EHMA

European Health Management Association

EHMA 2024

Shaping and managing innovative health ecosystems

CONFERENCE REPORT

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The European Health Management 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.

EHMA 2024 was the 29th edition of the European Health Management Conference. The theme, '*Shaping and managing innovative health ecosystem*' encompassed the entire spectrum of health megatrends. From the digital transformation of healthcare systems and services to the ever-growing importance of sustainability, and the evolving skill sets required by the healthcare workforce, we aimed to explore how the health sector is adapting to these changes. We emphasised an ecosystem approach, promoting collaboration among stakeholders. Our aim was to facilitate dialogue on how different health care actors can work together and leverage each other's strengths to drive innovation and address pressing challenges.

The European Health Management Association (EHMA)

The European Health Management Association (EHMA) strives for excellent health management for a healthy Europe by supporting the spread of knowledge on effective health management practices. Active since 1982, EHMA exists so that Europe's citizens and communities can benefit from quality, safe, value-based care and health systems. Our focus is on enhancing the capacity and capabilities of health management to deliver high-quality healthcare and support the successful implementation of health policy. Our commitment is on supporting the provision of data and research findings for evidence-based decision-making and monitoring health policies and practices.

EHMA is the only membership organisation in Europe to bring together the full health management ecosystem, including health and hospital managers, healthcare professionals, researchers, academia, policy and decision-makers. We are a recognised and respected amplifier of best practices in the evolution of health management, and we provide an environment where evidence, challenge and experience are valued and complex debates on current topics can take place.

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Opening ceremony - Shaping and managing innovative health ecosystems

Speakers: **Prof Sandra C. Buttigieg, MD**, President, European Health Management Association (EHMA); Professor and Head of the Department of Health Systems Management and Leadership, Faculty of Health Sciences, University of Malta, Malta; **Prof Dr Alexandru Rafila, MD**, Minister of Health, Ministry of Health of Romania, Romania; **Prof Dr Cristian Vladescu**, General Director, National Institute for Health Service Management (INMSS), Romania; **Tomas Zapata, MD,** Unit Head, Health Workforce and Service Delivery, WHO/Europe, Denmark

Facilitator: Teodor Blidaru, MD, Health Policy Advisor, Romania

Session summary

The 29th European Health Management Conference was hosted for the first time in Bucharest, Romania. It gathered more than 400 participants from 45 countries providing a scientific forum for discussions and the sharing of innovative solutions. Co-hosted by the Romanian Ministry of Health and the National Institute for Health Services Management, the event comprised 48 sessions and over 200 speakers. The conference underscores the importance of resilient health systems, emphasising sustainable health management by exploring health megatrends, driving digital transformation, and fostering collaboration among diverse stakeholders.

The Master of Ceremony, **Teodor Blidaru, MD**, extended a warm welcome to a distinguished assembly of professionals committed to advancing health management. Dr Blidaru underscored the significance of this year's theme, 'Shaping and managing innovative health ecosystems', and outlined the pressing challenges and opportunities within health management. He also recognised the collective efforts of the European Health Management Association, the Ministry of Health of Romania, the National Institute for Health Services Management, and the WHO Country Office of Romania for their pivotal roles in orchestrating the conference.

EHMA 2024 was officially opened by **Prof Sandra C. Buttigieg, MD**, President of the EHMA Board of Directors, who emphasised the conference theme as vital for addressing the persistent challenges facing health systems worldwide. Prof Buttigieg highlighted the need for an ecosystem approach and an open dialogue to drive innovation in healthcare.

Prof Dr Alexandru Rafila, MD, Minister of Health of Romania, underscored the critical importance of the EHMA Conference. He highlighted the event as a pivotal moment for Romania and Europe, where leading minds in public health come together to forge a path toward more resilient and innovative health systems. The theme of the Conference perfectly aligns with Romania's national goals of digital transformation, sustainable health practices, and enhancing the skills of the healthcare workforce.

Reflecting on the past two years, Minister Rafila highlighted the substantial reforms his administration has undertaken to foster a culture of excellence, innovation, and resilience in the Romania health system. These efforts have focused on empowering healthcare leaders and professionals with the knowledge and tools to manage health services more effectively, integrating digital technologies to enhance patient outcomes and improve efficiency. A cornerstone of Romania's strategy has been the emphasis on health workforce development, as exemplified by the 'Bucharest Declaration on health and care workforce' adopted last year. This declaration signifies a commitment to strengthening the health workforce across Europe, ensuring that healthcare systems are robust, sustainable, and equipped to handle future challenges. Minister Rafila underscored that developing the workforce is not a one-size-fits-all approach but must be tailored to the unique needs of each country.

Minister Rafila expressed deep appreciation for the support of and collaboration with the World Health Organization and international leaders in public health. He noted that these partnerships have been instrumental in implementing vital national reforms. He also highlighted the significant role of the National Institute of Health Services Management in Romania's workforce development. The Institute's innovative training programs are

crucial in enhancing the skills of health managers and developing future leaders who will guide Romania's health system forward. Minister Rafila concluded by reaffirming Romania's commitment to build a more equitable and resilient health system.

Prof Dr Cristian Vlădescu, General Director of the National Institute for Health Service Management, emphasised the importance of this event in advancing health management in Romania. Prof Vlădescu highlighted the Institute's transformative efforts over the past two years. These reforms aim to address real challenges in healthcare institutions by fostering a dynamic and sustainable health system. A key focus is on enhancing training and capacity building for healthcare managers, combining the latest in health management science with practical experience. This approach ensures that managers are equipped to improve patient care and operational efficiency.

Tomas Zapata, MD, Unit Head - Health Workforce and Service Delivery at WHO/Europe, commended Romania's efforts in aligning its healthcare system with population's needs. He highlighted key achievements, including the development of a National Health Workforce Strategy, Digital Health Strategy, and National Patient Safety and Quality Strategy. These initiatives are part of a comprehensive approach to transform Romania's health system by 2030. Dr Zapata also praised the National Institute for Health Services Management for its impactful training program and underscored the significance of the Bucharest Declaration in shaping healthcare agendas. Reflecting on the 50th anniversary of the Tallinn Charter, he emphasised the critical role of trust and resilience in healthcare systems. Dr Zapata noted that the conference's theme aligns with the need for a holistic approach to health management that integrates technology, workforce development, and sustainable practices. By fostering innovation and collaboration, we can build resilient and responsive health systems capable of adapting to future challenges.

Take-home messages

- It is necessary to embrace an ecosystem approach to healthcare, integrating digital transformation, sustainability, and workforce development. Engaging in open dialogue and collaboration among diverse stakeholders is essential to drive innovation and address global health challenges.

- Strengthening and empowering the healthcare workforce is crucial for building resilient and effective health systems. The emphasis on training and capacity building highlights the need for targeted strategies to enhance skills and improve patient outcomes.

- Advances in digital health, artificial intelligence, and other technologies are transforming healthcare delivery. It is important to integrate these technologies into health management practices to improve efficiency, patient care, and system resilience.

Plenary session – Health inequalities in 2030: anticipating scenarios and solutions'

Speakers: **Prof Federica Morandi**, Director of the Academic Programs, ALTEMS – Graduate School of Economic and Management of healthcare systems, Università Cattolica del Sacro Cuore, Italy; **Dr Tuomo Nieminen, MD**, Chief Medical Officer, Wellbeing Services County of Päijät-Häme, Finland; **Ms Julie Spony**, Policy Officer, European Patients Forum (EPF), Belgium; **Dr Eva Turk**, Minister's Office of Slovenia; Board Member of Health Technology Assessment international (HTAi); Senior Researcher, Center for Digital Health and Social Innovation, University of Applied Sciences St Polten, Austria/Slovenia; **Tomas Zapata, MD**, Unit Head, Health Workforce and Service Delivery, WHO/Europe, Denmark

Facilitator: **Dr Marius Ungureanu, MD**, Chair of the Department of Public Health and Director of the Center for Health Workforce Research and Policy, Babeș-Bolyai University, Romania

Session summary

The session aimed to discuss potential future health inequalities and explore possible solutions, based on a ChatGPT-generated scenario depicting the health environment in the year 2030. ChatGPT envisioned health in 2030 as facing major access problems, exacerbated by socio-economic factors and education disparities. This is likely to lead to increased healthcare disparities, with the wealthy having access to state-of-the-art health interventions, while underserved areas struggling to access basic health services. To address the challenges, ChatGPT emphasised the necessity of integrated solutions and a holistic approach that extends beyond the healthcare system, incorporating community response strategies.

Dr Marius Ungureanu, MD, emphasised that the future is not set in stone and health leaders and citizens have the power to change it. Promoting equity, fairness, and justice requires thoughtful regulation, oversight, and community engagement.

Prof Federica Morandi, Director of the Academic Programs at ALTEMS, Università Cattolica del Sacro Cuore, highlighted that shortage of healthcare workers is not a problem of numbers, but one of optimisation of human resources. It is important to look at intrinsic (*content of work*) and extrinsic (*results of work*) factors. The intrinsic part consists of implementing task shifting; adapting rules to ensure work-life balance; reduce as much as possible uninteresting tasks; and identify healthcare workers that are driven by vocation. The extrinsic part involves building career perspectives and ensure proper compensation. Prof Morandi highlighted how AI may be incredibly beneficial, as it can support task-shifting, decrease engagement in administrative tasks, and free up more time to dedicate to patients. AI can also support diagnosis; however, it is necessary to invest time in training the users.

Dr Tuomo Nieminen, MD, Chief Medical Officer at the Wellbeing Services County of Päijät-Häme, appreciated that there is still a gap between high- and low-income populations. He underlined that societies should be able to provide similar healthcare systems and that the split between private and public healthcare makes the system unequal from an access perspective. Dr Nieminen also pointed out that in most healthcare systems clinical data does not follow the patient pathway. As a result, the system is losing in efficiency. Public providers of care should unify different data platforms to ensure equal healthcare access to the entire population.

Ms Julie Spony, Policy Officer at the European Patients Forum, reminded that social determinants of health affect quality of care. She highlighted aspects of a performant health system to include access to care; adequate care; care adapted to specific patient needs; access to early prevention; and affordable to all people. To achieve these goals, it is important to build on three directions, namely patient empowerment, improve health literacy, and increase patient involvement in finding solutions.

Dr Eva Turk, Board Member of Health Technology Assessment international and Senior Researcher at the University of Applied Sciences St Polten, underlined that the current way of managing health systems is not an option anymore. She stated that it is necessary to go beyond patients, to a population level, and build an inclusive digital community for all people. Moving forward, it will be important to look at a citizen approach instead of a patient approach.

Tomas Zapata, MD, Unit Head - Health Workforce and Service Delivery at WHO/Europe, said that a key factor in health inequalities is the workforce. Investments should be increased with a view to address health workers compensation and development. Dr Zapata referenced the 'Framework for action on the health and care workforce in the WHO European Region 2023–2030'. This strategy includes actions to retain the workforce in primary care, long term care, and rural areas; optimise performance; develop and build a new generation of health workers; improve planning; and increase investments.

By 2023 health systems should be reshaped to address the unequal access to health services, the health workforce crisis, and the lack of community involvement in healthcare decisions. The solutions for these challenges should include using AI to connect different parts of the health system and facilitate availability of patient data. Skills and competencies should be developed as early as possible. Students should be aware of healthcare inequalities already at university level to ensure these are taken in account by the future health workforce. Finally, health promotion will play a crucial role in addressing health inequalities and involving communities in decision making.

Take-home messages

- Access to healthcare is exacerbated by socio-economic factors and education disparities. To address the challenges, it is necessary to develop and implement integrated solutions that extends beyond the healthcare system and incorporate community response strategies.
- AI may be incredibly beneficial to the health and care workforce, support task-shifting, decreasing administrative tasks, and allowing more time to dedicate to patients. AI can also support diagnosis; however, it is necessary to invest time in training the users.
- Skills and competencies should be developed as early as possible. Students should be aware of health inequalities already at university level to ensure these are taken in account by the future health workforce.
- It is important to keep investing in patient empowerment, improving health literacy, and increasing patient involvement.

Plenary session – What to finance first? Prioritising investments and spending

Speakers: **Prof Diana Păun**, Presidential Advisor on Health, Romania; **Dr Josep Figueras, MD**, Director, European Observatory on Health Systems and Policies, Belgium; **Prof Cristian Vlădescu**, General Director, National Institute of Health Services Management (INMSS), Romania; **Ms Larisa Mezinu**, Vice President, National Health Insurance House, Romania; **Prof Federico Lega**, Professor, University of Milan, Italy; **Dr Stefan Strilciuc**, Former Advisor, National Insurance House, Romania

Facilitator: **Teodor Blidaru, MD**, Health Policy Advisor, Romania

Session summary

This session provided a comprehensive overview of the Romanian healthcare system, focusing on the crucial issue of financing. Representatives from various sectors highlighted the need for efficient allocation of resources to ensure universal access to care, while controlling costs. **Prof Diana Păun**, Presidential Advisor on Health, stressed that investments in health should not be seen as a cost, but as a necessity for society. However, in resource-limited countries, there is an undeniable competition for funding. Effective allocation requires a deep understanding of the context. Romania's current healthcare model is heavily based on disease treatment. It is also unsustainably expensive and fragmented, with around 80% of 2021 spending directed towards hospital services, while outpatient care remains underfunded. The administration advocates for a long-term approach to healthcare investments. There is a pressing need to move beyond genetic predispositions and instead address modifiable risk factors, such as alcohol or tobacco use, physical activity, obesity and the impact of air pollution. Informed decision making is crucial, ensuring that economic evaluations of health technologies are rigorous and that resources are allocated efficiently.

Prof Cristian Vlădescu, General Director of the National Institute of Health Services Management, and **Dr Josep Figueras, MD**, Director of the European Observatory on Health Systems and Policies, jointly presented an analysis of healthcare financing models and prioritisation strategies in Romania. Dr Figueras focused on the role of health financing that should be viewed as an investment in sustainability and security. Health spending per capita in Romania is nearly half the EU average as a percentage of GDP, with minimal investments in preventing avoidable mortality. Prof Vlădescu added on the fact that Romania's healthcare system is hospital-centred, with significant underinvestment in prevention and long-term care, even by national standards. While Romania's public spending for inpatient care exceeds the EU average, other areas such as outpatient care, pharmaceuticals and therapeutical appliances receive comparable funding. These shortcomings, driven largely by lifestyle factors and modifiable risks, have resulted in a neglect of medical care that could occur outside hospitals. The avoidable hospitalisation rate stands at 7% above the EU average. Another major challenge is the insufficient and uneven distribution of medical professionals, particularly in rural areas, despite Romania producing the highest number of medical graduates in the EU. Many recent graduates migrate to Western Europe, attracted by better working conditions, leaving the country with a workforce below the EU average. The system is also strained by an aging population which increases the complexity and number of cases, increasing the pressure.

Ms Larisa Mezinu, Vice President of the National Health Insurance House, discussed Romania's social health insurance, managed by the National Health Insurance House (NHIH) in coordination with the Ministry of Health, since 1999. Currently, 67% of health services are covered by NHIH, with 21% funded through out-of-pocket payments and the remainder by the state budget. Private insurance has developed to bridge the gap and reduce out-of-pocket expenses. To ensure effective financing, NHIH has introduced the National Health Strategy 2023-2030, which is centred on data evidence decisions, realistic objectives and long-term planning. Persistence in implementing this strategy is essential, given the frequent changed in management and policy makers. NHIH

aims to rebalance inpatient and outpatient care by expanding outpatient care and strengthening primary and secondary care, addressing prevention, early diagnosis, treatment and immunisation programs.

