid services, including delivery of preventive services, facilitating better access, expanding the primary health care coverage breadth and scope. For each of these clusters we analyzed the aim, the content, the existing resources, the implementation stage and the potential impact. Information on utilization of health services were collected from the national and international databases, as well as from other official reports, documents and scientific publications. Correlations between the implemented changes and the impact on different service category utilization were analyzed in a broader context, looking for potential factors that were in favour or constituted major obstacles on the implementation of the reforms and, consequently, influenced the expected results.

Results: Several measures aimed to increase the continuity of care at primary level, either by increasing funding for continuity care centres that offer out-of-hours services or by adopting legal provisions to facilitate their organization and operation. The number of continuity care centres increased but not sufficiently and not uniformly distributed.

FPs were allowed and paid to provide several services done only by specialists before, were paid more preventive services, more home visits, and recently their payment was changed from 50%:50% capitation:fee for service split to 35%:65%, and a payment for performance was added, as a lump sum, based on the achievement of specific indicators in the previous year. Other measures expand the coverage with primary care services to uninsured. The services utilization did not change its pattern, the uncovered population slightly decreased from 13% in 2019 to 11% in 2023 and unmet needs of the population increased reaching 5.2% in 2023.

Discussion: Findings reveals that most of the measures did not reach the expected results due to different factors. The shortage of family physicians is a major obstacle in reversing the balance of health services. In 2024 there were 176 localities with no FPs. In many cases the distance between patient home and the FPS office or community care centre is long enough to determine low access of services. Primary care services offered to uninsured do not decrease too much the unmet needs since they still have to pay out of pocket for the lab tests, imaging investigations and for the prescribed outpatient medicines. These are only few aspects that lead to the necessity of targeted measures and policies adapted to different situations and could orient further policy making to specific action that can balance the shortage of FPs in unattractive areas, such as implementation of mobile health units and telemedicine.

Support of public health authorities in management of diabetes mellitus (ID 342)

Dr Carmen Sasu, Dr Silvia Gabriela Scintee, Dr Carmen Lavinia Panait, Dr Aurora Dragomiristeanu
National Institute of Health Services Management, Bucharest, Romania

Context: Diabetes mellitus, one of modern society chronic diseases, has experienced an increase in all indicators in recent years, whether we refer to morbidity or mortality, this pattern being recorded worldwide. Romania is no exception, the disease requiring more human, and material resources to counteract negative effects on health at personal and community level. Management of the disease must aim at efficient control of all factors involved, starting from those at risk, through continuous monitoring of population health status, continuing with adequate allocation of human and material resources for early diagnosis and treatment, avoiding complications and especially deaths.

Methods: a retrospective study was conducted using national and international statistical data, the data analyzed at national level providing an overview of the last decade (2012-2022), data from official sources (Ministry of Health, National Institute of Public Health, National Institute of Health Services Management, National Institute of Statistics). Data from the National DRG database allowed the calculation of values for hospitalized morbidity and hospital mortality rate. Economic indicators such as the relative poverty rate or those referring to human resources in the healthcare field were used for comparisons between regions, and data from a previous National Institute of Health Services Management project were used to highlight the discrepancies between regions in terms of existing medical personnel compared to calculated needs.

Results: the evolution of morbidity indicators over the last decade was presented - incidence, prevalence, hospitalized morbidity (data from the national DRG database), general mortality and hospitalized mortality rate due to diabetes mellitus, data on the primary healthcare network and specialized healthcare at the level of the country's regions, highlighting areas with a shortage of medical personnel, which record the highest values of morbidity and mortality indicators attributable to diabetes mellitus. The question arises whether, in addition to family/genetic factors, nutrition, sedentary lifestyle, environmental factors, comorbidities, socioeconomic factors or deficient medical personnel decisively influence morbidity and mortality indicators in problematic areas? The answer can be provided through a collaboration between clinicians and public health authorities, such studies being indicated in determining the existence or not of correlations between different factors.

Discussion: morbidity and mortality analysis indicates increasing values over time - exception pandemic years 2020, 2021, when incidence and hospitalized cases significantly decreased. There are marked differences between cases recorded at national level, with some regions significantly exceeding national average, these being usually the less economically developed regions (by relative poverty rate) South, Southeast, Southwest regions. Regarding human resources, doctors, nurses, primary care personnel (family doctors, pharmacists) or specialized personnel, the same areas appear with values below national average. Disparities also exist within each individual region, the results of the study highlighting areas where there is no family doctor, pharmacist or their number is insufficient according to the calculated requirements. Public Health through this kind of study, aims to provide tools for adequate management of disease by identifying problematic areas in terms of morbidity, mortality, in terms of providing primary or specialized care or in terms of monitoring related expenses.

Optimising workforce wellness; strategies for effective planning scheduling and deployment (ID 343)

Dr Shawn Drake[1], Jonathan Giguère, Sylvie Deliencourt[3] and Jillian Schwieger[2].
[1]Workforce Edge, Canada. [2]Workforce Edge, Belgium. [3]Workforce Edge, Canada. [4]BC Senior Advocate, Canada

In this session, we build upon a dataset (N=6832) initially shared at the National Centers of Nursing Workforce Planning (Washington, DC), and the International Council of Nurses (Montreal) scientific gatherings in 2023. The data has subsequently been updated in 2025 and most recently involves two large integrated healthcare systems in French Quebec, and two European healthcare organizations.

That data shines a light on the critical importance of connecting effective workforce planning, staff scheduling, and deployment with workforce wellness, quality, and financial impact towards the sustainable delivery of health services.

The results of this comparative survey provide quantitative and qualitative evidence suggesting practical implementable actions for operators, aiming to improve workforce staff scheduling and deployment practices, total spend, retention, and continuity of care.

Actual strategies implemented in urban academic health science centers as well as more rural critical access community settings will be shared. A model of health workforce optimization refined for over two decades in North America, Europe, and Australia will be shared - as will proven benefits.

3 take aways

1. Elements of the staff scheduling ecosystem;
2. The power of using predictability to gain strategic advantage;
3. Demonstrated field solutions that increase retention, staff satisfaction and continuity of care.

Enhancing HIV care accessibility in Armenia: lessons from the Shirak decentralisation pilot (ID 344)

Anna Mergelyan, Araz Chiloyan, Paruyr Musheghyan, Arusik Petrosyan
National Center of Infectious Disease, Armenia

Context: By the end of 2024, an estimated 6,300 people were living with HIV (PLHIV) in Armenia, with 4,859 aware of their status. Of these, 79% were on antiretroviral therapy (ART), and 86% had an undetectable viral load. Additionally, 73% of those aware of their status lived outside Yerevan. Previously, HIV care was centralized at the National Center for Infectious Diseases (NCID) in Yerevan, creating barriers for rural residents, some 500 km away. This contributed to limited participation in ART and gaps in health assessments, with 20% missing required annual viral load testing. Notably, Shirak region has the highest number of recorded HIV cases in Armenia, 577 individuals out of those who are aware of their status. Decentralizing services to regional centers was seen as a solution to improve accessibility and outcomes.

Methods: In 2024, a pilot program in Shirak decentralized HIV care to local health centers, reducing the need for travel to Yerevan and improving accessibility. Funded by the Global Fund, the program was evaluated through surveys and interviews with healthcare providers and beneficiaries, clinical monitoring of quality of care and health outcomes, and statistical analysis of participation trends. Case studies explored patient experiences and challenges, while structured face-to-face surveys measured patient satisfaction. These surveys also assessed issues patients noticed with the program, including gaps in how doctors treated them beyond medical care, such as communication and emotional support, as well as any concerns related to the overall quality and accessibility of services.

Results: By the end of 2024, 20% (N=90) of HIV patients on ARV treatment in the Shirak region switched their care to the local health center. Clinical monitoring showed increased medical visits among these patients. In-depth interviews highlighted pre-decentralization challenges, including medication supply gaps, travel costs to Yerevan, and insecurity when seeking care far from home. The pilot demonstrated that local access to services was particularly necessary for comparatively older patients—73% of participants in the decentralized model were over 40 years old, in contrast to 63%, which represents the same age group within the overall PLHIV population in Armenia. Long-term treatment continuity and outcomes will be assessed after sufficient follow-up.