Prof Federico Lega, Professor at the University of Milan, approached the topic from a managerial perspective, emphasising that competent professionals alone do not create an effective system. Prof. Lega highlighted the importance of human resources, noting that inadequate hospital management can inadvertently foster resistance among health workers. He argued that health system advancements rely on training the next generation of leaders, including clinical, community, health, and technical managers. Strategies should focus on cultivating more leaders than managers and ensuring these roles remain attractive. Prof. Lega identified three major areas for investment: clinical managers, community health managers, and clinical leaders.

Dr Ștefan Strilciuc, Former Advisor at the National Insurance House, noted the financial burden of innovation on healthcare systems. The expenses for research and innovation have surged in recent years. To fund new initiatives, existing resources must be carefully evaluated. It is essential to focus on people's actual needs, rather than assumptions.

The plenary session highlighted the critical need for strategic investment in Romania's healthcare system, emphasising the importance of balancing resources between innovation, prevention, and effective management. There was a clear consensus on the fact that a sustainable healthcare system requires robust leadership, targeted funding, and a focus on addressing both systemic challenges and the evolving needs of the population.

Take-home messages

- Romania's healthcare system is unsustainably focused on costly hospital care, contributing to high preventable mortality rates. Shifting the focus to prevention by addressing modifiable risk factors like smoking and obesity can help reduce long-term costs and improve overall health outcomes.
- The health system must be viewed as a sustainable investment aligned with societal goals.
- Romania struggles with uneven medical professional distribution, particularly in rural areas. This is worsened by health professionals' migration to countries that offer better working conditions.
- Strong system structure and leadership are crucial for effective healthcare performance.

Plenary session - Innovating service delivery: the challenge of transformation

Speakers: **Dr Josep Figueras, MD**, Director, European Observatory on Health Systems and Policies, Belgium; **Prof Catherine Keller**, Director of the Institute of Management, École des hautes études en santé publique (EHESP), France; **Prof Jaume Ribera**, Director of the Center for Research in Healthcare Innovation Management, IESE Business School, Spain

Facilitator: **Dr Matthias Wismar**, Programme Manager, European Observatory on Health Systems and Policies, Belgium

Session summary

Health systems are facing a myriad of simultaneous challenges. Addressing these challenges through incremental service improvements may fall short of meeting the demands of our evolving healthcare landscape. Instead, we must embrace innovation. This plenary session focused on the complexity of innovating the service delivery process and the challenges faced during this transformation, encompassing the roles of different system actors in changing the narrative towards a more sustainable, performant, and patient-centred health ecosystem.

Dr Josep Figueras, MD, Director at the European Observatory on Health Systems and Policies, provided an overview on transforming health service delivery and implementing organisational and technological innovation. Highlighting the complexity inherent in transforming health systems, he emphasised the importance of assessing the emotional, often irrational part involved in the process of change. Dr Figueras referenced two policy briefs published by the European Observatory on Health Systems and Policies. According to these publications, policymakers should use a top-down approach as a transformation strategy because it drives transformation by aligning governance and ensuring adequate resources. Policymakers need to create the right conditions for transformation by generating systems' willingness and ability to change. Transforming service delivery also requires a framework, involving problem identification, devising a strategy for change, establishing regulations, allocating resources, and defining monitoring structures. Additionally, successful implementation of change requires networks for knowledge exchange, a strong leadership with political will and a sustained interest for change. Furthermore, Dr Figueras pointed out that integrated healthcare delivery requires engaging numerous stakeholders to overcome system fragmentation. Examples from initiatives like SELFIE2020 and ICARE4EU demonstrate the importance of overcoming barriers such as fragmented leadership, ICT/digital gaps, and issues with payment and patient-centred training. He also discussed the utility of skill-mix innovations to strengthen primary care but noted low implementation due to factors like professional acceptability issues, cultural factors, and regulatory frameworks. Dr Figueras also highlighted the imperative need for policy makers to rapidly regulate health digitalisation.

Prof Catherine Keller, Director of the Institute of Management at the École des hautes études en santé publique, addressed the critical role of managers in embedding transformation into their practices, focusing on sustainability and governance. Speaking about sustainability and hospitals, she presented a project aimed to train trainers. She highlighted governance of structures and ways of moving towards a more collaborative decision-making process via training courses aimed at fostering a culture of collaborative management through mixed group coached studies. Feedback indicated that while medical leaders found it easier to adapt, medium-level managers faced more difficulties, often exacerbated by generational gaps.

Prof Jaume Ribera, Director of the Center for Research in Healthcare Innovation Management at IESE Business School, provided insights into why transformation is challenging, even when the need for change is recognised. He presented some of the most common barriers to health delivery transformation, including contentment with *status quo*, lack of a clear vision of what the results of the transformation process would be and of the processes

that lead to these results, and emotional aspects. Transformation requires a clear understanding of goals and pathways. Prof Ribera emphasised the importance of having a clear objective, identifying barriers, and developing agile processes to incorporate flexibility at all management levels. He also emphasised the importance of overcoming resistance, by addressing the emotional resistance to change and aligning stakeholders towards common objectives to achieve health delivery transformation.

To conclude the session, **Dr Matthias Wismar,** Programme Manager at the European Observatory on Health Systems and Policies, spoke about health workforce challenges and their influence on the process of innovating service delivery. The shortage of healthcare workers affects every health system, with medical deserts caused by high turnover rates and difficulties in retaining skilled professionals. Transforming the health workforce with skill mix and improving healthcare workforce performance are essential tools to address the evolving demands of healthcare delivery and improve system efficiency.

Take-home messages

- Addressing healthcare challenges requires innovative approaches in service delivery, including new care models and technology-driven solutions. Effective transformation depends on strong leadership, emotional intelligence, and building trust within the system.

- A strategic, top-down approach to health system transformation is crucial. There should be emphasis on the alignment of governance, adequate resource allocation, and the importance of integrated care, innovation in primary care, and effective regulation of technology to achieve sustainable and transformative changes in healthcare.

- Transforming the health workforce with skill mix and improving healthcare workforce performance are essential tools to address the evolving demands of healthcare delivery and improve system efficiency.

Focus session - Confronting the postcode lottery: addressing stroke disparities in Europe

Speakers: **Ms Stacie Broek**, Survivor and Public Advocate, Motivational Speaker, Author, Course Creator, Switzerland; **Prof Tudor G. Jovin, MD**, Medical Director, Cooper Neurological Institute; Professor and Chair, Neurology Department, Cooper University Hospital, USA; **Veronique Tordoff, MD**, Head of Image Guided Therapy, VP, Philips Europe, United Kingdom

Facilitator: **Mr Zachary Desson**, Principal Strategic and Policy Advisor, European Health Management Association (EHMA), Belgium

Session summary

In the European Union, stroke is the second most common cause of death and a leading cause of adult disability. It affects approximately 1.1 million people in Europe every year and causes 440,000 deaths. In 2017, the cost associated with stroke was estimated at €45 billion, including direct and indirect costs of care provision and productivity loss, while the number of people living with stroke is estimated to increase by 27% between 2017-2047 in the EU. During the past decade there has been significant evolution in stroke treatment options. Endovascular therapy via mechanic thrombectomy is highly successful in treating ischemic strokes, often preventing and even reversing negative outcomes. However, access to high-quality stroke infrastructure and state-of-the-art treatment remains limited in several European countries, particularly in Central and Eastern Europe.

Prof Tudor G. Jovin, MD, Medical Director at Cooper Neurological Institute and Chair of the Neurology Department at Cooper University Hospital, highlighted the substantial progress made in acute ischaemic stroke treatment, presenting the latest scientific evidence in favour of endovascular treatment (mechanical thrombectomy). According to recent data, the benefit after endovascular treatment, when suitable, is significantly higher compared to other treatment options, especially with reference to patients regaining their independence to perform daily activities. Despite all these facts, the overall global access rate to mechanical thrombectomy is extremely low.

Prof Jovin profiled the existing disparities in accessing and receiving advanced stroke care. These disparities are caused by different factors, such as geographic localisation, socio-economic factors and time of the day of stroke's occurrence. This phenomenon can be referred to as the *mechanical thrombectomy access gap*. According to the MT-GLASS study, the disparity in mechanical thrombectomy access is nearly 500-fold across the world. This phenomenon is amplified by other challenges such as the unpredictability of occurrence, poor recognition of stroke symptoms and time-sensitiveness of the outcome. In this context, several global health initiatives aim to address inequities and gaps in access to state-of the art stroke care. However, significant efforts are still required. Prof Jovin reiterated the importance of addressing stroke-treatment inequality via public health interventions, multistakeholder collaboration, and communication with policymakers.

Ms Stacie Broek, Survivor and Public Advocate, shared her experience as a stroke survivor. She highlighted the need of a path for stroke survivors, so that they can visualise their recovery. She also talked about facets of the postcode that have nothing to do with medicine, like the social support network that is important for giving stroke survivors hope. Other essential aspects are prioritising patient-centred care and incorporating patients' perspective, collaborative energy, goal-focused mindset, acknowledging the mental impact of stroke and finding sources of inspiration in dealing with what happens after the acute phase. Ms Broek reiterated the importance of transforming stroke care so that it reflects the perspectives of every actor involved in the process and provides the best available treatment and chances of recovery.

Veronique Tordoff, MD, Head of Image Guided Therapy at Philips, discussed the global financial implications of stroke. Projections indicate that costs may double by 2050, emphasising the imperative of embedding stroke

funding into healthcare plans as an investment. She provided examples of countries like The Netherlands and Germany, which have reduced stroke costs by increasing investments in stroke care. Dr Tordoff highlighted the need to prioritise stroke among non-communicable diseases to achieve Sustainable Development Goal 3 - Good health and wellbeing, emphasising the importance of clinically effective and cost-effective stroke care. In partnership with the World Stroke Organisation, stroke management recommendations were redefined to emphasise better prevention, expanding stroke units, enhancing access to intravascular thrombolysis and mechanical thrombectomy, and prioritising stroke care in decision-making processes.

Addressing stroke as a major health challenge requires a multifaceted approach, integrating advances in treatment, equitable access to care, and substantial investment in stroke management. Despite progress in treatments, disparities in access due to socio-economic and geographic factors persist. The session underscored the importance of a comprehensive strategy that includes prevention, timely treatment, and support for survivors, framing stroke care as a strategic investment. Future efforts should focus on enhancing medical training, increasing funding, and strengthening advocacy to bridge care gaps and improve outcomes, ultimately reducing the burden of stroke and enhancing quality of life across Europe.

Take-home messages

- Ischaemic stroke is a medical condition where blood flow to the brain is interrupted, leading to brain cell death. It is the second leading cause of death and a major cause of adult disability in the European Union, imposing a significant economic burden.

- Recent advancements in stroke treatment, particularly endovascular thrombectomy, have significantly improved outcomes for patients, especially those with severe ischemic strokes, by reducing disability and enhancing recovery.

- There are significant disparities in access to high-quality stroke care. These disparities, influenced by socio-economic and geographic factors, underscore the need for improved infrastructure and equitable healthcare access.

- Addressing stroke requires strategic investment in healthcare systems, training for medical professionals, and public health interventions. Effective stroke management should be prioritised as a cost-effective investment to improve health outcomes and align with global health goals.

- Emphasis on patient-centred care and social support networks is crucial for transforming stroke care, so that it reflects the perspectives of every actor involved in the process and provides the best available treatment and chances of recovery for all patients.

Focus session - Ensuring healthcare system sustainability: what are our roles and responsibilities for transitioning to value-based healthcare?

Facilitators: **Mr Michele Calabró**, Director, European Regional and Local Health Authorities (EUREGHA), Belgium; **Mr Marco Di Donato**, Project and Policy Officer, European Regional and Local Health Authorities (EUREGHA), Belgium; **Mr Casper Paardekooper**, Partner, Vintura, The Netherlands; **Ms Rebecca Steele**, Manager, Vintura, United Kingdom

Session summary

Health systems are facing mounting financial pressures, exacerbated by the recent pandemic and aging demographics, which strain resources and often end up compromising patient outcomes. This session highlighted the urgent need for a shift to Value-Based Healthcare (VBHC), as a fundamental instrument to optimise health outcomes while mitigating costs. Whilst numerous health organisations and systems support the move towards VBHC, efforts are fragmented and confined to localised pilot programs. A coordinated, multi-stakeholder approach is essential, with efforts focused on raising awareness, fostering collaboration, and driving political commitment.

The European Alliance for Value in Health is a collaborative initiative that brings together a broad spectrum of European associations representing patients, scientific and professional societies, health managers, hospitals, health authorities and life-science industries. Its primary aim is to accelerate the transformation towards value-based, sustainable and people-centred health systems in Europe. The Alliance's mission is to drive health system transformation by knowledge dissemination, best practices sharing and engagement with policy makers and stakeholders at various levels.

The latest report of the Alliance, 'A Compass for collaboration: navigating stakeholders' roles in transitioning to value-based healthcare', contains specific actions targeting eight stakeholders' groups: health managers and procurers; government agencies and regulators; health professionals; payers and insurers; HTA bodies; pharmaceutical and MedTech industry; patient advocacy groups (PAGs) and patients; and other enablers of VBHC. Four key themes emerged from the analysis: (1) the necessity of measuring patient-relevant outcomes; (2) linking payment to value and outcomes; (3) ensuring integration across the full cycle of care; and (4) maintaining a patient-centric approach in the transition to VBHC. There is also the need to raise awareness about value-based care and achieve a wider diffusion of learnings from pilot hospitals, thereby increasing political engagement.

In the session, participants engaged in an interactive workshop to prioritise actions to be implemented by different stakeholder groups building on the findings of the report. Participants were divided into four working groups and tasked with selecting, via consultation, three priority actions for achieving VBHC. The groups were provided with a list of potential actions, as they appear in the European Alliance for Value in Health report but were also offered the possibility to propose new ones.

The prioritisation exercise yielded the following key actions:

- Health managers and procurers: Engaging with patients, re-designing the pathway of care, and ensuring integration across services.
- Government agencies & regulators: Promoting patient-centred and integrated care delivery, incentivising efficiency by directing resources towards high-value care and prevention and implementing value- and outcomes-based payment models.
- Healthcare professionals: Identifying the patient-relevant outcomes, promoting joint decision-making and sharing outcomes data, and emphasising continuous improvement and education.

- Pharmaceutical and MedTech industry: Collaborating with public and private stakeholders and developing payment and reimbursement models based on value.
- Payers & insurers: Implementing value-based models focused on investments in value delivery, incentivising preventive, coordinated and efficient care, and implementing data sharing.
- HTA bodies: Involving patients more actively and implementing patient-related outcomes measures more broadly.
- Patients: Addressing holistic patients' needs, training and educating the patient community to enhance shared-decision making and adopting patient-relevant outcome measures.
- Other VBHC enablers: Supporting VBHC with relevant research and delivering educational programs for health professionals and different stakeholders on VBHC principles.

The shift towards value-based healthcare is crucial to achieving improved patients' outcomes, while maintaining cost-effectiveness. However, current efforts are often fragmented and lack cohesion, necessitating a comprehensive and systematic approach. This session highlighted the importance of involving all stakeholders in the transition process. Prioritised actions included patient engagement, integrated care delivery, value-based payment models, and continuous improvement through education and collaboration. The successful implementation of VBHC will require concerted efforts to raise awareness, share knowledge, and foster political commitment, ensuring the widespread adoption of value-based practices to improve healthcare outcomes and sustainability across Europe.

Take-home messages

- Value-based care optimises patient outcomes while managing costs by aligning healthcare delivery with patient-relevant metrics and integrating care across the full cycle.
- Current healthcare systems are under increasing strain due to endogenous and exogenous factors, like the COVID-19 pandemic and aging populations, which can be effectively addressed, through a shift to value-based healthcare.
- Efforts to accelerate the adoption of VBHC in Europe focus on uniting diverse stakeholders - patients, healthcare professionals, policymakers, and industry partners - to drive health system transformation through knowledge sharing and collaboration.
- Four critical themes are essential for successful VBHC: measuring patient-relevant outcomes, integrating care delivery, linking payment to outcomes, and maintaining a patient-centred approach.
- Achieving VBHC requires stakeholder-specific actions, such as patients' engagement, redesigning care pathways, incentivising high-value care, developing value-based payment models, and promoting continuous improvement and education.
- Building widespread awareness of VBHC is vital for shifting mindsets, aligning stakeholders on patient-centred care, and fostering systemic changes that prioritise outcomes over volume.

Focus session – Charting the path: green and digital skills for Europe's healthcare workforce

Speakers: **Mr Michele Calabró**, Director, European Regional and Local Health Authorities (EUREGHA), Belgium; **Prof Todorka Kostadinova**, Vice-Rector for International Cooperation, Accreditation and Quality, Medical University Varna, Bulgaria; **Tomas Zapata, MD**, Unit Head, Health Workforce and Service Delivery, WHO Regional Office for Europe, Denmark

Facilitator: **Ms Federica Margheri**, Interim Executive Director, European Health Management Association (EHMA), Belgium

Session summary

In the context of the ever-increasing digitalisation, the ongoing climate crisis, and the continuous pressures to health systems, it is important to train health and care professionals and future generations to navigate these changes.

Ms Federica Margheri, Interim Executive Director at EHMA, shared that almost 15 million people work in health occupations, which represents over 7% of employed people, and 4% of the EU population. The digital and green transitions are strongly impacting the European Union, and the healthcare sector must be prepared. The Blueprint Alliance for a Future Health Workforce Strategy on Digital and Green Skills - the BeWell project is one way to prepare for the challenges and opportunities ahead. Designed to develop a European Skill Strategy, the BeWell project addresses both the upskilling and re-skilling of healthcare professionals in the context of the digital and green transitions. An important aspect of the BeWell project is the co-creation of its Skill Strategy with health and care professionals and several other stakeholders, such as NGOs, higher education institutions, VET providers, labour market actors, and researchers.

Mr Michele Calabro', Director at EUREGHA, outlined the three main elements that support the implementation of the BeWell project. Firstly, an extensive analysis took place to gather skills intelligence. Another important aspect is the constant exchange between the BeWell project, the health workforce and other sector representatives. The third element is the Large-Scale Partnership of the Pact for Skills for the health sector that gathers all health and care stakeholders to implement upskilling and reskilling initiatives. With regards to the recommendations included in the BeWell Skill Strategy, Mr Calabró highlighted the need for constant interaction with local and regional health authorities to understand the real needs at those levels. This is important to effectively implement the Skill Strategy, but also to understand what gaps may need to be filled from a health workforce perspective.

Prof Todorka Kostadinova, Vice-Rector at the Medical University Varna, underlined the importance of thinking and acting in a united fashion at a local, regional, national, and European level. She stressed that younger generations of professionals are very willing to receive training, but it is equally important to ensure that current professionals are upskilled. Prof Kostadinova added that working closer with patient organisations at national level is crucially important for the implementation of the Skill Strategy. She highlighted the need to maintain close ties to businesses involved in technologies and products development. Finally, she underlined the role of universities and research centres to have the evidence required for the implementation of the Skills Strategy.

Tomas Zapata, MD, Unit Head for Health Workforce and Service Delivery at WHO Europe, focused on health challenges, such as an ageing population and a constantly evolving technological landscape, that affect the health and care workforce. The future vision is to build capacity and skills that will be needed in the next 5 to 10 years. Dr Zapata also highlighted the importance of interprofessional education. People need to learn how to work in teams and not in silos. Optimising performance; the importance of rethinking how services are organised; and how innovation is encouraged and supported were highlighted as priorities. With regards to the collaboration between WHO and the European Commission, Dr Zapata highlighted the good working relationship mentioning

a possible joint project on increasing the retention and attractiveness of the nursing profession and several future initiatives.

The session transitioned into an interactive workshop, where participants were divided into groups, each engaging in discussions aimed at giving feedback to the Skills Strategy to better resonate with their respective contexts. The discussion highlighted the need for more standardisation in the upskilling and re-skilling of healthcare professionals at European level; specifically, by formally including these new skills in teaching curricula. Further emphasis was put on training in communication skills. Participants underlined the importance of more seriously addressing burnout among healthcare professionals; better protect them from patient violence; and the need to follow through with political promises made. Participants also stated the need to tackle resistance from either professionals or organisational culture that is inflexible and resistant to change. Finally, emphasis was put on how technology could be better used to improve the sustainability of the health system through more efficient use of time and resources.

Combining green and digital skills will allow healthcare workers to provide high-quality care while also contributing to environmental sustainability. It is important for all levels of the healthcare system to be involved in how to develop and implement training, management structures and decisions to address current and future challenges. By equipping healthcare workers with green and digital essential skills, policymakers can ensure a more efficient, sustainable, and patient-centred health system.

Take-home messages

- The training of health and care professionals should be forward-looking and provide them with skills that may be required from now up until the next 50 years.
- It is essential to maintain a constant interaction with local and regional health authorities to understand what gaps may need to be filled from a health workforce perspective.
- To ensure health workforce upskilling and reskilling respond to real societal need, it is important to work closely with patient organisations; businesses involved in technologies and products development; and universities and research centres.
- There is a need for more standardisation in the upskilling and re-skilling of healthcare professionals at European level that can be achieved by formally including new skills in teaching curricula.

Focus session - Harmonising theory with practice: implementing effective paediatric immunisation system across Europe

Speakers: **Dr Sandra Alexiu,** Family Physician and President, Bucharest Family Physicians Association, Romania; **Prof Dr Michael Moore AM**, Chair, International Immunisation Task Force; Past President, World Federation of Public Health Associations (WFPHA), Australia; **Mr David Sinclair**, Chief Executive, International Longevity Centre – UK (ILC – UK), United Kingdom

Session summary

Vaccination is one of the greatest public health achievements, saving millions of lives worldwide. There are several global immunisation strategies like the European Immunisation Agenda 2030, aiming to reduce vaccine-preventable diseases, increase equitable access and support universal health coverage. Another initiative is the Big Catch-up Plan aiming at reaching children missed during the COVID-19 pandemic, restoring immunisation coverage. The impact of vaccinations, measured by the Expanded Programme on Immunisation (EPI), launched in 1974, that focuses on protecting children against childhood illnesses, grew to 30 universally recommended vaccines.

A Landmark Lancet study finds that vaccination has averted 154 million deaths globally, including 146 million children under five. For every death averted, 66 years of full health are gained on average and 40% decline in global infant mortality, and increased survival into adulthood. Within this context, this session aimed to discuss the findings and policy recommendations included in the position paper developed by the Strengthening Childhood Immunisation Pathway (SCIP) Advisory Group. The position paper underlines the importance of building and maintaining vaccine confidence to increase health systems' resilience; and of strengthening routine paediatric immunisation system and improving vaccination rates.

Mr David Sinclair, Chief Executive at International Longevity Centre – UK, presented the case study '*Strategies to address vaccine confidence in Romania*'. The case study addressed vaccine hesitancy, monitoring public perception of vaccine safety and importance, and implementing targeted strategies to improve immunisation coverage, particularly in regions with low confidence or access to routine vaccinations. This multi-faceted strategy involved improving access by implementing process solutions, like mobile vaccination clinics for rural areas or involving different health providers as vaccinators. These strategies were based the use of technology to promote vaccination and on the fact that people will most likely use a service if it is geographically closer and accessible. Mr Sinclair highlighted that, even today, despite the many advancements in science, people continue to die from preventable diseases. Vaccination is essential for prevention we it is a global responsibility to ensure that everyone is immunised.

Dr Sandra Alexiu, Family Physician and President of the Bucharest Family Physicians Association, highlighted concerning trends in vaccine-preventable diseases across Europe, like the alarming rise in measles cases, diphtheria, and the 10-fold increase in pertussis cases. Findings from the Strengthening Childhood Immunisation Pathway Advisory Group have informed the development of a framework that outlines a robust approach to immunisation services and sets out factors that underpin the approach. The vaccination programme is not perfect, but it is perfectible. To do so, European policymakers and health leaders should invest in strengthening vaccination services across the life-course to help build resilience into public health. Dr Alexiu also discussed the need for family doctor to use more and better social media. This would help them connect with patients on a more personal level and build a stronger sense of community within their practice.

Prof Dr Michael Moore AM, Chair of the International Immunisation Task Force and Past President of the World Federation of Public Health Associations, emphasised that public health advocates have a crucial role in persuading governments to prioritise public health, especially in regard to paediatric immunisation. Policy

makers should protect public health spending, fortify the foundations of health systems and bolster the number of public health and other health workers on the frontline. While it is a human reaction to postpone addressing a problem if it is not considered urgent, it is important to convince policy makers that such a change is urgently required. Prof Moore pointed out that, as in Kotter's change management theory, a sense of urgency develops if people understand the need for change. To ensure policy makers are attentive to change needs, it is important to build and maintain influential relationships with policy makers and become their 'critical friend'. This requires a shared evidence-based vision for change.

Take-home messages

- Immunisation is a catalyst for improving quality of life. It is important to continue building and maintaining vaccine confidence; strengthening routine paediatric immunisation system; and improving vaccination rates to increase health systems' resilience.
- It is important to bridge the gap between doctors' communication on vaccines in appointments and the information citizens receive from social media.
- It is critical that key stakeholders understand how stable funding paves the way for better quality, wider access, and continuous advancements in the field.

Focus session - Safeguarding ageing population in Europe through adult vaccination

Speakers: **Ms Monica Brînzac**, Research Assistant and Deputy Director, Center for Health Workforce Research and Policy, Babeș-Bolyai University, Romania; **Mr Zachary Desson**, Principal Strategic and Policy Advisor, European Health Management Association (EHMA), Belgium; **Dr Adriana Pistol**, Secretary of State, Ministry of Health of Romania; Former Director of the National Institute of Public Health, Romania

Facilitator: **Ms Eleonora Varntoumian**, Policy Manager, European Health Management Association (EHMA), Belgium

Session summary

European populations are growing older, increasing the burden on already struggling health systems. One way to reduce such burden is through adult immunisation programmes addressing vaccine-preventable diseases. From an overall value perspective, vaccination is a way to decrease the number of clinic visits, physician treatments, hospitalisations, prescriptions, and eventually mortality. In Europe, vaccination programs for adults are heterogeneous and vaccination coverage rates remain insufficient, although there are convincing evidence-based medical and economic rationales. The challenge can be met only by adopting an innovative approach designed to shift the mindset of decision-makers from treatment to prevention. For these actions it is necessary multidisciplinary network including health authorities, medical doctors with different specialties, sociologists, psychologists, pharmaceutical companies and patient associations.

Mr Zachary Desson, Principal Strategic and Policy Advisor at EHMA, shared that *streptococcus pneumoniae* is the leading cause of community-acquired pneumonia, affecting around 1 in 1,000 adults annually. He noted high hospitalisation risks for older adults – especially those with pre-existing medical conditions like immunodeficiency, diabetes, and cancer – with an estimated in-hospital mortality rate of 15%. Vaccination can reduce the incidence of invasive pneumococcal disease, address economic and social disruptions caused by pneumococcus infections, and help combat antimicrobial resistance by reducing unnecessary antibiotic use. Mr Desson presented the early results of a research conducted among health professionals in primary care, hospital and long-term care settings. The findings highlighted a significant disruption in service delivery caused by pneumococcal disease, with 96% of respondents considering it disruptive, and 79% of primary care respondents reporting an increase in urgent hospital referrals. Additionally, 63% perceive pneumococcal diseases as a direct cause of health providers burnout.

Dr Adriana Pistol, Secretary of State at the Ministry of Health of Romania, emphasised that measures that can bring beneficial changes are not always easy to implement. One of the main challenges is convincing people that it is cheaper to prevent than to treat. The other challenge is overcoming the stereotype that vaccination is exclusively for children. It is also important to convince specialists that they are allowed to recommend vaccinations and to facilitate the vaccination process. Another important point is the training of pharmacists so that they can vaccinate directly in pharmacies.

When asked how to enhance trust and improve communication around vaccinations, **Ms Monica Brînzac**, Research Assistant at Babeș-Bolyai University, responded that it is essential to increase health literacy, as lack of understanding leads to fear. It is also important that health professionals have the time to reach out to people and patients and tailor their messages to different groups and situations. Mr Desson highlighted that there is still an unconscious overlap between vaccines and pandemic measures, which makes people think about lockdowns and other restrictive measures. An important point to increase trust is to move away from this narrative and work past COVID fatigue. Dr Pistol stated that it is particularly complicated to understand why a certain part of the population become more entrenched in their anti-vaccination views. However, it is important for physicians to

change the way they deliver information around immunisation. The classic procedure of recommending vaccination without explanation has not worked, and it has become imperative to openly discuss with patients the critical role of vaccinations in prevention.

Discussing about the effects of digitalisation on immunisation, Dr Pistol stated that health professionals will embrace it as they realise that the new system can facilitate their work offering direct information on the needs of their patients, vaccination stocks, and even helping with administrative tasks. She noted that the implementation of a digitised system should not increase the burden on physicians; and that it takes time to implement it in daily practice, as it requires convincing and training.

This session outlined preliminary research results that show a substantial health system disruption caused by pneumococcal diseases that can largely be prevented through vaccination. Due to a lack of appropriate health literacy and awareness, patients lack confidence in the efficacy of vaccines, do not fully appreciate their positive effects, and have doubts about the low risk of adverse side effects. This can be addressed by increasing direct communications between patients and health professionals about the specific and indirect benefits of vaccination.

Take-home messages

- *Streptococcus pneumoniae* is the leading cause of community-acquired pneumonia, affecting around 1 in 1,000 adults annually. Vaccination can reduce the incidence of invasive pneumococcal disease, address economic and social disruptions caused by pneumococcus infections, and help combat antimicrobial resistance by reducing unnecessary antibiotic use.
- Work should be done to increase direct communications between patients and health professionals about the specific and indirect benefits of vaccination.
- Improving the accessibility of vaccination is critical, especially when it comes to removing financial and logistical barriers. Collaborative work is needed to push for incremental improvements that add up to large improvements in the long term.