Discussion: During program implementation, several key factors were identified for ensuring service access and supporting future improvement. Lessons learned include the importance of community participation, collaboration between regional and central authorities, addressing socio-economic disparities, and managing challenges from limited education and information. Issues in rural areas provide an opportunity for the healthcare system to prevent complications and establish a sustainable, needs-based care model.

Key steps to strengthen decentralized healthcare include:

- Distributing HIV-related services nationwide, minimizing patient travel.
- Ensuring stable financial systems to prevent service interruptions.
- Enhancing healthcare professionals' skills and capabilities.
- Ensuring high-quality, uniform services while reducing stigma in rural areas.
- Creating a strong coordinating center to manage decentralized sites.

NCID is implementing actions to integrate decentralized service delivery into the state healthcare system. Regional centers will receive state funding, while NCID will ensure collaboration, monitor quality, and maintain system continuity.

Digital divides and digital bridges: a comparative analysis of telehealth policy implementation in the UAE and France (2021-2022) (ID 345)

Prof Immanuel Azaad Moonesar
Mohammed Bin Rashid School of Government, UAE

The COVID-19 pandemic has accelerated the global adoption of telehealth services, yet significant variations exist in implementation across different healthcare systems and cultural contexts. This study presents a comprehensive comparative analysis of telehealth data between the United Arab Emirates (2021-2022) and France (2021), offering critical insights into the distinct trajectories of digital health innovation in these regions. The research employs a mixed-methods approach, analyzing quantitative telehealth utilization data alongside qualitative assessments of implementation strategies and regulatory frameworks.

While both nations have made substantial progress in telehealth adoption, they face unique challenges shaped by their respective healthcare infrastructures, regulatory frameworks, and cultural attitudes toward technology-enabled care. The UAE has demonstrated notable advancement in expanding telehealth services through government-led initiatives, particularly in remote consultations and chronic disease management, with a focus on integrating artificial intelligence and smart healthcare solutions. In contrast, France's evolution in telehealth policies and practices has been characterized by a more measured pace, influenced by physician acceptance, reimbursement policies, and existing healthcare system structures.

Our findings reveal distinct patterns in telehealth utilization, with the UAE showing higher adoption rates in urban centers and specialized care, while France demonstrates stronger integration within primary care networks. The study identifies key determinants of successful telehealth implementation, including regulatory support, technological infrastructure, healthcare provider training, and patient engagement strategies. Notably, both countries exhibit different approaches to addressing challenges such as data privacy, healthcare provider resistance, and digital literacy among diverse patient populations.

This comparative analysis contributes to the broader understanding of how cultural, regulatory, and infrastructural elements shape digital health implementation. The research highlights best practices from both healthcare systems and provides evidence-based recommendations for policy development and strategic planning. The findings have significant implications for healthcare administrators, policymakers, and practitioners working to optimize telehealth services in diverse global contexts, particularly as nations continue to integrate digital solutions into their healthcare frameworks. This study also addresses critical knowledge gaps in cross-national telehealth research and provides a framework for future comparative analyses of digital health innovation across different healthcare systems.

+FUTUR: a strategic foresight approach for sustainable and resilient health and social systems (ID 346)

Carlos Oliete, Rosa Vidal Alvarez
La Unió, Spain

Context: Catalonia's healthcare system is a mixed model, integrating public, private, and non-profit providers to ensure universal coverage and efficient resource use. La Unió Catalana d'Hospitals plays a key role in driving system transformation, representing 115 health and social care organizations. The +FUTUR project applies strategic foresight to anticipate challenges and define future scenarios. It combines geohumanistic analysis, a participatory process with 120 professionals, and a review of 30 international reports. The project identifies four transformation drivers—governance, sustainability, adaptability, and community engagement—translating them into actionable strategies to enhance resilience, financial stability, and patient-centered care.

Methods: The +FUTUR foresight exercise follows a multi-stage participatory process to transform macro trends into organizational strategies:

1. Trend Analysis: Review of 30 international and national reports to map future challenges.
2. Geohumanistic Assessment: Analysis of territorial, socio-economic, and cultural factors affecting healthcare accessibility and service distribution.
3. Participatory Scenario Building: Engagement of 115 entities and over 120 professionals to co-create realistic future scenarios.
4. Collaboration with group of experts to structure findings into four strategic pillars:
    - Governance and Leadership: Strengthening system efficiency and trust.
    - Sustainability and Financial Viability: Innovative funding and resource optimization.
    - Organizational Adaptability: Digital transformation and workforce resilience.
    - Community and Social Engagement: Promoting patient participation and integrated care.
5. Implementation Roadmap: Prioritization of key actions to bridge foresight with practice.

This structured approach ensures that predicted challenges lead to concrete, implementable solutions at the organizational level.

Results: The +FUTUR framework has generated data-driven insights that shape strategic planning across Catalonia's health and social sector.

- 85% of participating organizations identified workforce retention and leadership development as top priorities.
- 72% highlighted digital integration and AI-driven processes as critical for future efficiency.
- 68% emphasized the need for financial restructuring to enhance system sustainability.
- 62% of professionals stressed the importance of community-based models to improve equity.

Innovative Contributions:

- The first geohumanistic health analysis in Catalonia, integrating territorial and socio-economic variables.
- The participations of healthcare leaders to structure decision-making processes.
- The shift from patient-centered care to patient-engaged governance, reinforcing user participation in service design.

These findings serve as a policy and management blueprint for healthcare leaders across Europe seeking to navigate future uncertainties with strategic resilience.

- Section: Trend Analysis
  Areas: 4 groups of identified trends
  Elements: 32 key future elements
- Section: Geo-humanistic Analysis

Areas: 4 groups of environmental factors
Elements: 30 elements raising awareness of the environmental situation

- Section: Challenges and Action Lines
  Areas: 4 challenges and 8 action lines
  Elements: 46 specific actions
- Section: Participation
  Areas: 2 conferences and 2 workshops
  Elements: More than 300 professionals from the social and healthcare sectors in Catalonia

Discussion: The +FUTUR project is a pioneering initiative that bridges strategic foresight with real-world health management challenges. By embedding participatory intelligence scenario building, and geohumanistic analysis, it provides a robust decision-making framework for adaptive and sustainable healthcare systems.

As Europe seeks innovative pathways to sustainability, +FUTUR provides a scalable methodology for integrating strategic foresight into everyday health management.

- The project establishes a governance model for long-term system resilience.
- It enables proactive adaptation to demographic and technological shifts.
- Direct application of foresight methods to healthcare governance and management.
- First use of geohumanistic analysis and AI in Catalonia’s health system.
- Aligns with governance, digital transformation, and sustainable systems.
- Offers practical solutions for European health policymakers.

Digital mindfulness: transforming healthcare professionals' mental wellbeing through global tech-enabled initiatives (ID 347)

Prof Immanuel Azaad Moonesar[1], Dr Khulood Alsayegh[1], Dr Elizabeth Berryman[2], Rebecca Furness[2]
[1]Mohammed Bin Rashid School of Government, UAE. [2]Chnnl, New Zealand

The escalating prevalence of mental health challenges among healthcare professionals has emerged as a critical global concern, particularly in the wake of the COVID-19 pandemic. This comprehensive study investigates innovative approaches to measuring and promoting mental well-being in healthcare settings through digital interventions and policy frameworks across five diverse healthcare systems. The research examines groundbreaking initiatives, including the UAE's AED 105 million "Mental Wealth" framework, New Zealand's interprofessional Schwartz Round program, Canada's positive psychology interventions, Sweden's outpatient-focused system, and Zimbabwe's community-based Friendship program.

Through a rigorous mixed-methods approach, the study employs standardized digital assessment tools and cohort-based evaluations to analyze the effectiveness of various mental health interventions. The methodology encompasses baseline assessments, digital application-based monitoring, and systematic evaluation of outcomes across different healthcare contexts. Initial findings reveal concerning statistics, with up to 40% of healthcare professionals working more than 50 hours weekly and WHO data indicating that 75% of mental health issues manifest by age 24.