Focus session - Immunisation for all ages: the role of vaccination in helping build innovative healthcare systems

Speakers: **Dr Stefania Maggi**, President, European Interdisciplinary Council on Ageing, Italy; **Mr David Sinclair**, Chief Executive, International Longevity Centre (ILC), United Kingdom; **Mr Gonçalo Sousa Pinto,** Lead for Practice Transformation, International Pharmaceutical Federation (FIP), Spain

Facilitator: Dr Jane Barratt, Global Advisor, International Federation on Ageing (IFA), Canada

Session summary

A comprehensive, life-course approach to immunisation is of utmost importance. By addressing barriers and ensuring robust training and infrastructure to support higher vaccination rates, healthcare systems can improve objectives in healthier ageing populations.

Dr Jane Barratt, Global Advisor at the International Federation on Ageing, emphasised the potential to expand immunisation services throughout one's life course, highlighting the importance of immunisation in building resilient and innovative health systems. Healthcare systems need to acknowledge the critical role of vaccinators in the shift from a disease-specific approach to a life-course approach in immunisation, as this can increase life expectancies and reduce health systems burden, a very evident phenomenon during the recent COVID-19 pandemic.

Dr Stefania Maggi, President of the European Interdisciplinary Council on Ageing, called for public health actions to mitigate the winter burden of preventable respiratory pathogens in Europe. Starting from an overview of the severe outcomes produced by COVID-19 in co-infection with other respiratory viruses in the population over 60 years of age, Dr Maggi mentioned key challenges in increasing vaccine coverage, among which lack of training for geriatricians and nurses; poor awareness among professionals; safety concerns; uncoordinated access to digital vaccination records; and regional disparities in adherence to guidelines. Lastly, she outlined the PROVAX programme's alignment with the Italian National Prevention Vaccination Programme, emphasising improved counselling, targeted interventions for high-risk groups, and better integration of vaccination into regular healthcare visits.

Mr David Sinclair, Chief Executive at the International Longevity Centre, highlighted the need to close the gap between health expectancy and life expectancy, with vaccination being a crucial component in this objective. The barriers to vaccine uptake shall be tackled by specific measures targeting vaccine hesitancy - he mentioned - in addition to improved national immunisation programmes and better communication and training for vaccinators, to facilitate the communities' access to immunisation by incorporating it into their regular practice.

In the end, **Mr Gonçalo Sousa Pinto,** Lead for Practice Transformation at the International Pharmaceutical Federation, advocated for a proactive approach to vaccine uptake within communities, focusing on confidence, complacency and convenience for improved access to immunisation. Mr Pinto presented an increase in reports of pharmacy-based vaccination across countries, showing that there are multiple training opportunities for pharmacists to play an active role in improving immunisation rates. To simplify the immunisation process for the patients, Mr Pinto mentioned the importance of prescribing authority, while also calling for expanding infrastructure, ensuring professionals are well-trained, in parallel with system innovation.

There are several barriers to vaccination uptake that are preventing citizens from achieving optimal health outcomes, including a lack of financial accessibility, logistical challenges, a deficiency of trained providers, and growing vaccine hesitancy. Promoting expanded training for healthcare professionals to boost the number of

available vaccination providers will lead to increased accessibility and better preventive measures for patients and will also serve to reduce vaccine hesitancy through better access to reliable information.

Take-home messages

- Achieving higher vaccination rates across several disease areas is of critical importance, thus the need of leveraging all possible pathways to reach these objectives.
- Immunisation is part of healthy ageing, and it should be considered an investment in our collective health that will reduce the burden on the health system overall. Healthy ageing is not an individual aim, it is a collective responsibility, and vaccination has an important role to play in ensuring longer, healthier lives for all.
- Promoting training for healthcare professionals to boost the number of available vaccination providers will lead to increased accessibility and better preventive measures for patients and will also serve to reduce vaccine hesitancy through better access to reliable information.

Masterclass - Who is afraid of AI? The role of Large Language Models in evidence synthesis

Speakers: **Prof Axel Kaehne**, Professor and Director, Evaluation and Policy Analysis Unit, Edge Hill University, United Kingdom; **Ms Justine Karpusheff**, Assistant Director of Research, The Health Foundation, United Kingdom

Session summary

In the last few years, Artificial Intelligence (AI) has rapidly evolved and begun affecting many aspects of modern life. An especially promising prospect for the use of these technologies is in the field of quantitative and qualitative data analysis. In this Master Class, the speakers went over a real-world example of using AI-programs, and in particular Large Language Models (LLMs), to interrogate a dataset; create an easily searchable catalogue of research data; and use AI to automate the production of a summary of the findings.

Prof Axel Kaehne, Professor and Director of the Evaluation and Policy Analysis Unit at Edge Hill University, discussed the historical concepts that laid the foundation for the development of modern AI programs. He presented the concept of the semantic field and how the mathematical expression of this field forms the basis of AI and LLM programs. Through a series of exercises, he demonstrated the difficulty in selecting the variables that determine how connections between the words are established in an LLM. He highlighted the difficulty of mapping new items onto a set of predefined variables, and how introducing new items can inadvertently increase the number of variables involved. LLMs manage over a thousand dimensions of word differences, with these dimensions interrelating, which has historically made AI development challenging. It was also highlighted that, unlike machines, humans navigate these differences intuitively, rather than mathematically.

Ms Justine Karpusheff, Assistant Director of Research at The Health Foundation, explained the role of The Health Foundation, a charitable organisation with the goal of improving health and social care systems in the UK. The organisation was in the middle of a three-year strategy cycle. This strategy encompassed mobilising research analysis, shaping policy, and enhancing skills, knowledge and capabilities. All the research conducted has created a backlog of data, which would be hard to access and collate. The questions the organisation found itself needing to answer were: '*What questions have we explored?*' and '*What questions remain to be asked?*'. The goal in using LLMs was to create an easily searchable catalogue of available research and use AI to automate the production of a summary of the findings for strategy development. Prof Kaehne explained the models used by The Health Foundation to interrogate the data, highlighting the importance of breaking down the most complex questions into multiple simple variables that can be effectively used to search for relevant data. He then discussed The Health Foundation project components and the requested deliverables.

He highlighted that LLMs are very expensive for organisational needs because it is not easy to control the number of questions needed. As a result, it is necessary to find a free alternative to do the searching, extracting, interrogating, and reporting the results. The Health Foundation chose SOLR as the tool for the first stage of the process, an existing open-source indexing tool commonly used for archival purposes. This indexing step identified relevant publications, but did not reveal the specific content of the publications. Prof Kaehne also emphasised the importance of data integrity and security when working with private data, particularly when considering whether to send it to the main database to further develop the LLM. While Microsoft and OpenAI currently claim that data remains confidential if requested, it is important to always anonymise/pseudonymise the data used in large analyses. Concerns around privacy and ethics must be addressed when using these tools.

There were questions regarding the potential use of a locally run model for the project's needs. While a local SOLR was used for the indexing of the dataset, a local LLM was not feasible due to power and processing requirements involved. A question was raised about the transparency of how these results were generated, and whether they

could be trusted. The response acknowledged that 'trust' is a difficult concept to define, as it is inherently human. An important point highlighted was that humans must always be present in the process to validate any results. For the SOLR step of the project, an independent validator was used. Other validation studies are currently being done, out of which some are finalised, but the results have not yet been published. It is important to note that The Health Foundation data used in this project was already public data and had been anonymised. Additionally, the dataset used was closed and not shared with external parties, so ethical considerations were not the main focus of this project.

Large Language Models and other AI-based products can provide great boosts in the speed and efficiency of quantitative and qualitative data analysis, but it is important to keep in mind that results must still be vetted by a human subject to guarantee a useful result. It is also important to better standardise data reporting and archival to enable the use of these AI tools and to reduce the need to manually sort and select data sources in the future. Another aspect to keep in mind is data privacy in the case of sources that are not already public, especially in cases in which the data analysis results might then be used by the providers of these AI models to further develop their models.

Take-home messages

- While AI models are always evolving, it is important to mitigate the risk of residual bias, which can be found in the dataset and to instruct to either disregard or counteract these with active involvement.
- It is important to always validate results, and especially to identify which aspects of research these models outperform humans and which they do not.
- Large Language Models (LLMs) should be used as analytical tools, not merely as text generators.
- Concerns over data privacy and the ethics of using models that are not locally hosted must always be addressed and weighed against potential benefits.

Masterclass - Innovation and knowledge brokering: linking evidence and decision making

Speakers: **Dr Josep Figueras, MD**, Director, European Observatory on Health Systems and Policies, Belgium; **Dr Eva Turk**, Minister's Office of Slovenia; Senior Researcher, Centre for Digital Health and Social Innovation, University of Applied Sciences St Polten, Austria/Slovenia; **Dr Matthias Wismar**, Programme Manager, European Observatory on Health Systems and Policies, Belgium

Session summary

Health systems face a broad range of challenges and necessitate innovation and appropriate implementation strategies. These challenges include managing rising costs, addressing chronic diseases, and integrating advanced technologies. Effective solutions often require the support of policymakers, entailing modifications to regulatory frameworks and payment mechanisms to ensure consonance with innovative solutions. Knowledge brokering is crucial in this process, facilitating the dissemination of evidence-based practices to national policymakers. Knowledge brokers synthesise and translate complex scientific data into actionable policy recommendations, ensuring that decision-makers are well-informed and equipped to implement changes that reflect the latest advancements in medical science and healthcare delivery. By doing so, knowledge brokers play a vital role in driving the adoption of new practices and policies in healthcare.

Dr Josep Figueras, MD, Director at the European Observatory on Health Systems and Policies, addressed the gap between research and policy, metaphorically described as the journey "from an ivory tower to day-to-day politics". The decision-making process is rarely straightforward, and it is influenced by several factors, including political dynamics, ethical considerations, consumer interests, industry lobbying, and media influence. Dr Figueras underscored the importance of adhering to key knowledge brokering principles to effectively bridge this gap. These principles include:

- Tailored – Evidence must be customised to meet the specific needs.
- Translate – Reorganise and present evidence in a manner that resonates with policymakers.
- Trust – High-quality evidence must be provided from a neutral stance, recognising the context and pressures of health systems.
- Timely – Knowledge brokers must be responsive to immediate needs and inform urgent decisions.

Dr Figueras advocated for the inclusion of stakeholders in designing research and include policymakers in policy advisory committees. He emphasised the necessity of aligning research and its outcomes with the political decision-making cycle; anticipating the policy cycle and leveraging political 'windows of opportunity'; and including policy options in light of evidence certainty and implementation considerations. Without these considerations, decision-makers are unlikely to heed any advice offered. He highlighted the importance of ensuring that policymakers trust the research evidence, which can be fostered by direct interactions with researchers, findings credibility and high-level of independence. Furthermore, knowledge translation mechanisms have to be strengthened. Effective communications, transparency, multidisciplinary, independence, and diplomatic skills are key. As a final note, Dr Figueras mentioned the four steps of research design for dissemination and implementation: 1. Identifying the topic(s) and the research institution(s); 2. Shaping and executing the research; 3. Tailoring the dissemination; and 4. Facilitating uptake and use of the research in decision-making.

Dr Eva Turk, Minister's Office of Slovenia and Senior Researcher at the University of Applied Sciences St Polten, highlighted that trust in the healthcare systems is rooted in transparency and brought the example of implementing an HTA system in Slovenia. She underlined the necessity of framing research around pertinent questions and striving to achieve consensus among stakeholders, despite inevitable power dynamics. In this light,

she acknowledged that the Slovenian HTA system's implementation has not been entirely successful due to the lack of comprehensive stakeholder engagement. Furthermore, Dr Turk advocated for leveraging diverse country experiences, academic incentives, and citizens engagement as strategies to garner political support.

Dr Matthias Wismar, Programme Manager at the European Observatory on Health Systems and Policies, underlined that it is important to choose the right format of knowledge brokering. He emphasised that meticulous event preparation is crucial, particularly in ensuring meaningful connections between country focal points and key decision-makers. The selection of experts requires a mix of academics, implementation specialists, and country representatives, while the real barrier to knowledge brokering is the confusion arising from poorly communicated information, hence the relevance of using case studies that people can relate to. Finally, Dr Wismar noted the critical need for effective translation of evidence into policy-relevant information. Despite the abundance of evidence available, only a small fraction is successfully translated into a format that policymakers can utilise. This gap underscores the need for specialised skills in knowledge translation, which, although not innate to all, can be developed through targeted training and practice.

This session underlined the essential role of knowledge brokering in gaining support of policymakers to successfully implement innovative solutions. An important lesson for researchers and experts is to get out of the proverbial ivory tower and interact with all key stakeholders in a simple, comprehendible, and humble way. Effective knowledge brokering is based on transparency, trust and clarity; therefore, trainings should encompass a broad range of skills, including policy analysis and the practical application of research findings within a policy context.

Take-home messages

- Successful implementation of innovative solutions requires the support of policymakers who are responsible for enacting changes to regulatory frameworks and payment mechanisms.
- One important issue is to understand the role of evidence in policy decision-making and build on knowledge brokering principles by tailoring the evidence to meet policymakers' specific needs, reorganising it into an accessible and comprehensible format, and ensuring its high quality and relevance.
- Knowledge brokering is crucial in facilitating the adoption of innovative solutions, with effective and timely dissemination of research evidence being essential to enable sound policy decision-making.

Workshop - Effectively training the leaders of the future

Table leaders: **Dr Lucia Ferrara**, Associate Professor, SDA Bocconi School of Management, Italy; **Prof Catherine Keller**, Director of the Institute of Management, EHESP – École des hautes études en santé publique, France; **Prof Ann Mahon**, Programme Director, University of Manchester, United Kingdom; **Prof Federica Morandi**, Director of the Academic Programs, ALTEMS, Università Cattolica del Sacro Cuore, Italy

Facilitator: **Prof Rui Santana**, Vice-Dean, National School of Public Health (ENSP) – NOVA University, Portugal

Session summary

With evolving healthcare landscapes and leadership demands, it is crucial to equip the next generation of health managers with the necessary skills. This session explored innovative approaches and strategies to cultivate leaders capable of navigating the complexities of tomorrow's health systems. Structured as five roundtable discussions, each centred around a distinct theme, participants exchanged perspectives and good practices in health management education.

Prof Rui Santana, Vice-Dean at ENSP, spoke about an education environment where new technologies are widespread. To create value in education and training, it is necessary to account for and integrate these innovations and develop new educational methods that are attractive and appropriate to prepare future leaders. Prof Santana shared a few interesting facts that reflect these new challenges. Specifically, 56% of students say they have used AI tools to help complete assignments, and of students that use AI, 68% believe it has improved their grades. It is interesting to note that students retain only 10% of what they learn in a traditional lecture, but this retention can increase to 75% when learning methods are interactive and practical; and that around 51% of Gen Z learns best through hands-on learning, while only 12% learn by listening.

Prof Ann Mahon, Programme Director at the University of Manchester, facilitated the table focusing on Experiential Learning (EL). One challenge with EL is the difficulty to find realistic cases for discussion. As solution, participants suggested using scenarios brought by learners to enhance relevance and engagement. Another challenge is that EL can be energy intensive. The discussion highlighted the importance of optimal group size; skilled facilitation; and the need to show EL relevance to ensure learners understand its value and applicability in their personal and professional lives. Furthermore, EL is very important for adult learners, not only because it is an efficient way to acquire skills, but also because experience generates personal investment. The follow-up to such experience, just like in healthcare, is critical. Coaching and application of learnt theories are very important to consolidate the learning. While EL is a powerful educational approach, it should be balanced with other methods to avoid student fatigue.