The research identifies several key success factors in implementing digital mental health solutions, including early detection mechanisms, accessibility of support services, and the integration of preventive measures. The study's recommendations emphasize the importance of developing multi-sectoral approaches that combine technological innovation with traditional support systems. Specific proposals include establishing comprehensive mental health awareness programs starting at the educational level, implementing transparent data reporting systems, and ensuring widespread access to outpatient-based mental health services.

This research makes a significant contribution to the field by providing evidence-based insights into the effectiveness of digital mental health interventions in healthcare settings. The findings offer practical guidance for healthcare leaders and policymakers in developing scalable, technology-enabled solutions to address the mental health challenges facing healthcare professionals globally. Furthermore, the study underscores the critical importance of creating sustainable, accessible mental health support systems to enhance workforce retention and overall healthcare delivery quality.

The ongoing nature of this global study, facilitated through digital platforms and international collaboration, promises to yield additional insights into the effectiveness of various interventions and their potential for adaptation across different healthcare systems and cultural contexts.

Beyond borders, between species: a global analysis of mpox response strategies in the post-pandemic era (ID 348)

Prof Immanuel Azaad Moonesar[1], Dr Carlos Filipe Duarte[1,2]
[1]Mohammed Bin Rashid School of Government, UAE. [2]Universidade Católica Portuguesa, Portugal

Background: The emergence of mpox as a global health concern has challenged traditional public health response frameworks, particularly in the context of post-COVID-19 healthcare systems. This study presents a comprehensive analysis of mpox response strategies across the World Health Organization's six regions, examining how different geographical, socioeconomic, and healthcare contexts have shaped local and regional responses to this zoonotic threat.

Methods: Through a systematic review of regional response data, policy documents, and intervention outcomes, we analysed the varied approaches to mpox management across the African Region, Region of the Americas, European Region, Eastern Mediterranean Region, South-East Asia Region, and Western Pacific Region. Our analysis focused on key response components including surveillance systems, laboratory capacity, case management protocols, vaccine deployment strategies, and risk communication initiatives.

Results: Our findings reveal significant disparities in preparedness levels and response capabilities across regions. While some regions demonstrated robust surveillance systems and rapid response mechanisms, others faced substantial challenges in basic monitoring and laboratory capacity. Key findings include:

- Marked variations in testing capacity and surveillance infrastructure between regions
- Disparate access to vaccines and therapeutic resources
- Varying effectiveness of risk communication strategies across different cultural contexts
- Critical gaps in One Health implementation, particularly in regions with limited resources
- Emergence of innovative local solutions in resource-constrained settings

The study identified several common challenges across regions, including:

- Limited laboratory diagnostic capacity in resource-constrained areas
- Gaps in risk communication effectiveness
- Inequitable access to vaccines and treatments
- Varying levels of integration of One Health approaches

Discussion: The analysis highlights the critical need for a more coordinated global response to zoonotic disease outbreaks. The disparities observed in regional responses underscore the importance of strengthening global health security through improved resource sharing, capacity building, and knowledge transfer. The study emphasizes the growing significance of the One Health approach in managing zoonotic diseases like mpox.

Implications: These findings suggest the need for:

1. Enhanced global coordination mechanisms for resource allocation and sharing
2. Strengthened surveillance systems, particularly in resource-limited regions
3. Improved integration of One Health principles in outbreak response strategies
4. Development of more equitable vaccine and treatment distribution frameworks
5. Investment in local capacity building for sustained preparedness

Conclusions: The global response to mpox has revealed both the strengths and weaknesses of current public health systems across WHO regions. This analysis provides crucial insights for improving future outbreak responses and strengthening global health security. The findings emphasize the importance of addressing regional disparities while maintaining a coordinated global approach to zoonotic disease management.

Future Directions: Further research is needed to evaluate the long-term effectiveness of various regional strategies and to develop more equitable frameworks for resource distribution in future outbreaks. The study calls for increased attention to building sustainable capacity in all regions while strengthening global coordination mechanisms.

Note: The findings presented in this extended abstract are based on data available as of August 2024, when mpox was declared a Public Health Emergency of International Concern by WHO.

Opportunities and challenges of task shifting in primary care in Hungary (ID 352)

Fruzsina Koder[1,2], Dr Zoltan Cserhati[1], Dr Eszter Kovacs[1]
[1]Health Services Management Training Center, Semmelweis University, Hungary. [2]National Directorate General for Hospitals, Hungary

The shortage in the health workforce is a long-standing phenomenon in many European countries. Hungary, just like other countries suffers from lack or unequal distribution of health professionals. Not only the quantity, but also the quality of the health and care workforce is essential to ensure sustainability. The pandemic acted as a catalyst as health professionals had to take on new roles rapidly, join new healthcare teams and increase collaboration with other health professionals. Task shifting was one of the innovative solutions that occurred frequently and worked efficiently in the last few years.

The TaSHI "Empowering EU health policies on task shifting" project was dedicated to strengthening the knowledge on task shifting and utilising experiences of implementation pilots in five European countries. The aim of the present paper is to utilize the outcomes of the TaSHI project in the context of the Hungarian primary care setting. We aim to understand the possibilities of application of task shifting in the primary care environment, and to investigate opportunities and limitations that arise, as well as to explore the preparedness and attitudes of doctors and nurses towards task shifting, and the list of transferable tasks. In Hungary, the training of Advanced Practice Nurses (APN) started in 2017, but there is still ambiguity about the roles they can play and the responsibilities they can take on in the field.

Semi-structured interviews with primary care nurses and APNs were used to assess the attitudes, preparedness and practical possibilities related to task shifting. Qualitative thematic content analysis identified the most important facilitating and limiting factors, and the challenges and benefits of task shifting. In addition, primary care doctors were surveyed by a questionnaire assessing their perceptions on formal and informal practice of task shifting, what kind of tasks they are ready to shift and how they evaluate the preparedness of primary care nurses and APNs and the training needs for task shifting.

Cultural openness, willingness and trust to take over and hand over tasks are crucial facilitators. Doctors and nurses welcomed the potential of task shifting, while highlighting the importance of preparedness, and acquiring the necessary skills and knowledge. Doctors indicated the shiftable tasks to nurses regardless their qualification relating to administration, patient pathway management, prevention and rehabilitation. Additionally, well-structured organizational processes, professional and political support were reported as important facilitating factors for task shifting. The most common obstacles were the following: the lack of adequate management and leadership support, the resistance of professional organizations and professionals themselves, and the adherence to usual routines in daily practice.

Task shifting can increase efficiency and reduce pressure on health workers, but its practice may face obstacles, such as redefining competencies, responsibilities, or professional resistance. In Hungary, similarly to the TaSHI project results, we investigated the list of barriers and professionals highlighted several opportunities for the future. The Hungarian findings are in line with the TaSHI results. Hungarian health policy should discuss the embeddedness of task shifting to the scope of practice of various professionals and break the silos. Such approach could enable a healthy workforce in primary care with the right skills, in the right number, in the place at the right time, to provide the right services to the right people.

Advancing integrated primary health care in Albania: a model for sustainable and people-centred systems (ID 353)

Ketrin Zeno[1,2], Fiona Konomi[3]
[1]Barleti Medical Group, Albania. [2]University of Medicine, Tirana, Albania. [3]National Healthcare Services Operator, Albania

Context: Albania is undergoing a major transformation of its Primary Health Care (PHC) system to strengthen service delivery, enhance accessibility, and improve health outcomes. The Primary Health Care Services Development Strategy 2020-2025 prioritizes the integration of health and social care, expansion of mental health services, and the reconfiguration of PHC networks to improve efficiency and equity. These reforms align with Albania's commitment to universal health coverage (UHC) and aim to address long-standing challenges such as workforce shortages, urban-rural disparities, and limited coordination between health and social services. This study examines the key elements of Albania's PHC reorganization, its implementation strategies, and its impact on healthcare accessibility and quality.

Methods: A mixed-methods approach was used to evaluate Albania's primary health care (PHC) reorganization, combining multiple data sources to ensure a comprehensive analysis. Policy analysis of national health strategies, government reports, and legal frameworks assessed governance and financing reforms, while stakeholder interviews with policymakers, PHC professionals, and social workers provided insights into implementation challenges and opportunities. A data review examined healthcare infrastructure, workforce distribution, and service utilization to identify gaps and trends. Additionally, a case study analysis of Family Medicine Health Centers, Health Centers, and Social Health Centers evaluated the impact of integrating health and social care services. A comparative assessment with WHO's Operational Framework for PHC benchmarked Albania's progress against international standards. The study focused on three key reform areas: service integration, governance and accountability, and financial sustainability, providing a structured framework for evaluating PHC transformation efforts.

Results: Albania's PHC restructuring has improved accessibility and efficiency by reorganizing health service delivery into a tiered system of Family Medicine Health Centers, Health Centers, and Health Posts. Key results include:

- Expanded integration of social and mental health services: Introduction of Social Health Centers offering multidisciplinary care, including home care, psychological counseling, and support for vulnerable populations.
- Decentralization of governance: Local governments and health institutions are increasingly involved in healthcare management, though challenges remain in capacity building and resource mobilization.
- Increased investment in digital health: Implementation of electronic health records (EHRs), telemedicine, and e-referral systems to enhance continuity of care.
- Persistent workforce challenges: Despite policy efforts, rural areas still face doctor shortages, and PHC nurses remain underutilized in preventive and community-based care.
- Financial reforms underway: Public-private partnerships (PPPs) have facilitated service expansion, but sustainable financing mechanisms, including performance-based funding, require further development.

Discussion: Albania's PHC reforms demonstrate that integrated, people-centered care models are key to strengthening health system resilience. The incorporation of mental health and social services within PHC settings is a crucial step toward addressing social determinants of health, though scalability remains a challenge due to infrastructure and workforce limitations. Governance improvements have enhanced local decision-making, but fiscal decentralization remains weak, requiring clearer financing strategies. Digital health investments have improved care coordination, yet gaps in technology adoption and data integration persist. Lessons from Albania's experience highlight the importance of policy alignment, intersectoral collaboration, and community engagement in driving sustainable PHC transformation. The findings provide evidence-based recommendations for countries pursuing PHC reorganization, reinforcing that universal access to primary healthcare is achievable through strategic investments in workforce development, service integration, and digital innovation.

Smart nutrition, healthier communities: a digital therapeutic strategy for obesity management (ID 354)

Dr Marthe Isaksen Aukan[1,2], Tone Iren Melan[3], Dr Maria Arlèn Larsen, MD[4,2]

[1]Obesity Research Group, Department of Clinical and Molecular Medicine, Faculty of Medicine, Norwegian University of Science and Technology (NTNU), Norway. [2]Lifeness AS, Norway. [3]Healthy Lifes Centre, Stjørdal Municipally, Norway. [4]Department of Clinical Medicine, The Arctic University of Norway (UIT), Norway

Context: Obesity is a complex public health challenge that requires scalable, individualized and effective interventions. Municipal primary healthcare settings play a crucial role in public health, but often lack the resources to provide personalized, long-term obesity management. The "Smart Nutrition, Healthier Communities" project introduced a digital two-way treatment hub (Lifeness) utilizing artificial intelligence (AI) and photo recognition learning modules and patient monitoring and follow up to enhance eating behaviors, and lifestyle sustainability. By integrating digital therapeutics into standard care, this study aims to assess its feasibility and effectiveness in municipal healthcare settings to prevent undesired weight gain and promote sustainable lifestyle enhancements, and ultimately healthier communities.

Methods: This 12-week study recruited adults (BMI > 27) from Healthy Life's centers in the Værnes region of central Norway, who were motivated for lifestyle change. Participants were randomized into two groups: (1) standard care plus digital follow up and full access to digital therapeutic app (2) standard care with access to basic log functions in the app. Primary outcomes include improvements in eating behaviors, and quality of life, assessed using validated psychometric tools and anthropometric measurements at baseline and after 12 weeks. Secondary outcomes focus on engagement and usability of the platform among participants and healthcare providers. Ethical approval has been obtained, and data collection was completed in January 2025.

Results: Results are currently being analyzed. However, preliminary data suggest high user engagement and positive user feedback from both participants and healthcare providers. Initial trends indicate improvements in self-reported adherence to sustainable dietary habits using the digital platform. Anthropometric data and psychometric assessments will provide further insights into the intervention's effectiveness in modifying eating behaviors and preventing weight regain. The data collected will provide a foundation for refining digital therapeutic interventions in public health frameworks.

Discussion: This study aims to bridge the gap between technology and obesity management by evaluating the feasibility of digital therapeutics in real-world healthcare settings. Traditional obesity treatments often focus on short-term weight loss, but sustaining behavioral changes remains a challenge. Lifeness treatment hub targets this issue by fostering a structured, healthcare provider combined with AI-supported approach that enhances motivation, autonomy, and self-regulation.

Findings will contribute to understanding how digital therapeutic tools can be integrated into municipal healthcare services to improve long-term outcomes. There is a large potential for digital therapeutics to serve as scalable interventions, reducing the burden of obesity-related conditions while addressing key behavioral determinants of health and quality of life.

Further research will explore larger-scale implementation and potential modifications to optimize engagement and long-term adherence. These insights are critical for shaping future obesity management strategies within community-based health services.

Funding source: Regional qualification grant from Regional Research Funds (RFF), Trøndelag.

Healthcare financial modelling: managing implementation of Romanian's beating cancer plan, targeted 2030 (ID 355)

Dr Aurora Dragomiristeanu[1], Dr Elisabeth Iuliana Bruma[2], Iulia Stoea[2], Dr Dragos Garofil[3,4]
[1]National Institute of Health Services Management, Romania. [2]National Health Insurance House, Romania. [3]University of Medicine and Pharmacy "Carol Davila", Romania. [4]Ministry of Health, Romania

Context: The Romanian`s beating cancer plan for the period 2023-2030, approved by law no.298/2023, represents the main public policy document that underpins measures to prevent and to the fight against cancer. Its success implementation will require broad political support, continued investment, new initiatives to boost innovation and financial sustainability. By the low was set-up a budget allocation up to 20% from the total public budget for health programs. The ambitious aim is to make significant progress in reducing preventable cancers, increasing cancer survival and improving patient experience and quality of life by 2030. For 12% of uninsured persons in Romania, cancer is a very expensive illness. Even with health insurance, many people are financially unprepared for the out-of-pocket expenses associated with their medical care.

Methods: The scope of financial modelling, within the overall healthcare system modelling, is to determine the transformations targeted by ambitious aim of Romanian`s beating cancer plan. The financial model was developed in co-operation with key stakeholders (Ministry of Health, National Health Insurance House, Romanian College of Physicians, Ministry of Finance, patients' associations, oncology experts, healthcare professions and private health industry representatives. We performed a retrospective data analysis regarding services utilization for cancer (prevention, diagnostic, treatment, rehabilitation and palliation services), sources of funds for expenses with services (public and private). Analysis of current volume of health services, reimbursement methods, financial flow and total budget of expenditure in 2023. Perform an analysis of current distribution of health providers and their capacities, deficits per districts and regions, investments in oncology (endowment of public health units of regional/county interest that diagnose and treat cancer, private investment in oncology hospitals). In second step, we assess the relevant changes in regulatory framework, underlying the gaps and areas for improvement. The next step, using the different algorithms for modelling was created the mechanism whereby the need for medical services is translated into actual expenditure under the alternatives scheme proposed by stakeholders.

Results: The model answered to questions such as:

- What would a planned volume of health services cost the system's financiers?
- How might costs change with modifications to level and type of health services, price-setting arrangements or eligibility criteria for health providers under the contracts with district insurance houses

This financial modelling helped to better understand the financial capacity of health insurance and provided the necessary tools to deal with the cost of cancer for all, consistent with the adopted health policies. The simulation of different tariffs, level of services contracted, level of investments to cover the gaps in access and quality of care, generated evidence for policies decision making process and facilitate communication between stakeholders. For the next implementation years, the financial modelling will build on pre-existing work, evidence-based and continually evolve. Meanwhile, investment in digitization will enable the improvement of financial modelling tools with more data and it will become easy to measure transformations and major positive impact. Ambitious goals of Romanian`s beating cancer plan, targeted to 2030, need continuing the stakeholder discussion towards its successful implementation.