Prof Federica Morandi, Director of the Academic Programs at ALTEMS, Università Cattolica del Sacro Cuore, facilitated the discussion on Training Impact Assessment. The starting point was the need to create a connection between what is taught and what is assessed. Particularly, participants discussed how to assess students when adopting new teaching methodologies and AI. The recommendation was to incorporate the use of AI into programmes and assessment. Participants mentioned the need to develop evaluation tools that not only focus on the relationship between students and teachers, but also on the effect on users. To assess the true impact of training students, it is important to evaluate the impact of the learnings on patients. The group underlined that often universities only have standardised programmes dedicated to health managers as well as formal competency assessment. It is therefore important to investigate if the methodology is the key to have an impact on students. Furthermore, participants agreed on the need for evaluation tools with different levels of evaluation that include technical part, but also critical and analytical thinking.

Prof Catherine Keller, Director of the Institute of Management at EHESP, facilitated the discussion around Stimulating Life-Long Learning (LLL). LLL can improve the quality of services in care facilities, but also make jobs more attractive for workers. It was suggested to have training programmes tailored to different backgrounds and experiences, utilising mentorship. Participants' recommendations revolved around the need to define LLL training requirements through legislation and specifically, using certifications that have to be regularly renewed to ensure managers can stay in post or advance in their careers. It was also suggested that LLL certifications could be made mandatory for hospitals to get accreditation. Participants also agreed on the need for clinicians to undergo LLL training; however, they pointed out barriers such as lack of time; procrastination; and bureaucracy.

Dr Lucia Ferrara, Associate Professor at SDA Bocconi School of Management, chaired the table focused on Engaging Gen Z. This table addressed the challenge of how to move from considering AI a problem to using it in training and evaluation. The need for a good balance between theory and practice was highlighted. The teaching framework should consider the individual characteristics of Gen Z students, such as scarce attention and motivation, and their needs for an equilibrium in work-life balance and considering mental health issues, which became clearly important during the COVID-19 pandemic. Another focal point should be investigating ways to adapt old books and theories to the present day's audience.

Take-home messages

- Experiential Learning should be tailored to the needs of learners, focusing on creating transformative experiences that foster personal investment and skills acquisition. Effective follow-up, including coaching and application, is crucial for consolidating learning. Experiential Learning should be balanced with other educational methods to prevent student fatigue.

- Incorporating AI into training and assessment processes can enhance effectiveness, but thoughtful and effective implementation is necessary.

- Integrating AI into discussions and ensuring diverse generational perspectives are included can enhance the relevance and effectiveness of educational and professional development efforts.

- Life-Long Learning should be emphasised for professionals, with a focus on personalised learning experiences. Assessing the impact of Life-Long Learning initiatives is essential to ensure they meet desired outcomes.

- Training approaches should address the unique characteristics and needs of Gen Z students, such as maintaining attention and motivation, ensuring work-life balance, and adapting content to contemporary contexts, including mental health considerations.

Workshop - The HALIGN workshop: how role-play advances innovation adoption

Facilitators: **Dr Montserrat Codina**, Project Lead, Center for Research, IESE Business School, Spain; **Prof Jaume Ribera**, Emeritus Professor and Director of the Center for Research in Healthcare Innovation Management, IESE Business School, Spain

Session summary

Dr Montserrat Codina, Project Lead and **Prof Jaume Ribera**, Director of the Center for Research in Healthcare Innovation Management at IESE Business School introduced the HALIGN workshop. HALIGN is a course created to train different health stakeholders to co-design and implementation high-value solutions when it comes to healthcare innovations. It is based on a methodology that uses role-play and fictive scenarios. One complete case scenario can take up to 3 hours to reach the best outcomes for all participants involved, based on a needs assessment and followed by clearly defined goals. The HALIGN methodology supports healthcare stakeholders in this complex journey, fostering consensus and understanding.

This session was based on a short HALIGN course demonstration and provided understanding of how different stakeholders' perspectives should be aligned across the healthcare ecosystem, as well as the knowledge and the tools required to achieve this. The workshop provided participants with insights into a fictitious innovative drug for a chronic disease, introduced to illustrate a case scenario. This drug had undergone a pilot study in an Eastern European country, putting focus on how various stakeholders would seek to access European Union funds intended to support the introduction of this highly effective but costly medication.

Participants were divided into teams representing different stakeholders: a regional government health agency; an association of hospitals; a pharmaceutical company; health insurers; and patient associations. Each team was provided with information about the drug (including performance, sustainability, patient satisfaction and cost-effectiveness metrics), along with specific confidential details tailored to their role. These details included the pharmaceutical company's need to secure 60% of the funds; the patient association's minimum requirement of 5%; and the health insurers' need for 40%. Additionally, the health insurers aimed to increase premiums, while the hospital associations committed to promoting the drug to expand its user base. A larger user base could result in the pharmaceutical company offering a bigger discount.

The workshop featured 'organised meetings', which were fictional role-play sessions designed to simulate real-world stakeholder interactions. During these sessions, teams engaged in negotiations to align their interests and determine the allocation of EU funds. The exercise included five rounds of negotiation, with participants tasked to identify each other's proposal dimensions and options. Despite initial demands exceeding 100% of the available funds, the stakeholders were unable to reach a consensus on fund allocation. Even after additional free meetings, the total requested funds still exceeded the available amount, necessitating further negotiations. The participants were highly involved, negotiating firmly the percentages of the European funding for the procurement of the medication.

Prof Ribera summarised the outcomes, noting that while participants agreed on their respective responsibilities – such as setting therapeutic targets, offering discounts, lobbying, promoting broadly, or adjusting insurance premiums – they failed to reach a consensus on fund distribution, thus jeopardising the allocation of funds. He encouraged participants to remain open to renegotiation, reflecting on each group's capacity for such flexibility and adapting their strategies accordingly. He also highlighted the importance of networks in negotiations.

This workshop's core objective was to place participants in various stakeholder roles and engage them in role-playing negotiations. This training method, central to the HALIGN course, effectively simulates real-world negotiation challenges and the alignment of diverse perspectives. It highlighted the difficulties in reaching

consensus and offered valuable insights into the negotiation process, underscoring the importance of open-mindedness, flexibility in renegotiation, and networking. The exercise mirrored real-life scenarios where stakeholders navigate complex negotiations to achieve common goals. It emphasised that successful healthcare negotiations require practical strategies, including strong networks and the ability to renegotiate.

Take-home messages

- The successful implementation of a productive initiative requires the support from all stakeholders involved in the decision-making process.
- Networks play a crucial role in facilitating negotiations and enhancing collaborative efforts.
- The main challenges to a promising initiative include resolving disagreements between stakeholders and the time required to address these conflicts.
- BATNA, or Best Alternative to a Negotiated Agreement, is a negotiation approach, that should be considered when parties are reluctant to lower their demands.
- The HALIGN course, effectively simulates stakeholder interactions and their potential outcomes, representing a forward-thinking approach to healthcare management developed by the ecosystem for the ecosystem.

Workshop - Implications of the EHDS: how to effectively communicate Electronic Health Records and data exchange to your staff

Speaker: **Dr Teppo Heikkilä, MD**, Chief Administrative Medical Officer, Helsinki University Hospital (HUS), Finland

Facilitator: Prof Dr Henrique Martins, MD, Associate Professor, FCS-UBI, ISCTE-IUL, Portugal

Session summary

This workshop facilitated the exploration of the European Health Data Space (EHDS) and its implications on Electronic Health Records (EHR) and data exchange. The European Health Data Space ensures that people have the right to their health data, which is exchangeable across borders and language barriers within the EU. This framework also enables a single market for health services and provides access to a huge pool of health data for research and policymaking, facilitating the use of AI in medical research. The European Health Data Space has the most advanced legislation. The underlined values of EHDS policies are transparency, privacy, security, trust, accessibility and equity, innovation and interoperability. Data must be FAIR - Findable, Accessible, Interoperable, and Reusable, but also its value comes from its quality.

Dr Teppo Heikkilä, MD, Chief Administrative Medical Officer at Helsinki University Hospital, discussed the application of Real-World Data and AI in Finland, highlighting its potential for advancing research and management. Dr Heikkilä pointed out that Finland has had digital patient registers for over 20 years, and combined health data registers for 15 years. They had to combine many systems (approximately 100), and it took almost 10 years to complete the process. Dr Heikkilä underlined that when establishing and implementing a new system, resources are needed. What takes longer is to gather financial and human resources and this waiting period is discouraging for many. However, these challenges should not halt progress and the implications of overcoming them could be profound. Another challenge is motivating political actors to invest in the development of such data infrastructures, as establishing and implementing systems can take years to show tangible results.

Prof Dr Henrique Martins, MD, Associate Professor at ISCTE-IUL, discussed the importance of the XpanDH project (Expanding Digital Health through a pan-European EEHRxF-based Ecosystem) and the X-Nets. The XpanDH project supports an expanding ecosystem of individuals and organisations that are developing, experimenting, and adopting the European Electronic Health Record Exchange Format (EEHRxF) providing a crucial contribution to the European Health Data Space. It is a two-year Coordination and Support Action financed by the Horizon Europe Framework Programme. XpanDH is a 28-partner consortium from various backgrounds (governmental, non-governmental, universities, patient associations etc). Its main scopes are establishing a scalable public infrastructure for digital health innovation; demonstrating real-life interoperable digital solutions for individuals, researchers, health services, and the workforce across borders; establishing a Pan-European ecosystem of digital health; and creating and validating a framework for further exploitation of the public infrastructure for digital health innovation.

The XpanDH project established X-Nets, networks of stakeholders within the European (Digital) Health Space, that foster collaboration in utilising the European Electronic Health Record Exchange Format. Their goal is to facilitate cross-border and cross-institutional implementation of the EEHRxF in various healthcare domains by creating a collaborative environment. Engagement in the X-Net for Health Managers and Regulators facilitates knowledge exchange by sharing insights and learning from each other's experiences; aids problem solving by providing a platform to find solutions to challenges faced in EEHRxF implementation; furthers an improved collaboration within the digital health ecosystem; and increases visibility through showcasing good practices, raising the profile and reputation of organisations in digital health.

When it comes to the European Health Data Space, the main issue is that there is often a gap in ensuring that stakeholders' values are genuinely reflected in the implementation, particularly, considering the plurality of the eHealth ecosystem. It is important to find ways to ensure that public values are adequately taken into account. Engagement with stakeholders to understand their concerns and expectations becomes crucial, along with raising awareness through dissemination activities and enhancing understanding of the EHDS implications through education and co-creation.

Take-home messages

- The European Health Data Space is a health-specific ecosystem that ensures people's access to their health data that is transportable across borders and language barriers within the EU. It also enables a single market for health services and provides access to a huge pool of health data for research and policymaking, facilitating the use of AI in medical research.

- When establishing and implementing a new system, resources are needed, and the long time needed to gather political and financial support can be discouraging for many. However, these challenges should not halt progress and the implications of overcoming them could be profound.

- Engagement in the X-Net for Health Management & Regulators facilitates knowledge exchange by sharing insights and learning from each other's experiences; aids problem-solving in EEHRxF implementation; and furthers an improved collaboration within the digital health ecosystem.

Workshop - Digitising medication management pathways: the role of health managers

Speaker: **Prof Sandra C. Buttigieg, MD**, Professor and Head of the Department of Health Systems Management and Leadership, Faculty of Health Sciences, University of Malta, Malta

Facilitator: **Ms Eleonora Varntoumian,** Policy Manager, European Health Management Association (EHMA), Belgium

Session summary

Participants joined for an interactive session designed to lay the groundwork for developing a manager's guide for the digitalisation of hospitals' medication management pathways. This workshop was organised as part of the EPACT project, run by EHMA, which focuses on reducing medication errors and enhancing healthcare professional wellbeing through technology and automation. By minimising manual input and standardising processes, the project aims to improve patient safety and streamline hospital operations.

Prof Sandra C. Buttigieg, MD, Professor and Head of the Department of Health Systems Management and Leadership at the University of Malta, explained the objectives of the project: namely, to influence the decision-making processes for digital tools in medication management; outline the benefits of digitalising hospitals' medication management; identify the challenges and benefits of digitalising medication management pathways.

She presented EPACT's policy recommendations on the European Health Data Space (EHDS) and emphasised that countries should be supported to invest in digitalisation, data generation and standardisation of hospital medications. This way, hospitals would be fully integrated into the EHDS through patient summaries, e-prescriptions and e-dispensations. She also underlined that there is a need to empower regional and local healthcare providers to make medication hospital data interoperable and to stimulate implementation and development of data standards. Decision makers must promote and communicate internationally accepted harmonised data standards to facilitate interoperable medication data from healthcare settings into the EHDS.

Distribution errors and patient harm can be reduced by increased traceability and accurate patient identification – misidentifications and wrong dosage rely only on old ways of delivering medication. Digitalisation will also reduce healthcare professionals' harm. There is a 'second victim phenomenon' related to healthcare professionals: the first victim of errors is the patient, while the second victim is the professional who made the mistake and will suffer the consequences of it in terms of their mental health, physical health, career, and more. Managers must support their employees in avoiding and overpassing medication error situations. She concluded that the healthcare workforce needs to be trained before using a new technology on a daily basis.

Participants were divided in two groups to provide input for the Manager Guide on how to incorporate digital technology in medication management in healthcare settings. Group 1 identified the positive impact of digitalisation on patient safety, stock control, the environment, the European Health Data Space and the cost-effectiveness of digital solutions deployment. In Germany, the government launched a national consultation to identify the needs and the gaps in medication management, depending on hospital unit type and size: 64 hospitals will continue to work together on the uptake of digital technologies for the medication management pathways. Several benefits of improving medication management by using digital systems were underlined, including more rational use of drugs, increasing efficiency, and offering clinical decision support tools to avoid medication errors. Participants also underlined the need to deploy a digital medication management system as an integrated system, not only at hospital level, but connected with primary care and community pharmacies.

Group 2 underlined that it is not possible to implement a multi-million project without having proper change management that will ensure reduced waste and increased efficiency. They highlighted that in these kinds of

projects, implementation is key, both on the human and the economic aspect. Concerns were raised about the potential loss of control over the process, which should be mitigated. Participants stressed the need for clear communications about how the system works, including short, medium and long-term effects, while also considering the cultural context and the potential disruption of doctors' private practice incomes, which might not be welcomed. The discussion referenced Germany's legal act aimed at improving patient safety in drug dispensing, which was prompted by the alarming statistic that medication errors cause 30,000 deaths annually in hospitals, blocking 40% of hospital capacity.

Preparation and training of the healthcare workforce, along with a solid change management strategy, are crucial for success. Implementing various control keys in the system will help maintain oversight of the whole process. However, significant progress is still needed in the area of digitalisation of medication pathways.

Take-home messages

- The healthcare workforce needs to learn and practice using technology before incorporating it into their daily practice.
- With the help of digital medication management systems, patient harm can be reduced due to better medication traceability, fewer dosage errors, and better patient identification compared to current methods of delivering medication.
- Digitalising medication pathways will reduce healthcare professionals' harm addressing the 'second victim phenomenon', where the first victim is the patient and the second is the professional who made the mistake.
- There are still big areas of improvement in developing digital medication management systems, particularly in enhancing efficiency and better controlling patient risks.