Discussion: Using the financial modelling on national, regional and local levels, will allow to find better ways to fight against cancer, promising to reduce the burden of disease, tackle inequality and accelerate advances in personalised medicines? How might costs for certain types of health care, develop in the future?

Facility management costs for hospital infrastructures: insights from the Italian healthcare system (ID 357)

Michele Dolcini, Dr Andrea Brambilla, Sofia Borghi, Prof Stefano Capolongo
Politecnico di Milano, Italy

Hospital infrastructures represent a fundamental pillar of healthcare systems, accounting for a significant share of total healthcare expenditures. However, the costs associated with facility management (FMC), including utilities and maintenance expenses, remain an underexplored area, particularly within the Italian context. Given the increasing economic pressures on national healthcare systems and the need to optimize resource allocation, understanding FMC is crucial for improving hospital efficiency, sustainability, and long-term operational planning. The Italian hospital sector is characterized by a highly heterogeneous building stock, with significant portions of infrastructure exceeding their optimal lifespan, leading to rising maintenance demands and operational inefficiencies. This study aims to analyze FMC in hospital facilities across Italy.

Using a mixed-methods approach, this research integrates a comprehensive literature review, financial data analysis, and a case study of 27 hospital facilities. The findings reveal a substantial increase in FMC, with an average growth of 32.90% between 2019 and 2022. Utility expenses emerged as the dominant cost driver, accounting for 77.45% of total expenditures, with an increase of 37.34% over the period, largely driven by rising energy costs and cleaning services. Maintenance costs, on the other hand, exhibited a more moderate growth of 18.66%. The study also highlights significant cost variability across different hospital typologies, with basic healthcare facilities averaging €122.86/m², Level I Emergency Hospitals at €159.1/m², and Level II Emergency Hospitals reaching €232.66/m². When measured per bed, costs varied between €18,509.24 for basic healthcare centers and €35,458.13 for Level II hospitals. Beyond cost variations, the study also highlights the age and obsolescence of Italy's hospital infrastructure as a critical factor influencing FMC. A significant portion of Italy's hospital buildings were constructed before 1970, with over 60% of the hospital infrastructure exceeding 50 years of age.

This research underscores the necessity of benchmarking tools to optimize resource allocation and enhance cost-efficiency in hospital infrastructure management. Despite its valuable insights, the study is limited to the Italian context, and future research should expand the dataset to a national scale. These findings provide actionable recommendations for policymakers and healthcare administrators seeking to improve hospital infrastructure sustainability and efficiency.

On the way to more precise health workforce planning – Combining quantitative datasets with qualitative information (ID 358)

Dr Eszter Kovacs, Dr Zoltan Cserhati
Health Services Management Training Center, Semmelweis University, Hungary

Health workforce planning is not an exact science. Supply-side projections are focusing on the labour force composition, the in- and outflow of human resources, while demand-based approach evolves around the health consumption and service use of the population. Since labour market dynamics result in non-static state, emerging trends are continuously shaping the supply and demand sides. The needs-based approach in planning overcomes the previous ones by taking way more factors into account. Among these factors, the high-level drivers of change should be monitored and regularly evaluated.

The HEROES Joint Action is a European initiative that involves 19 Member States (MS). HEROES is focussing on four key areas: health workforce data and data source optimization, planning model and tool optimization, capacity building and optimizing planning skills, and finally engaging and activating the decisive stakeholders. In the frames of the data task, a mapping exercise was carried out with 19 European countries. The minimum planning requirements from Joint Action on European Health Workforce Planning and Forecasting (2015) were tested in the participating countries and validated the applicability and availability of the quantitative dataset. In addition, the exercise discussed the qualitative data and information regarding care organization, health indicators and labour market (e.g. task shifting, the impact of digital transformation, health and wellbeing of health workers, productivity and performance etc.).

The results showed that data coverage on health workforce improved significantly in MS since the last comprehensive EU mapping study in 2021. Data availability improved concerning health professions - not only medical doctors and nurses but data for further health professions are more available and used in planning, however data quality still shows differences. The quantitative data set for planning is quite developed, almost all the 19 MS can forecast, and plan based on the data coverage. 19 MS plan health workforce on advanced levels that means they all overcome the objective of the replacement of the current domestic HWF and assessing the future imbalances or can run complex planning and forecasting for sustaining the system. Quantitative data on supply is well developed, labour force data were available in all countries, training and retirement data were available in most of the countries. Monitoring and capturing proper data on outflow migration is still challenging. Data on demand side is in the focus of interest in many countries, but the availability and linking specific data sources are still challenging particularly in health consumption data. Qualitative data focussing on the high-level drivers for change in workforce planning are partially available in MS and the recognition of these disruptive factors are used only in a scattered way in planning.

Improving data collections and data quality for more advanced health workforce planning is an iterative process. Data availability and having the core set of data categories that enable national level workforce planning is essential. MS show dedication and the ongoing implementation of various actions will conclude in more developed planning systems in Europe.

Overcoming dental anxiety: ensuring access to comfortable care for all (ID 361)

Assoc. Prof Andreea Salcudean[1], Elena Gabriela Strete[2], Dr Ramona Amina Popovici[3], Dr Andreea Mihaela Kis[4], Dr Dana Emanuela Pitic[3], Melania Maria Cozma[1], Dr Dora Mihaela Cimpian[5], Dr Andreea Bianca Sasu[5], Dr Diana Mihaela Corodan Comiati[5], Dr Cristina Bodo[6], Dr Ramona Camelia Anculia[7], Assoc. Prof Bianca Eugenia Osz[8], Prof Virgil Radu Enatescu[9]

[1]Department of Ethics and Social Sciences, “George Emil Palade” University of Medicine, Pharmacy, Science and Technology of Târgu Mureș, Romania. [2]Department of Psychiatry, “George Emil Palade” University of Medicine, Pharmacy, Science and Technology, Romania. [3]Department of Management and Communication in Dental Medicine, Department I, Faculty of Dental Medicine, Victor Babes University of Medicine and Pharmacy of Timisoara, Romania. [4]Faculty of Pharmacy, "Victor Babes" University of Medicine and Pharmacy, Romania. [5]Psychiatry Clinic 1, County Clinical Hospital Mures, Romania. [6]Psychiatry Clinic 2, County Clinical Hospital Mures, Romania. [7]Discipline of Occupational Medicine, “Victor Babes” University of Medicine and Pharmacy Timisoara, Romania. [8]Department of Pharmacy, “George Emil Palade” University of Medicine, Pharmacy, Science and Technology of Târgu Mureș, Romania. [9]Discipline of Psychiatry, “Victor Babes” University of Medicine and Pharmacy Timisoara, Romania

Context: It is was estimated that dental fear and anxiety (DFA) for children range from 5% to 42%, with a median of 20%, nevertheless 11-32% of adults have also reported of experiencing DFA. This condition have been connected to negative oral health behaviours and outcomes in clinical populations. DFA is represented by a negative reaction to the stimuli that are encountered in a dental clinical practice. One of psychological aspects of dental anxiety are due to previous negative experiences, particularly painful dental procedures. Moreover there are studies that show that a history of parental anxiety is a significant predictor of children's dental anxiety, highlighting the importance of addressing familial dynamics in managing dental fear.

Material and methods: A search was performed in multiple database from 2014 to mid 2024. Applying filters were used to identify systematic reviews and meta-analyses, which investigated dental fear and anxiety incidence and risk factors. All published articles related to ”dental anxiety ” were included in this review. The research papers obtained from the study search were selected and a number of 35 articles were excluded. The next step was the scan of the titles and abstracts of the search results. Irrelevant topics of scope of the study were removed. We had a total of 47 articles included in the study.

Discussion: In overcoming dental anxiety there are several techniques that can be put in practice: a study found that hypnosis can work in lowering anxiety and fear in patients undergoing tooth extraction, nevertheless, also in psychological interventions can have an positive result regarding dental phobia. Another type of method in lowering anxiety is integration of cognitive-behavioural therapy that been shown to enhance treatment outcomes, as it combines behavioural strategies with cognitive restructuring to alter negative beliefs about dental procedures. In other studies have been highlighted the importance of group therapy sessions another positive effect for dental anxiety. The acceptability of such behavioural therapies is underscored by research indicating that many individuals with dental phobia are willing to engage in these treatments, particularly when they perceive them as effective in reducing anxiety and promoting regular dental visits.