Panel discussion - Innovating the health workforce

Speakers: **Ms Monica Georgiana Brînzac**, Research Assistant and Deputy Director, Center for Health Workforce Research and Policy, Babeș-Bolyai University, Romania; **Dr Eszter Kovács**, Assistant Professor, Health Services Management Training Centre, Semmelweis University, Hungary; **Ms Ioana Novac**, Technical Officer, WHO Country Office, Romania; **Dr Gemma Williams**, Research Fellow, European Observatory on Health Systems and Policies, United Kingdom

Facilitator: **Dr Matthias Wismar**, Programme Manager, European Observatory on Health Systems and Policies, Belgium

Session summary

Healthcare workforce is a resource of utmost importance among health settings worldwide. Constant attention and innovation in the field of human resources is key to sustainable healthcare systems. Demographic characteristics of the healthcare workforce highlight a need to compensate for the older, retiring generations; thus, the importance of a more efficient usage of the existing workforce, achievable by diverse strategies, among which skill-mix.

Dr Gemma Williams, Research Fellow at the European Observatory on Health Systems and Policies, profiled the challenges healthcare workforce shares across Europe. These include worker shortages; burnout; a decline in personnel mental health, especially seen after the COVID-19 pandemic; maldistribution in rural and remote areas; ageing workforce; and struggles in worker recruitment and retention. Starting from these issues, strategic investments need to be made to strengthen, reskill and optimise the healthcare workforce. These investments should be divided into several pillars: building of supply through investments in education and youth; recruiting and retaining via the improvement of working conditions; recruitment processes and career progression pathways; as well as optimising and reskilling through skill-mix and technology usage. To efficiently implement these measures, there is a need for collaboration between all stakeholders in healthcare, as this means scaling-up infrastructure and allocating sufficient funding for both recruitment and continuous training of workers.

Dr Eszter Kovács, Assistant Professor at the Health Services Management Training Centre of Semmelweis University, presented the results of a Joint Action project. This project, which aimed to assess advancements in workforce among 19 European countries, evidenced that countries have improved data quality and coverage, while national-level data registries are becoming more commonly encountered. **Ms Monica Georgiana Brînzac**, Research Assistant and Deputy Director of the Center for Health Workforce Research and Policy at Babeș-Bolyai University, highlighted a need for change in ways of collaboration, to approach the patient more comprehensively, besides the sole medical intervention, thus creating health services around the needs of the patient.

This has been a centre of attention among healthcare policymakers in Romania, during the last few years, as discussed by **Ms Ioana Novac**, Technical Officer at WHO Country Office of Romania. The planning of workforce-related strategies needs to take note of socio-economic determinants as well, to ensure that people are being referred to the adequate services, in a mechanism centring around the improvement of primary care services. The World Health Organization's role in the development of skill-mix and task-shifting in Romania through currently implemented programmes has been highlighted by Ms Novac. Besides acting as an advisory forum, WHO also provided technical support, especially for the data collection steps, a vital action for providing a solid base of knowledge, necessary for implementing change.

Ultimately, skill-mix and other such strategies which aim to improve healthcare workforce efficiency, need to be carefully implemented not to increase the burden on existing workers. For this, there is a need for clearer establishment of professional roles, as well as not forgetting the potential of automation and artificial intelligence.

The outlook on all challenges the healthcare workforce is currently facing shall be more future-looking, as these determinants of professional efficiency shall be completely tackled in order to ensure an improvement in health systems.

Take-home messages

- Demographic characteristics of the healthcare workforce highlight a need to compensate for the older, retiring generations; thus, the importance of a more efficient usage of the existing workforce, achievable by diverse strategies, among which skill-mix.
- Strategic investments need to be made to strengthen, reskill and optimise the healthcare workforce and there is a need for collaboration between all stakeholders in healthcare to scale-up infrastructure and allocate sufficient funding for both recruitment and continuous training of workers.
- Innovation includes approaching the patient health more holistically, which can occur by changing the way healthcare teams collaborate.
- Skill-mixing is a strategy that, if correctly implemented, can improve the efficiency of the healthcare workforce by addressing skills gaps within teams.

Panel discussion - The role of digital health technologies in revolutionising healthcare systems across the European Union

Speakers: **Marco Marchetti, MD**, Director of the HTA Department, National Agency for Regional Healthcare – AGENAS, Italy; **Dr Tricia Ravalico**, Executive Lead, Abbott, USA; **Ms Julie Spony**, Policy Officer, European Patients Forum, Belgium; **Prof Dario Sacchini, MD**, Associate Professor, Universitá Cattolica del Sacro Cuore, Italy; **Dr Eva Turk**, Board Member of Health Technology Assessment international (HTAi); Senior Researcher, Center for Digital Health and Social Innovation, University of Applied Sciences St Polten, Austria/Slovenia; **Dr Eliana Valle**, Clinical Consultant, Abbott, Italy

Facilitator: **Mr Emmanouil Tsiasiotis**, Project Manager, ALTEMS – Graduate School of Health Economics and Management, Universitá Cattolica del Sacro Cuore, Italy

Session summary

The integration of digital health technologies in the healthcare industry marks a significant shift towards innovation and patient-centred care. These technologies, encompassing AI, telemedicine, e-health, mobile health applications, and advanced medical devices, hold the promise of improving diagnosis, treatment, and overall quality of care. The use of digital health technologies offers updated and alternative methods for treatment and patient engagement, complementing traditional healthcare services.

Marco Marchetti, MD, Director of the HTA Department of AGENAS - the Italian National Agency for Regional Healthcare, mentioned that during the post-pandemic period, primary healthcare has been a focal point, emphasising the importance of nurturing closer relationships with patients through telemedicine. Italy has developed a regional digital infrastructure, integrating primary healthcare with hospitals to build tighter connections with patients. A significant project is underway to transform the medical system using telemedicine and AI, aiming to create a 'hospital home' with digital tools. By leveraging telemedicine and AI, the project aims to establish seamless connections between patients and healthcare professionals, ensuring continuous and comprehensive care. For **Dr Eva Turk**, Board Member of Health Technology Assessment international (HTAi) and Senior Researcher at the Center for Digital Health and Social Innovation of the University of Applied Sciences St Polten, digital health technologies aim to facilitate the lives of patients, but there are inequalities, especially for the elderly.

Dr Tricia Ravalico, Executive Lead at Abbott, emphasised that digital transformation, accounting for 25% of improvements, is the key enabler for successful practices in laboratory medicine. As traditional medicine evolves, interpreting care for patients must change. For instance, biomarkers are essential for diagnosing and monitoring health conditions, requiring accurate interpretation for effective patient care. Comparing medical information across platforms improves diagnostic accuracy and ensures patient care needs are met. Statistics and ongoing monitoring of patients' health and treatment progress are vital. **Dr Eliana Valle**, Clinical Consultant at Abbott, highlighted the importance of using digital health technologies, which can address different medical scenarios. Digital health technologies are especially vital in emergency departments, where the medical field faces multiple challenges due to an aging population, rising chronic diseases rates and a shortage of medical staff. By providing access to a patient's comprehensive medical history, these technologies enable the formation of a multidisciplinary teams to accurately determine a diagnosis.

Ms Julie Spony, Policy Officer at the European Patients Forum, mentioned that digital tools have proven to be a game changer, especially during the COVID-19 pandemic. These tools have improved access to care and removed geographical barriers. Patient engagement has significantly increased. These tools allow for more personalised medicine and enable healthcare providers to make informed decisions based on comprehensive databases. Additionally, digital tools can send reminders to patients to take their medications and attend

appointments, enhancing adherence to treatment. However, it is important to ensure the patients trust the technology. Clear communications and transparency about how data is used are essential.

Prof Dario Sacchini, MD, Associate Professor at Universitá Cattolica del Sacro Cuore, addressed the ethical aspects of digital health technologies. He emphasised the various roles healthcare providers must undertake to solve patient problems, highlighting the importance of bioethics. Digital therapeutics, unlike AI, are evidence-based therapeutic interventions driven by high-quality software to treat medical disorders or diseases. By integrating digital health technologies with classic medical principles, their benefits, such as continuous patient monitoring and easier access to care, become apparent. However, there are concerns regarding barriers to implementation, the presence of professionals, potential errors, and patient understanding. Patients need to know that their information will only be used appropriately. The ethical evaluation of digital health technologies is complex. Whether these technologies are ultimately good or bad can depend on various factors, including their implementation, the transparency of data use, and their integration into traditional medical practices.

Take-home messages

- Digital health technologies must be designed to address and fulfil the specific needs and preferences of patients to ensure effective care and improved outcomes.
- Embracing digital transformation can significantly drive forward medical science, leading to innovative treatments, enhanced research capabilities, and better healthcare solutions.
- Establishing and maintaining trust and a strong connection between physicians and patients are vital for successful healthcare delivery and positive patient outcomes.

Panel discussion - Adapting healthcare: leadership, standards, and quality improvement

Speakers: **Dr Carlo Descovich**, Director of Governance, Research, Education and Quality Improvement Unit, Bologna Health Authority, Italy; **Ms Yuliya Shcherbina**, Manager, Global Development, Accreditation Canada, Italy/Canada

Session summary

In today's healthcare, workplaces are in flux, grappling with issues like stress and work-life balance. This session unpacked these challenges and offered practical solutions, emphasising the pivotal role of leadership in steering change and crafting fresh models that prioritise staff wellbeing. Moreover, the session addressed the importance of creating supportive work environments that fuel continuous quality improvement.

Ms Yuliya Shcherbina, Manager Global Development at Accreditation Canada, described a quadruple aim for healthcare that includes improving population health; enhancing patient experience; reducing costs; and improving care teams wellbeing. Along with those four aims, she emphasised the importance of care provider wellbeing for delivering high-quality, patient-centred care. To achieve this, Ms Shcherbina recommended an approach that leverages data, analytics, and communications to enhance organisational performance and employee engagement. Furthermore, the overall focus should be on promoting excellence in healthcare through a supportive environment, ongoing professional development, and a commitment to continuous improvement guided by standards or good practices. She emphasised organisational approaches to proactively manage risks, continuously improve quality through integrated planning and measurement, and foster an environment of open incident reporting and learning from patient safety events - all critical components of robust quality improvement efforts in sectors like healthcare. As a note of conclusion, Ms Shcherbina pointed out that robust standards and assessment programs help ensure every part of the system delivers safe, high-quality care that is people-centred, coordinated and integrated across sectors.

Dr Carlo Descovich, Director of Governance, Research, Education and Quality Improvement Unit at the Bologna Health Authority, focused on three main points: creating and sustaining a caring culture; allocating resources; and supporting continuous quality improvement. He highlighted the case of the Bologna Local Health Authority, which included several key points like having clear leadership; providing education and training; implementing structured evaluation processes linked to incentives; assessing clinical competence; and having a plan for gender equality and positive actions. Dr Descovich also mentioned several points related to resource allocation strategies applied at the Bologna Local Health Authority, such as flexible working hours; incentivised function assignments; an annual call for internal mobility and organisational/functional re-allocation; three-year training dossier with annual plan and a specific path for new hires; and team building activities. In terms of supporting continuous quality improvement, Dr Descovich emphasises measures like capable management; risk planning; quality initiatives; relevant training; and clear accountability to drive continuous quality improvement within the healthcare organisation's operations. In conclusion, Dr Descovich outlined the organisation mission and approach towards promoting quality healthcare delivery. He discussed the organisation future-focused commitment to enabling continuous quality enhancement in healthcare through workforce empowerment, practical tools and standards, quality improvement initiatives, and fostering a global leadership community dedicated to improving health services worldwide.

This session underscored the critical need for supportive leadership and strategic resource allocation to address stress and work-life balance in healthcare. Ms Shcherbina emphasised the importance of a quadruple aim - improving population health, patient experience, reducing costs, and enhancing care team wellbeing - by leveraging data and fostering a positive work environment. Dr Descovich highlighted the Bologna Local Health Authority's successful strategies, including clear leadership, flexible working hours, and structured training. Both

presentations stressed the importance of creating a caring organisational culture, proactive risk management, and continuous quality improvement to ensure high-quality, patient-centred care and effective workforce management.

Take-home messages

- The wellbeing of those who provide care is as important as the quality and affordability of the care itself. A resilient and satisfied workforce is essential to delivering high-quality, patient-centred care.

- Leveraging data and fostering a positive work environment is essential to achieve the quadruple aim of healthcare: improving population health and the patient experience, reducing costs, and enhancing care team wellbeing.

- To support continuous quality improvement, it is necessary to emphasise measures like capable management, risk planning, quality initiatives, relevant training, and clear accountability to drive continuous quality improvement within the healthcare organisation's operations.

PhD session - Karolinska Institutet Medical Management Centre (MMC) & EHMA Research Award

Speakers: **Dr Pedro Ramos**, Karolinska Institutet, Sweden; **Dr Dorine van Staalduinen**, Leiden University Medical Center; Institute of Public Administration, Leiden University, The Netherlands; **Ms Annefrans van Ede**, Health Campus/LUMC, The Netherlands; **Ms Eva Pattyn**, Ghent University, Belgium; **Dr Şafak Kıran**, Karadeniz Technical University, Türkiye

Facilitator: **Dr Pamela Mazzocato**, Co-director, Medical Management Center, Karolinska Institutet, Sweden

Session summary

This session featured presentations of the shortlisted abstracts competing for the Karolinska Institutet Medical Management Centre (MMC) & EHMA Research Award, an annual award for the best contribution associated with a doctoral thesis related to health management. The following papers where presented.

Adoption, adaptation, and abandonment of value-based healthcare – A longitudinal case-study of a Swedish University Hospital by Dr Pedro Ramos

At the Karolinska Hospital, the concept of Value-Based Healthcare (VBHC) was integrated as part of a system transformation at different levels: research and education, thematic care, informatics, ways of working, role and mission, people and leadership to create a new operating model. Three main innovations were presented:

- Patient flow organisation, the 'new operating model': a matrix organisation where employees have a patient-group specific competence and create the highest value by following the patient throughout the flow.
- Digital dashboards, the 'steering cards': all employees contribute to a patient group's diagnostic and treatment regardless of which hospital department they work in.
- Patient flow leadership group, the 'oval table': an interprofessional and interdisciplinary team that works in a coordinated manner, analyses common knowledge, and works towards common goals.

Dr Ramos discussed the innovations that were adopted; those that were adapted; and those that were abandoned. Insights for managers included moving beyond piecemeal adoption; reducing data requirements and building on what organisations already have; funding investments required by VBHC; and building on payer-provider partnerships.

A managerial perspective on value-based health care: understanding the roles of management, teamwork, and leadership in hospitals by Dr Dorine van Staalduinen

The dissertation focused on how Value-Based Healthcare (VBHC) is implemented in hospitals and how professionals collaborate in Integrated Practice Units. Managerial aspects, such as implementation of charge, teamwork and leadership, have an impact on how VBHC implementation evolves in hospitals. Hospital managers are encouraged to evaluate not only implementation outcomes, but also VBHC implementation processes. There is a role for managers, professionals and scholars to establish shared perspectives on collaboration and find appropriate leadership structures. In its current form, VBHC remains a broad management concept for which evidence of its effectiveness remains absent. Throughout incremental VBHC implementation, the roles of managers and professionals require the right balance between guidance and freedom.