Conclusion: The management of dental anxiety is critical for ensuring that patients seek and adhere to necessary dental treatments, younger patients may require different strategies compared to adults, as their cognitive and emotional responses to dental procedures, dental anxiety are often rooted in previous negative experiences. By recognizing the multifactorial origins of dental anxiety and employing a combination of behavioural interventions, dental professionals can enhance the overall treatment experience for their patients.

Evaluating the impact on quality of care of Merger &Acquisitions in the French private healthcare sector (ID 362)

Loïc Guerin
EHESP, France

Over the past decades, mergers and acquisitions (M&A) have reshaped the French private healthcare sector, leading to the consolidation of independent clinics into larger hospital groups. While much of the existing literature focuses on competition, pricing, and patient outcomes, this study investigates a structural consequence of M&A: reorganization and the impact on hospital bed capacity.

Using a panel dataset built from national registries (INPI, Finess, SNDS) and a staggered difference-in-differences estimation strategy, we track clinics before and after their integration into a healthcare group. Our preliminary findings reveal a significant reduction in the number of beds following M&A events. This decline suggests that mergers may lead to restructuring efforts aimed at optimizing resource allocation, reducing redundant capacities, or shifting the focus toward outpatient care.

Understanding the implications of these bed reductions is crucial for policymakers and healthcare regulators. A lower bed count could indicate efficiency gains but may also reduce local hospital capacity, potentially affecting patient access to inpatient care. These results contribute to the broader debate on the real-world consequences of hospital consolidation and the trade-offs between efficiency and service availability.

Enhancing health system performance through interoperability, data standardisation, and workforce training (ID 363)

Mr Luc Chatty[1], Pr Henrique Martins[2], Mr Anderson Camo[2], Mr WYLEM BARS[1], Mr Simon Lewerenz[2]
[1]Fyrstain, France. [2]ISCTE, Portugal

The Xpanding Innovative Alliance (XiA) project addresses critical gaps in interoperability and data standardization across Europe's healthcare systems. With the growing importance of the European Health Data Space (EHDS), XiA aims to empower healthcare professionals to implement advanced data exchange standards, such as EEHRxF (European EHR Exchange Format), and ensure high data quality to improve patient outcomes. The project also explores the pivotal role of Chief Medical Information Officers (CMIOs) in guiding hospitals through digital transformation and fostering a culture of interoperability. XiA's educational programs are designed to upskill healthcare professionals, ensuring their ability to navigate and leverage health data effectively.

XiA adopts a comprehensive, multidisciplinary approach to advance interoperability and data standardization in healthcare. Key methodologies include:

- Developing personalized training pathways for healthcare professionals, focusing on practical implementation of interoperability standards and the importance of data quality.
- Promoting the adoption of the EEHRxF standard and fostering cross-border data exchange.
- Micro-credentialing to ensure skill recognition and scalability across Europe.
- Delivering training programs through a mix of online modules, real-world case studies, and collaborative workshops involving healthcare providers, IT specialists, and hospital leaders.
- Facilitating partnerships between institutions and organizations to ensure the scalability of educational tools across Europe.

Preliminary work highlights a growing understanding among healthcare professionals of the importance of interoperability, data standardization, and data quality for improving care delivery. XiA's training has equipped early participants with skills to adopt standards like EEHRxF, enhance clinical data sharing, and identify key data quality issues in their workflows. Hospitals engaging in XiA's initiatives are introducing the CMIO role to bridge the gap between clinical practice and digital transformation. These CMIOs are leading efforts to integrate health data systems, ensure interoperability, and improve data governance. Early feedback also shows increased collaboration across disciplines and countries, with health professionals reporting greater confidence in managing and exchanging health data.

XiA tackles the issue that achieving interoperability and data quality requires more than technical solutions—it depends on empowering healthcare professionals and leaders to adopt a data-driven mindset. Training programs tailored to the needs of clinicians, IT staff, and hospital leaders are essential for driving improvements in health system performance. The importance of clinical leadership in fostering the cultural and organizational changes needed for interoperability will be addressed by the project.

Moreover, improving data standardization and quality supports better clinical decision-making, enhances patient safety, and enables cross-border collaboration. The project's scalable model provides a blueprint for European healthcare systems to address current gaps in workforce skills and adopt a more integrated approach to digital transformation. XiA offers practical insights and tools that can significantly contribute to improving health outcomes through more effective use of data.

The doings, workings, and meanings of caring networks: disentangling a governance order in-the-making (ID 364)

Dr Oemar van der Woerd
Erasmus School of Health Policy & Management, Erasmus University Rotterdam, Netherlands

Context: Whilst creating, nurturing, and maintaining networks is increasingly seen as a solution to pressing healthcare issues like growing older person populations and workforce shortages, governing them is becoming more and more part of a healthcare manager's job and daily routine. Networks require the reconfiguration of entrenched professional, organizational, administrative, geographical, and institutional boundaries. This re-puzzling of healthcare governance is at the heart of this exploratory and empirically-grounded dissertation. The overall research question is as follows: *How does networking unfold in the everyday governance actions and interactions of affected actors, and with which consequences does this come for their role and work?*

Methods: Inspired by a practice-based understanding of networks, this dissertation signals an empirical deficit within network scholarship for 'everyday governance' in a multi-network context. Tracing the relational connections that are a feature of networking as it is lived in specific situations may help generate empirically-grounded knowledge for healthcare management. By adopting a multi-sited ethnography in the context of Dutch healthcare governance centered around actors involved in older person and hospital care, the ethnographic work covers in-depth interviews, (non-)participant observations, and document analysis. The selected cases of networking are diverse in terms of geographical place, origin and (institutional) history. Interestingly, the creation of networks is considered among policymakers an important means to (re)organize care. Paradoxically, this must occur within a healthcare system of regulated competition. By following an abductive logic of inquiry and analysis, I iteratively moved back and forth between empirical data and theoretical work about network and collaborative governance.

Results: The ethnographic work conducted put forward the doings, workings, and meanings of caring networks. The *multiplicity* of networks shows that networking is no standalone activity within the boundaries of *a* network, but is tied with nodes of multiple networks. *Ongoing* entails that networking has no clear stop, but requires continuous work while navigating organizational, epistemic, and normative ambiguities that have to be processed over and over again. *Place-based* means that networking cannot be decoupled from the sociocultural, institutional, and geographical context in which it is aimed to have an effect. *Multi-layered* means that networking is embedded in underlying dynamics like professional-management relations, but also ties into broader governance structures. *Multi-purpose* encompasses the various ways that purposes come into being through networking, underscoring the sensemaking possibilities for actors. Networking is thus not static, but dynamic—full of ambiguities and relational processes in which interactions and structures are made and unmade.

Discussion: The ethnography of caring networks contributes to our comprehension of how a grand narrative of network governance unfolds in healthcare. There is a need for a critical-pragmatist understanding of caring networks for which the following dimensions provide conceptual enrichment into the relational work required during the making process of a new governance order: caring *about* networks as a matter of societal concern to foster engaged learning; caring *through* networks to harness actors' strategic values; caring *for* network purposes and ambitions to enable diverse engagement; and crafting *the place* to network to develop suitable responses to local needs. These dimensions stimulate deliberate reflection, involving discussion about how this making process reconfigures the relations and interdependencies in the continuum of healthcare governance: between policymakers, internal and external regulators, and healthcare practitioners; between the network of collaborations and healthcare management; and between shop-floor professionals, informal caregivers and patients.

Alleviating an overloaded health care system (ID 367)

Yelile Saca[1], Dr Sean Bruna[2]
[1]Independent Researcher, Washington DC, USA. [2]Western Washington University, USA

The problem we seek to address is the issue of Emergency Department (ED) overload with the goal of improving timely care that improves patient safety and mortality.

Health care systems around the world are overwhelmed and we particularly see this issue in the ED. ED boarding is caused and exacerbated by a variety of issues including an increase in health care needs by an aging population and delays in discharging patients from a hospital into a skilled nursing facility. An overwhelmed ED can lead to increases in mortality and morbidity. A well-functioning ED system is critical to capture those patients that may be having a heart attack, stroke, or other time-dependent condition. Over the past ten years, two of the conditions that have been increasing and that have been overwhelming ED's include behavioural health emergencies and sepsis-related conditions.

Sepsis is a significant cause of mortality and morbidity worldwide. Early diagnosis and triage of sepsis cases to promptly provide antibiotics can significantly improve mortality. However, often, sepsis is diagnosed too late, and only once an infection has worsened. In addition, behavioural health emergencies have increased post-pandemic and many hospitals have responded by providing behavioural health professionals within an ED.

To reverse the ED boarding situation, stakeholders need to identify the trends that are impacting their internal operations and local hospital systems. In addition, by engaging with other disciplines, such as anthropology and public health it is easier to identify topics that may warrant an in-depth look. For the roundtable session, the presentation will begin with descriptive statistics about ED boarding in the US and in 3-4 different countries. There will also be discussion about the types of interventions that other countries have implemented and any trends that might have been observed.

The following three questions will be used to guide the discussion during the roundtable:

- Where might opportunities exist to improve the identification of sepsis cases with the goal of improving care for those conditions that are time-dependent and where an ED team's intervention is critical?
- Where might opportunities exist to improve the identification of behavioural health emergencies with the goal of improving care for those conditions that can be addressed by an onsite mental health provider?
- What types of strategies have other nations implemented to address hospital overwhelm, particularly as this is related to sepsis and behavioural health emergencies?

The roundtable will take place as a onetime session during the Applied Anthropology Annual Meeting in Portland, Oregon held from March 25-29, 2025. Participant insights will be compiled and shared as a report, oral presentation, and poster.

With this increase in behavioural health emergencies, an anthropological and a public health perspective would provide unique insights into this issue. Given the severity of the issue, bringing an "all hands-on deck" approach to identify areas for future research and to exchange information about how other countries have implemented their interventions will save lives.

The topic of ED boarding builds on numerous ongoing engagements with patients, caregivers, and health care personnel. By exploring this topic as a global health issue that is impacting many countries, we can learn how to implement responsive interventions that effectively alleviate hospital overload. This session builds on an existing body of work that includes active engagement of patients, caregivers and healthcare personnel that have been impacted by boarding.

A deep look into Brazilian health system assessment system: structure, policies, and processes (ID 369)

Dr Mohammed Alkhaldi
McGill University, Canada. Canadian University Dubai, UAE. University of Oxford, United Kingdom

Introduction: Healthcare systems throughout the world have encountered issues as populations age, medical technology becomes more expensive, and costs rise. Health Technology Assessment (HTA) is becoming increasingly important, offering a systematic examination to resolve inefficiencies. In Brazil, HTA integration is critical for resource allocation choices and achieving Universal Health Coverage (UHC) through organizations such as CONITEC. HTA in Brazil is growing and system analysis research for system thinking and learning is limited. This study is important to examine the national system, identify obstacles, and suggest insights to develop HTA further, therefore contributing to future research and helping UHC initiatives.

Method: A mixed-methods approach was used to conduct thirteen institutional surveys and nine in-depth interviews at various levels of the Brazilian health system. Sampling methods comprised both probability and non-probability procedures, with data collected via electronic surveys, interviews, and a literature review in addition to adhering to strict ethical guidelines.

Results: The survey results demonstrated an important presence of the public sector and academic institutions in Brazil, as well as an understanding of the necessity of HTA. Recognition of CONITEC's role in organized HTA information collecting was significant, as was acknowledgment of issues such as conflicts of interest. Despite challenges, there is widespread agreement on the need to improve HTA skills through efforts such as human resource development and foreign training programs.

Conclusion: This study focuses on Brazil's understanding of HTA's value, with CONITEC playing a key role. To address issues such as inadequate impact measurement, coordinated efforts are required to improve HTA efficacy and ensure evidence-based decision-making in Brazilian healthcare policy.

Rare Tumour Risk Syndromes (RTRS): clinical and economic impact of prevention vs. treatment in hereditary diffuse gastric cancer – Insights from the PREVENTABLE Multicentric Cohort (ID 371)

Ricardo Amorim[1]; Sara Pereira[1]; Liliana Sousa[1,2]; João Fonseca[1,3]; Luzia Garrido[1,2,3]; Bárbara Peleteiro[2,3,4,5]; Daniela Duarte[1,2]; Diana Ferreira[1,2]; Rui Sousa[1]; Marbelia Fernandes[1]; António Moreira[1]; Lucybell Moreira[3]; Ana Azevedo[1,2,4,5]; Susy Costa[3,4]; António Gouveia[3]; Renata Oliveira[3]; Pedro Louro[3]; Margarida Marques[3]; Raquel Guimarães[3]; Elsa Madureira[3]; Maria I. Carvalho[3]; André Magalhães[3]; Fabiana Sousa[3]; Nuno Teixeira Tavares[6]; Manuela Baptista[3]; Daniela Almeida[3]; Fátima Carneiro[1,2,3,4,6]; Sérgio Castedo[1,3,4,6]; Judith Balmaña[2,7]; Laura Lozano[7]; Adriana Costal[8]; Nuria Dueñas[8]; Patricia Faure[9]; Marion Rolain[9]; Claude Houdayer[2,9]; Jean-Christophe Thery[9,10]; Irène Stenfors[11]; Svetlana Bajalica-Lagercrantz[2,11]; Birte B. Lundhaug[12]; Marianne T. Haavind[12]; Hildegunn Vetti[2,12]; Stefan Aretz[2,13]; Amalia Nanciu[13]; Mia Quante[13]; Katja Verbeek[14]; Jasper Verkroost[14]; Janneke Schuurs-Hoeijmakers[2,14]; Joan Brunet[2,15,16]; PREVENTABLE Consortium; Carla Oliveira[1,2,4,6]

[1]i3S – Instituto de Investigação e Inovação em Saúde, Universidade do Porto, Portugal. [2]European Reference Network on Genetic Tumour Risk Syndromes (GENTURIS). [3]Unidade Local de Saúde de São João (ULSSJ), Portugal. [4]Faculty of Medicine of the University of Porto (FMUP), Portugal. [5]EPIUnit - Institute of Public Health of the University of Porto, Portugal. [6]Institute of Molecular Pathology and Immunology of the University of Porto (IPATIMUP), Portugal. [7]Hereditary Cancer Genetics Group, Vall d'Hebron Institute of Oncology (VHIO), Vall d'Hebron Barcelona Hospital Campus, Spain; [8]Catalan Institute of Oncology, Spain. [9]Univ Rouen Normandie, Normandie Univ, Inserm U1245, FHU-G4 genomics, CHU Rouen, Department of Genetics, France. [10]Department of Medical Oncology, Centre Henri Becquerel, France. [11]Department of Oncology-Pathology and Hereditary Cancer Unit, Karolinska Comprehensive Cancer Center, Sweden. [12]Western Norway Familial Cancer Center, Department of Medical Genetics, Haukeland University Hospital, Norway. [13]Institute of Human Genetics, Medical Faculty, University of Bonn & National Centre for Hereditary Tumour Syndromes, University Hospital Bonn, Germany. [14]Department of Human Genetics, Expert Center for PHTS & Research Institute for Medical Innovation, Radboud university medical center, The Netherlands; [15]Hereditary Cancer Program, Catalan Institute of Oncology, Spain.
[16]Girona Biomedical Research Institute Dr. Josep Trueta (IDIBGI), Spain.

Rare Tumour Risk Syndromes (RTRS) are individually rare (≤ 5 per 10.000 people) but collectively impose a significant burden on healthcare systems. The PREVENTABLE project aims to assess the clinical, social, and financial impact of preventive interventions across eight RTRS, including Hereditary Diffuse Gastric Cancer (HDGC). Prevention strategies, such as surveillance and prophylactic measures, play a crucial role in improving clinical outcomes. Understanding the cumulative prevalence of RTRS carriers receiving care in European Reference Centres and the costs associated to their management can provide valuable insights for healthcare planning and resource allocation.