A new approach to health management: the implementation of population health management from theory to practice by Ms Annefrans van Ede

Ms van Ede's research focused on the development of the Population Health Management Maturity Index (PHM-MI), a tool aimed at helping local health systems tackle population health challenges. Her study addressed key

issues such as workforce shortages, multimorbidity, rising healthcare costs, and the need for strategic decision-making. The maturity index, comprising 101 items across six domains and centred on the population health management cycle, was developed through a scoping review and consultations with expert panels from both the Netherlands and Europe. It served as a learning tool to help regions assess their readiness, prioritise strategic actions, and identify gaps in knowledge and collaboration. A pilot study conducted in Australia showcased the tool's adaptability across different health systems. Ms van Ede's research highlighted the importance of collaboration, data infrastructure, and financial sustainability, stressing the need to bridge science and practice. Her work encourages stakeholders to prioritise strategic actions to address the current pressing challenges faced by the healthcare system.

Factors influencing the experience of client-centredness in Flemish (Proxy) budget holders: a moderation analysis by Ms Eva Pattyn

The study aimed to assess factors impacting the empowerment of individuals managing care budgets. The study involved a conceptual framework including categories measured using the psychological empowerment (PE) scale. The conceptual framework is described by the relationships between empowerment (meaning + competence; impact + self-determination); contextual factors (financial climate; rules and regulations; and access to information); client-centred care (conduct by caregiver; autonomy); and personal factors (respondent type; disability type; knowledge of the sector; financial resources). The research, involving 224 (proxy) budget holders, revealed significant associations between higher PE scores and knowledge of the care and wellbeing sector, use of cash or combination budgets, and proxy respondents. The results underscore the importance of accessible information and effective communication about available services in fostering empowerment among budget holders. The study also highlighted the need for flexible budget use, suggesting that greater budget flexibility could enhance empowerment.

Understanding barriers and facilitators to access breast and cervical cancer screening services in Turkish women: a qualitative exploration by Dr Şafak Kıran

In 2020 there were over 2.3 million new cases, and 685,000 deaths attributed to breast cancer; and 417,000 new cases and 97,000 deaths attributed to cervical cancer. Early detection increases treatment effectiveness and survival rates. The study aimed to gather evidence to explain Turkish women low participation in breast and cervical cancer screening services. The research underlined the need to increase awareness through targeted health education programs that address misconceptions, screening benefits, and cancer risk factors. It is also necessary to improve healthcare delivery, reducing waiting times, ensuring consistent screening locations, and targeting rural populations with initiatives like mobile screening services or transportation subsidies. Using telemedicine and digital health platforms can be of help for remote consultations, follow-ups and educational webinars. Finally, it would be important to design flexible and convenient services that recognise women's roles, responsibilities and schedules.

Abstract session - Innovative health technologies and organisational strategies

Speakers: **Ms Lucrezia Ferrario**, LIUC Business School, Carlo Cattaneo – LIUC University, Italy; **Ms Monique W. Van den Hoed**, CAPHRI Care and Public Health Research Institute, Maastricht University, The Netherlands; **Prof Lucia Ferrara**, Cergas SDA Bocconi, Bocconi University, Italy; **Mr Fabrizio Schettini**, LIUC Business School, Carlo Cattaneo – LIUC University, Italy.

Facilitator: **Dr Maarten Janssen**, Programme Director, Erasmus Centrum vor Zorgbestuur; Lecturer and Researcher, Erasmus School of Health Policy & Management, The Netherlands

Session summary

In a digital world, healthcare professionals must continuously adapt to deliver top-quality services. The session focused on leveraging new technologies while addressing the challenges of effectively communicating these advancements to patients.

Ms Lucrezia Ferrario presented '*Health Technology Assessment (HTA) of METAglut1 tests for the diagnosis of GLUT1 deficiency within paediatric setting*'. She highlighted the multifaceted approach taken for the HTA, which combines scientific evidence review, economic evaluation, and qualitative assessments to provide a comprehensive analysis for its adoption in hospital settings. Literature shows that lumbar puncture and METAglut1 present the same clinical performance regarding the standard of care from the point of sensibility and specificity. There is also a difference, with METAglut1 being capable to cover a higher number of patients potentially affected by this disease and its capability to early diagnose the pathology. The HTA identified potential benefits of METAglut in improving care for a rare disease, but further real-world data collection is recommended to strengthen the evidence and facilitate broader adoption, considering the initial investment required and the long-term positive impact anticipated from accurate and timely diagnosis.

Ms Ferrario second research, '*Drug-coated balloons for the treatment of shunt stenosis*', presented preliminary results from an economic and organisational impact assessment. The study focused on managing chronic kidney disease in patients undergoing haemodialysis. The research aimed to evaluate whether Drug Coated Ballon (DCB) could be effectively integrated into the standard of care. The study compared two scenarios: one using only the Percutaneous transluminal angioplasty, and the other using both. An economic analysis and assessment considering possible adverse event rates; the need for re-interventions; cost-effectiveness; and potential organisational benefits was conducted. The study highlighted potential organisational benefits and cost-effectiveness from a hospital perspective, as well as environmental impacts, such as reduced CO_2 emissions. Future steps will involve assessing patients' clinical state using data from hospital administrative records.

Ms Monique W. Van den Hoed presented '*Perspectives on managing innovation readiness in long-term care: a Q- methodology study*'. Ms Van den Hoed noted that the ageing population and staff shortages have compelled healthcare organisations to innovate. Structurally embedding innovation within healthcare organisations is not simple. Ms Van den Hoed outlined the methods used to assess research innovation readiness in long-term care, including a scoping review to identify factors contributing to innovation readiness; interviews with health-care experts to understand important factors related to innovation readiness in long-term care; and a Q-study involving around 30 health-care experts to rank the factors from most to least important. Finally, a self-evaluation scan was needed to indicate the maturity level of innovation readiness. The perspectives Q-study highlighted the importance of management support, stakeholder participation, establishing clear directions and enabling conditions, as well as defining decision-making processes, roles, and responsibilities. The main takeaway

emphasised the importance of defining innovation goals upfront and conducting a readiness assessment, while recognising that there is no one-size-fits-all approach.

Prof Lucia Ferrara presented '*How to implement multichannel interactions in healthcare? Lessons learnt from the experience of rheumatology unit of Niguarda Hospital in Italy*'. During and after the COVID-19 pandemic, healthcare has undergone a transformative process from paper-based to electronic records. With telemedicine having significantly spread, there is the possibility to incorporate AI-based tools and decision support systems. This study demonstrated how telemedicine can reshape care pathways more flexibly around patient needs, while reducing unnecessary visits. The study objectives were to highlight what could be learnt from this implementation experience, identify the distinctive and successful elements, and determine which managerial implications could be derived for future implementations. A realist evaluation approach was employed to identify what worked, for whom, in which circumstances, and what the underlying generative mechanisms were. The study emphasised the importance of strong leadership, team coordination, stakeholder involvement, patient-centric decision-making, and an iterative, incremental approach to change management for successfully implementing telehealth or virtual care solutions in healthcare settings.

Mr Fabrizio Schettini presented '*Automation of laboratory medicine: economic and organisational insights*', evaluating the sustainability of innovative IT platforms and integrated blood collection systems in laboratories, with the objective of detecting manual errors and enhancing process efficiency. The methods involved a comprehensive evaluation of costs, budget impact, organisational impact, and time savings of implementing an innovative laboratory technology using real-world data from a specific hospital. The economic assessment revealed that human resources are the most expensive cost category. The conclusions highlighted the potential benefits of these solutions in reducing errors, enhancing patient safety, improving process efficiency, and ensuring economic and organisational sustainability, while emphasising the need for further research on acceptability. Mr Schettini underscored the importance of IT platforms and integrated blood collection systems in improving laboratory processes and called for more research and communication of their benefits.

Take-home messages

- Defining innovation goals upfront and conducting a readiness assessment are crucial for successful implementation, recognising that there is no one-size-fits-all approach to fostering innovation within healthcare organisations.
- Active stakeholder involvement and leadership are key to the successful implementation of telehealth and other healthcare innovations, particularly post-COVID-19.
- Adopting IT platforms and integrated blood collection systems can significantly reduce errors, enhance patient safety, and improve overall quality in laboratory medicine.

Abstract session - Organisational models and patient flow

Speakers: **Dr Oskar Roemeling**, University of Groningen, The Netherlands; **Dr Johan Groop**, Nordic Healthcare Group, Finland; **Mr Alberto Mangini**, School of Management, Politecnico di Milano, Italy; **Dr Alexandre Lourenco**, ULSC, Portugal; **Ilse Wissink, MD**, Department of Medicine, Division of Infectious Diseases, Amsterdam UMC, University of Amsterdam, The Netherlands; **Mr Jon Sussex**, RAND Europe, United Kingdom

Facilitator: **Prof Gustavo Barresi**, Professor, Università degli Studi di Messina, Italy

Session summary

This session explored innovative approaches to improve patient flow and integrate healthcare services. Presentations discussed vertical integration of hospitals with primary care, horizontal mergers of academic hospitals, Lean Management and continuous improvement methodologies.

Mr Jon Sussex presented '*Hospitals' vertically integrating (VI) with primary medical care practices: rationales and outcomes*'. Conducted in two phases (2019-2020 and 2022), the study sought to sustain primary care amidst the closure of General Practitioner offices by merging them with hospitals. The research encompassed 85 primary care practices managed by 26 NHS Trusts, representing approximately 10% of all trusts integrating General Practices. Key findings included a 1% temporary decline in outpatient attendance rates, a 3% reduction in emergency inpatient admission rates, and a 5% decrease in emergency inpatient readmission rates within four weeks post-discharge. However, VI showed no significant impact on total inpatient admission rates, admissions for ambulatory care-sensitive conditions, or the length of hospital stays. The primary conclusion was that VI aims to sustain primary care practices, providing a platform for service improvements, though the results were insufficient to support nationwide implementation.

Dr Ilse Wissink presented '*Quality of care after a horizontal merger of two large academic hospitals'*. The study focused on a full integration approach at both locations, examining the impact on various metrics. Initially there was an increase in mortality rates post-merger, but three years later, mortality reduced by almost 1%. The study found that readmission rates remained unchanged, while fewer infections were reported and patient experiences improved. Dr Wissink employed Statistical Process Control and Interrupted Time Series methodologies. Dr Wissink acknowledged that the merger's consequences on hospital resources had not yet been integrated into the study, indicating a need for future research to assess the full impact of the merger on resource allocation and utilisation.

Dr Alexandre Lourenco presented '*How to create integrated healthcare pathways: Integrar+ Program*', developed in collaboration with PAFIC, LeanHealth Portugal, and supported by Roche. The Program promotes the integration of services by mobilising stakeholders, services, departments, and organisations, fostering coordinated efforts towards improving patient care. The initiative employs Lean Methodology and the G-PDCA (Grasp – Plan, Do, Check, Act) cycle. It supports projects that enhance internal processes across different value streams, eliminate wasteful activities, minimise non-value-added activities, and improve value-added activities. Dr Lourenco acknowledged that the full impact on resource implications has not yet been integrated into the study, indicating an area for future research.

Mr Alberto Mangini presented '*Bridging gaps and building connections: the Social Care Initiative in Cremona Italy, supporting care givers in elderly health'*. With the population of those aged 65+ increasing from 22.5% to 35%, the region faces a significant mismatch between the number of caregivers available and the growing demand for elderly care. The Social Care Initiative seeks to bridge this gap through a collaborative service model involving 30 health, social, and third sector organisations. The initiative employs an easy-to-use platform that facilitates awareness of available services, leading to improved management of elderly care and increased community cohesion. By fostering collaboration among various organisations, the Social Care Initiative aims to

provide comprehensive support to caregivers and enhance the overall quality of elderly care. Mr Mangini highlighted the participatory co-design approach used in the project, which has proven to be an effective tool for fostering efficient and effective innovation.

Dr Johan Groop presented '*Rethinking patient flow improvement to rapidly reduce length of stay for improved access and affordability of care*'. Faced with the dual pressures of enhancing access and affordability, the Lancashire Teaching Hospital undertook a pilot project across 10 wards, encompassing around 300 beds, over a 10-week period in the fall of 2023. Patient flow, which includes both admissions and discharges, increased by 13%. The finished length of stay for discharged patients decreased by 16%, bringing the average down to one day. Similarly, the active length of stay for patients still in the system was reduced by 25%, to an average of 2.5 days. These improvements helped to mitigate delays, reducing the total bed days lost per month by 2,600, which previously affected approximately 480 patients who could not be treated in time. Central to this success was the application of the Theory of Constraints to the healthcare environment.

Dr Oskar Roemeling presented '*Exploring alignment: lean management and organisational strategy*'. Lean Management (LM), a methodology aimed at reducing costs, eliminating waste, and improving the quality of care, was scrutinised through a case study in one of the university medical centre's divisions. The study identified several factors influencing the effectiveness of LM practices in achieving strategic goals. Positive experiences with LM were highlighted as crucial, where a reward system played a significant role in boosting employee engagement. However, challenges such as the lack of time allocated for LM activities emerged as significant barriers. Dr Roemeling reaffirmed success factors previously identified in LM literature, including the importance of strong leadership. Effective LM implementation was closely linked to managerial support, which includes providing the necessary resources and time for employees to engage with LM practices. The discussion also emphasised the role of continuous education and training in fostering a culture conducive to LM.

Take-home messages

- Vertical and horizontal integrations can enhance service continuity and reduce specific hospital service usages but require more evidence for broad implementation.
- Embracing methodologies like Lean Management and G-PDCA can drive sustained improvements in healthcare delivery and patient outcomes. However, effective Lean Management needs strong leadership, adequate support, and time for employees, aligning operational practices with strategic objectives.
- Participatory co-design and collaborative service models can significantly improve community-based care and support for caregivers.

Abstract session - Economic and health outcome evaluations

Speakers: **Mr David Roesler**, Institute for Advanced Studies, Austria; **Ms Ana Craveiro** and **Ms Susana Ferreira**, ULS Santo António, Portugal; **Dr Pieter Jan Van Asbroeck, MD**, Ziekenhuis Oost-Limburg, Belgium; **Ms Elif Erbay**, Ankara University, Türkiye; **Ms Béatrice Durvy**, Technical University of Berlin; European Observatory on Health Systems and Policies, Germany

Facilitator: **Dr Guido Noto**, Assistant Professor, University of Messina, Italy

Session summary

The session focused on economic and health outcomes across various parts of the health system. Discussions included topics such as testing and developing implantable devices for decreasing hospital costs; managing malnutrition in general population; using second medical opinion as an economic tool; and emphasising essentials in oral health.

Mr David Roesler presented the research '*The socioeconomic impact of in-silico methods for implantable medical devices: a conceptual framework*', based on the SIMCor project. This project concerns in-silico testing and validation of cardiovascular implantable devices. In-silico models are computer model simulation to create digital representations of human organs and non-biological parts, used in the early stages of developing and testing medical devices. The methodological approach includes an iterative framework, beginning with a scoping review, followed by expert interviews, patient focus groups, and insights from health economic theories. Mr Roesler presented the framework, including necessary capital needs, market competition healthcare expenditure for a certain disease treatments availability and approval, and safety enhancement.