Under the collaborative environment of the PREVENTABLE project, clinical data from eight RTRS (HDGC, Gastrointestinal Stromal Tumour Syndrome- GIST, Birt-Hogg-Dubbé Syndrome- BHD, Hereditary Leiomyomatosis and Renal Cell Carcinomas- HLRCC, Li-Fraumeni Syndrome- LFS, PTEN Hamartoma Tumour Syndrome- PHTS, Familial Malignant Melanoma- FMM, and Peutz-Jeghers Syndrome- PJS), spanning from 2000–2024, were collected across nine European Reference Centres in seven countries. Based on the total population of 16,6 million individuals served by the nine centres, RTRS carrier prevalence was calculated.

Here, we present the burden of these eight RTRS and, as proof of concept, the costs associated with one of them, namely HDGC. Specifically for HDGC, a comprehensive care pathway was developed, detailing specialized care routes, clinical trajectories, and healthcare costs. Cumulative cost data were obtained from Portugal's healthcare system pricing lists.

A total of 1.108 RTRS families were identified (28% LFS, 26% PHTS, 16% PJS, 9% HDGC, 8% BHD, 6% HLRCC, 6% FMM, and 1% GIST). From these families, 1.967 RTRS carriers were offered multidisciplinary care to treat or prevent advanced disease, while 2.026 non-carriers were discharged, reducing unnecessary follow-ups and mental distress, and alleviating the burden on healthcare systems. Based on the total population of 16,6 million individuals served by the nine centres, RTRS carrier prevalence was calculated as 1,18:10.000.

Specifically for HDGC, prevention was offered to 172 carriers (42%). Furthermore, 60 carriers (15%) required treatment, from which 24/60 (40%) had early-stage cancers, while 36/60 (60%) had advanced cancers. Prevention costs averaged at €4,959 (range: €141–€28,533). Early-and advanced-cancer treatment costs were significantly higher than prevention costs (2.7-fold (€13,456) and 4-fold (€20,130), respectively). Monthly costs of early-and advanced-cancer treatment were 5.1-fold (€1,214) and 11-fold (€2,621) higher than prevention costs (€238).

Our findings highlight that, despite RTRS being rare, their collective burden underscores the importance of early identification, specialized care, and European collaboration.

Preventing HDGC is proven to be significantly less costly than treating HDGC, with cumulative costs totalling €853.008 for preventive care versus €1.047.615 for cancer treatment. No HDGC-associated deaths were registered in patients with early-stage disease detected through surveillance or in those receiving preventive care. Advanced diffuse gastric cancer presented a ten-year overall survival of 21% and a median overall survival of 20 months, reinforcing the need for timely intervention. With RTRS prevalence at 1,18:10.000 in specialized centres, these results emphasize the necessity of continued investment in preventive strategies to optimize clinical outcomes and healthcare efficiency.

This work has received funding from the European Union's Horizon Europe Coordination and Support action under Grant Agreement n° 101095483. Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or HaDEA. Neither the EU nor the granting authority can be held responsible for them.

Multimodal engagement and sustainable lifestyle interventions optimising breast cancer risk reduction supported by artificial intelligence (MELIORA) study (ID 372)

Anna Gavrieli[1], Eva Karaglani[1], Mariangela Panniello[2], Maria Plakia[2], Theodora Karali[3], Stephanos Camarinopoulos[3], Ana Miralles-Marco[4], Rosana Pau-Landa[4], Gintare Kaliniene[5], Erika Korobeinikova[6], Ana Molina-Barceló[7], Mireia Gandia-Prat[7], Ana Roca-Umbert[8], Justine Fleur van der Feen[8], Linda Engström[9], Roelinde Middelveld[9], Vasileios Papapanagiotou[10], Ioannis Ioakimidis[10], Nina McGrath[11], Aikaterini Palascha[11], Monika Boberska[12], Aleksandra Luszczynska[12], Neringa Ciakiene[1], Sarunas Narbutas[13], Arancha Cienfuegos[14], Marta Burgos[14], Laurène Mathey[15], Alexandra Olson[15], Antonios Pardos[16], Andreas Menychtas[16], Anna-Maria Krooupa[17], Nikos Giatsoglou[17], Christos Diou[1], Yannis Manios[1]

[1]School of Health Science and Education, Harokopio University, Greece. [2]EXUS AI Labs, Greece. [3]Risa Sicherheitsanalysen GmbH, Germany. [4]INCLIVA Biomedical Research Institute / Hospital Clínico Universitario de València, Spain. [5]Lithuanian University of Health Sciences (LSMU), Lithuania. [6]Oncology and Haematology Clinic, Medical Academy, Lithuanian University of Health Sciences (LSMU), Lithuania. [7]Foundation for the Promotion of Health and Biomedical Research, Spain. [8]PredictBy Research and Consulting, Spain. [9]Bröstcancerföreningen Amazona i Stockholms län, Sweden. [10]IMPACT research group, Karolinska Institutet, Sweden. [11]European Food Information Council, Belgium. [12]SWPS University, Poland. [13]Lithuanian Cancer Patient Coalition, Lithuania. [14]Eticas Data and Society, Spain. [15]European Health Management Association, Belgium. [16]BioAssist SA, Greece. [17]Centre for Research and Technology Hellas, Greece

Context: Breast cancer (BC) is the most commonly diagnosed cancer among women worldwide. Obstacles to seek preventive care include lack of awareness, limited perceived personal risk, lack of social support and shame of body exposure in clinical settings. Additionally, many women at-risk of BC, BC patients, and survivors struggle to access reliable information, personalized guidance, and supportive environments for sustained behavior change. The MELIORA project aims to record, understand and overcome these challenges by applying an innovative, cost-effective intervention using artificial intelligence (AI), to promote sustainable lifestyle changes. This work outlines MELIORA's methodology and its potential to reduce BC risk.

Methods: The MELIORA project applies the Capability, Opportunity, Motivation Behavioral change (COM-B) model, first analyzing, through an in-depth situation analysis, contextual factors across nine domains—geographical, epidemiological, socio-cultural, socio-economic, ethical, legal, political, technological, and environmental. Based on these insights, the project will develop and evaluate an AI-driven behavior change digital solution, the MELIORA virtual coach (VC), designed to enhance awareness, motivation, and promote healthier lifestyle choices related to physical activity, diet, and alcohol consumption, while addressing potential implementation barriers. The MELIORA VC intervention will employ a randomized controlled trial design across four countries—Greece, Lithuania, Sweden, Spain—targeting three population groups: women at BC risk, BC patients, and BC survivors in both urban and rural areas. Participants will be assigned to either a control group receiving standard care or an intervention group using the MELIORA VC application for six months, while a follow-up assessment after another six-month period will take place.

Results: Through three different literature reviews we will synthesize existing evidence on lifestyle guidelines, effective behaviour change techniques, and technology-based interventions for BC prevention. Conducting national and international stakeholder workshops (including patient organizations), we will, also, identify key contextual factors and determinants to develop practical and effective strategies for adopting a healthy, active lifestyle to reduce BC risk. In the MELIORA VC intervention, informed by the situation analysis outcomes, we anticipate that participants in the intervention group will show significant improvements in physical activity (primary outcome), dietary habits, alcohol consumption and sedentary behaviours compared to the control group. Moreover, we expect sustained behavioural changes at the 6-month follow-up, demonstrating the effectiveness of the AI-powered VC in promoting cost-effective, long-term health improvements. By examining the influence of socioeconomic and geographic factors on intervention outcomes, the study will generate valuable insights into the scalability and adaptability of digital health solutions across diverse populations.

Discussion: The MELIORA project represents an innovative approach to BC prevention by integrating an AI-driven digital health solution into real-world settings. The project highlights the role of technology in promoting sustainable behaviour change to prevent both the onset and re-occurrence of BC. The tools and strategies that will be developed, tested and evaluated are key outcomes of the MELIORA project and aim to support preventive policies and health promotion guidelines for BC prevention. If successful, the MELIORA VC model could be expanded to other at-risk populations, reinforcing the potential of AI-driven, cost-effective health interventions in cancer prevention. Findings will provide valuable insights for policymakers and healthcare professionals on the feasibility, effectiveness, and cost-effectiveness of AI-supported lifestyle interventions, shaping future public health strategies.

WWW.EHMA.ORG
WWW.EHMACONFERENCE.ORG