Ms Ana Craveiro and **Ms Susana Ferreira** presented '*Impact of malnutrition risk on patient outcomes and hospital costs*'. Addressing the risk of malnutrition, particularly among the elderly and those with chronic conditions, can reduce hospital costs. The evaluation of 4,345 hospitalised showed that 3,617 presented nutritional risk. Notably, 48% of screened patients were from internal medicine wards, while 78% were admitted via emergency room. The average age was 72, and the majority of patients were male (51%). Malnourished patients face higher costs and risks due to longer hospital stays and complications, but they also present a higher rate of readmission – 21,1% within 30 days and 33,8% within 90 days. Malnourished patients cost an average of €14.364,51 each, compared to €5.477 for non-malnourished patients. They also experience a mortality rate of 15,6%, three times higher than the 5,2% rate for non-malnourished patients. To address malnutrition effectively, it is important to involve general practitioners and patients, while ensuring healthcare professionals receive proper training.

Dr Pieter Jan Van Asbroeck, MD, presented '*Defining the possible economic impact of medical second opinions*' regarding low back pain. The study found that, second opinion consultations has substantial market potential, worth billions of dollars annually. Contrary to expectations, the study revealed that second opinions are underutilised. Of 117 reviewed, 74 second opinions confirmed the initial diagnosis, but in those cases, the original treatment plan was often altered. Specifically, 35 cases changed from no treatment to non-invasive surgery and 24 cases from non-invasive to invasive surgery. The financial analysis by Cui et al. (2021) showed significant cost savings, with nearly $800.000 saved in surgical consultations alone due to better patient triage. This study concluded that second opinions confirmed the initial diagnosis in 50% of cases, led to treatment changes in 30%, and contradicted the first diagnosis in 20%. However, the influence of financial interests and patient selection bias cannot be overlooked, and primary care outcomes were not affected by second opinions. The study emphasised the need for further research, including long-term clinical and cost follow-up, to definitively assess the value of second opinions.

Ms Elif Erbay presented '*Circular economy practices in healthcare institutions: a bibliometric analysis*', discussing the advantages of circular economy and its role in reducing pollution. The need for circular economy in

healthcare was underscored by several factors such as the increasing use of energy and resources; the potential to lower expenditures; and the reduction of risks associated with hazardous waste. Key findings highlighted a steady growth in research on waste reduction, with a focus on waste segregation, single-use medical devices, lifecycle assessments of healthcare equipment, and sustainable supply chain strategies. Recycling emerged as the most common practice. The study concluded that technological advancements offer significant opportunities for sustainable practices in healthcare. However, longitudinal studies are needed to evaluate the long-term environmental and economic effects of circular economy practices across diverse settings globally.

Ms Béatrice Durvy discussed '*Conceptualising 'essential' in oral health as a basis for defining an essential oral healthcare benefits basket in EU countries*'. The integration of oral health into public health is gaining momentum, yet there is no consensus on defining what constitutes 'essential' oral health, complicating decisions regarding public health benefits. Key findings highlighted that oral health services should provide more benefits and that individual responsibility in oral health is crucial, particularly as resources become scarcer amid rising demand. Integration of oral health with general health systems is also necessary. Participants emphasised the importance of building trust in dental services from early childhood, and oral aesthetics and psychosocial wellbeing were notably valued. Another key finding was the potential discrepancy between current oral health coverage and public concerns, particularly regarding oral aesthetics and psychosocial wellbeing.

Take-home messages

- The expansion of in-silico models is poised to shift from their current application in early device and treatment development to becoming a standard platform for cardiovascular medical devices, taking into consideration how these models enhance safety and efficiency.

- Addressing malnutrition in both the general population and pre-hospital settings has been shown to reduce hospitalisation costs by a factor of three. Current literature and research suggest that integrating second opinion consultations into routine practice is beneficial.

- Technological advancements in healthcare, such as telemedicine, digital health records, and advanced recycling methods, offer opportunities for sustainable practices by mitigating environmental impacts.

- The development of an 'essential' oral health care benefits basket should be integrated with the general health system within the EU, with ongoing projects already addressing this matter.

Abstract session - Patient safety, patient voice and patient experience

Speakers: **Dr Elisa Peruzzo**, Sant'Anna School of Advanced Studies, Italy; **Dr Charmaine Zahra**, St James's Hospital, Ireland; **Prof Dr Guido Offermanns**, University of Klagenfurt; Karl Landsteiner Institute for Hospital Management, Austria; **Prof Jaume Ribera**, IESE Business School, Spain

Facilitator: **Prof Catherine Keller**, Director of the Institute of Management, École des hautes études en santé publique (EHESP), France

Session summary

In this session, presenters discussed diverse topics, including patient safety culture and the role of communication in enhancing it, methods for capturing the voice of youth in hospital experiences, attitudes and experiences of junior doctors and nursing staff regarding consent practices, and external interventions for redesigning care emergency care to improve patient experience.

Dr Elisa Peruzzo presented the study '*Capturing the voice of youth in hospital experiences: a Delphi study involving children, caregivers, and experts*'. This research addressed the critical challenge of integrating paediatric patients' voices into healthcare decision-making, often overshadowed by caregiver opinions that may not accurately reflect the child's experience. In collaboration with UNICEF and conducted across four European hospitals, the study aimed to develop a tool for capturing and utilising paediatric patient feedback effectively. The study involved several rounds of consensus-building among health professionals, patients, and caregivers. The outcome was the creation of five age-specific Patient-Reported Experience Measures (PREMs) questionnaires tailored for children aged 0-3 years, 4-7 years, 8-13 years, and 14-17 years, as well as for caregivers. These questionnaires were designed to gather feedback directly from patients aged four years and older, and from caregivers for younger patients. The study underscored the necessity of developing specialised tools for specific target groups and highlighted the importance of involving patients in tool design.

Dr Charmaine Zahra presented '*Attitudes and experiences of junior doctors and nursing staff in relation to consent practices in an acute hospital*'. The research explored the dynamics of consent practices in acute care settings, emphasising the need to integrate patient beliefs and needs into the consent process. The study aimed to identify and enhance informed consent practices within a large teaching hospital setting comprising over 100 beds and more than 500 staff. Through a combination of qualitative and quantitative methods, the study gathered data on the attitudes and experiences of both junior doctors and nursing staff regarding current consent practices. Findings highlighted the existing gaps in information and knowledge, pointing to deficiencies in education and Additional challenges included time constraints and inadequate staffing levels. The study recommended increasing resources, providing more opportunities for hands-on experience, developing an electronic consent system, enhancing patient information materials, and ensuring appropriate settings for obtaining consent.

In the study '*Measuring patient safety culture in Austrian hospitals: open communication as a key factor in improving handovers, teamwork, and adverse event reporting*', **Prof Guido Offermanns** investigated the crucial role of communication in enhancing patient safety. This research filled a gap in Austria's data on patient safety by examining the relationships between communication openness, teamwork, and the frequency of reporting adverse events. Utilising the Patient Safety Climate Inventory (PaSKI-AUT), data were collected from June to September 2023, utilising questionnaires. A total number of 1,086 questionnaires were sent to two Austrian hospitals, the final number of completed questionnaires included into analysis being 526. Results concentrated around some key dimensions such as teamwork within units, the frequency of reporting events, patient safety ratings and communication openness. Differences were observed between departments, for example, surgical versus internal medicine or administrative facilities and among healthcare professionals, notably between doctors and nursing staff. One of the causes of these differences could be the strong hierarchy that characterises

hospital environment. These findings underscored that better teamwork correlates with more effective patient safety practices. Prof Offermanns concluded that open communication and teamwork are essential to fostering a positive patient safety culture. The study recommends implementing hospital programs to enhance communication in hospital setting.

In the last presentation, '*Exploring opportunities and assessing the impact of external interventions in the redesign of an ED in Warsaw*', **Prof Jaume Ribera** addressed critical challenges faced by emergency departments (EDs), including overcrowding, capacity limitations, and the increasing complexity of patient cases. This research explored the flow and capacity issues in the ED and proposed various external interventions to optimise efficiency. The study examined the expanded patient journey through the ED, utilising a flow model and applying capacity assumptions. Key interventions discussed include streaming patients based on severity, fast-track units, direct-to-box admissions, clinical initiative nurses, self-register kiosks, bedside registration, tele-consultations, tracking systems, and a command centre for better management. Additionally, the research highlighted the importance of prevention strategies before emergency needs occur, such as home care, and effective handling at the site of emergency through improved emergency medical services transport and ambulance dispatching. Upon ED discharge, algorithms and coordination efforts for seamless hospital admission are emphasised. Prof Ribera underscored that enhancing ED efficiency requires a holistic ecosystem approach, integrating social, community, and healthcare services.

Take-home messages

- Patient-Reported Experience Measures questionnaires, tailored for different age groups of paediatric patients and their caregivers, are essential tools for capturing patient feedback on their healthcare experiences, helping to improve care quality and ensure a patient-centred approach.

- Effective consent practices in hospitals need robust educational and training programs for staff, enhanced patient information materials, and better resource allocation to overcome time and staffing constraints.

- Enhancing emergency departments efficiency involves not only internal process improvements but also coordination with social and community services to manage patient flow and prevent overcrowding, ensuring the best patient experience and quality of care.

- Implementing a holistic ecosystem approach that integrates communication, patient feedback, and cross-departmental coordination is essential for addressing the complex challenges in hospital settings.

Abstract session - Optimising healthcare delivery

Speakers: **Ms Jessica Hooper**, The Health Policy Partnership, United Kingdom; **Dr Bellis van den Berg**, Vilans, The Netherlands; **Ms Eva Pattyn**, Ghent University, Belgium; **Dr Muriel Levy**, KCE, Belgium; **Prof Dr Dr Wilfried von Eiff**, Center for Hospital Management, Germany; **Ms Esmée van der Poort**, Leiden University Medical Center, The Netherlands

Facilitator: **Prof Sandra C. Buttigieg, MD**, Professor and Head of the Department of Health Systems Management and Leadership, University of Malta, Malta

Session summary

The session focused on innovative strategies to enhance healthcare outcomes such as structured care pathways, quality improvement programs, patient empowerment initiatives, and ethical procurement management.

Ms Jessica Hooper, in her study '*Care pathways for lung cancer: building a foundation for optimal care*', highlighted the severity of lung cancer, the leading cause of cancer-related deaths globally, with approximately 1.8 million fatalities in 2020. She noted the significant disparity in survival rates based on diagnosis stage, with only 10% of stage IV patients surviving five years, compared to 68-92% for stage I. Ms Hooper advocated for structured care pathways from prevention to end-of-life care, aiming to improve care quality, streamline processes, optimise resources, and enhance patient outcomes. She emphasised the importance of prehabilitation and rehabilitation programmes for all stages of lung cancer, addressing barriers like long waiting times and awareness. Advances in genomic profiling and targeted treatments were also highlighted to improve patient outcomes.

Dr Bellis van den Berg presented '*Quality improvement in Dutch nursing home care: results of a nationwide government-funded support programme*'. Launched in 2018, the '*Dignity and Pride on Every Location*' (DOL) programme aimed to enhance nursing home care across the Netherlands. The impact was evaluated using the Dutch National Quality Framework. Results from 272 nursing home showed significant improvements. Satisfaction was high, with 52% of locations satisfied and 35% very satisfied. Challenges remained, notably in the theme of living and wellbeing, where progress was limited due to the COVID-19 pandemic, which led to staff absenteeism and visit restrictions. The theme of responsive workforce also saw limited improvement, reflecting the challenges of a tight labour market and high turnover. Dr van den Berg recommended clear communication, flexible budget use, and further research into the relationship between budget allocation and quality improvements.

Ms Eva Pattyn presented the study '*Factors influencing the experience of empowerment in Flemish (proxy) budget holders: a regression analysis*', aimed to assess factors impacting the empowerment of individuals managing care budgets. The study involved a conceptual framework including three categories measured using the psychological empowerment (PE) scale. The research, involving 224 (proxy) budget holders, revealed significant associations between higher PE scores and knowledge of the care and wellbeing sector, use of cash or combination budgets, and proxy respondents. The results underscore the importance of accessible information and effective communication about available services in fostering empowerment among budget holders. The study also highlighted the need for flexible budget use, suggesting that greater budget flexibility could enhance empowerment.

Dr Muriel Levy presented '*Assessing patient and societal unmet health-related needs: the NEED (Needs Examination, Evaluation and Dissemination) assessment framework*'. She highlighted the issue of misalignment between innovation and public health due to a lack of common definitions and economic rationale for unmet needs. The NEED framework assesses patient-level health needs based on five criteria: HRQoL, physical health, psychological health, autonomy, and life expectancy. Social needs are evaluated by their impact on social life,

education, work, and finances. Healthcare needs are scrutinised for treatment effectiveness and burden, quality of care, and accessibility. Societal needs are examined by condition frequency, transmissibility, caregiver burden, productivity losses, environmental impact, preventability, and value for money of standard care. Dr Levy advocated for expanding data collection across the EU to ensure comprehensive assessment and alignment of healthcare policies with actual needs, aiming to improve health outcomes and resource allocation.

With the potential closure of 400 out of 1,700 hospitals in Germany, **Prof Dr Dr Wilfried von Eiff**'s study *'Ethics vs economy in health care. How to avoid rationing by rethinking procurement management'* highlighted the importance of integrating ethical criteria into managerial decisions. Results revealed a focus on portfolio standardisation (54%) and IT/digitalisation (53%), with green procurement and patient outcome values receiving lower priority. Decision-making was largely driven by price (63%) and risk/quality (53%), while resource saving and environmental impact were less considered. Notably, 66% of respondents viewed the carbon footprint as unimportant, though 32% tried to balance it with other factors. Prof Dr Dr von Eiff highlighted the issue of inadequate reimbursement rates for high-functioning products, leading to the use of cheaper alternatives. He advocated for value-based procurement and called for a shift towards value-based decision-making, incorporating ethical considerations and community value, supported by HTA and legal regulations.

Ms Esmée van der Poort presented the study *'Costs in value-based health care dashboards: a qualitative study on stakeholder objectives and requirements'*, aimed at transitioning from budget-driven to value-driven hospital management. The research identified key objectives for using cost information in dashboards, such as evaluating the costs of treatments, assessing the impact of care pathway changes, and monitoring financial performance. It highlighted 32 specific requirements across five themes, including the need for involving financial experts, using accurate costing models, and having dashboard features to signal performance changes. Patient perspectives revealed challenges in incorporating patient costs, which often include indirect expenses like productivity losses. The study concluded that VBHC dashboards should align closely with their objectives and recommended further research into integrating patient-relevant costs and the role of health insurers.

Take-home messages

- Structured Care Pathways are essential for improving outcomes in complex diseases like lung cancer, involving prehabilitation, precision medicine, and clinical trials.
- Accessible information and flexible budget use are crucial for empowering individuals managing care budgets, fostering better management and outcomes.
- The NEED Framework aligns healthcare policies with actual patient and societal needs, promoting a needs-driven approach to healthcare innovation and policymaking.
- Value-based healthcare dashboards are tools designed to visualise data to aid in decision-making, facilitating a transition from budget-driven to value-driven hospital management.

Abstract session - Enhancing quality: trust, digitalisation and care indicators

Speakers: **Dr Mahdi Mahdavi**, London South Bank University, United Kingdom; **Dr Válter R Fonseca, MD**, WHO Quality of Care and Patient Safety Office, Greece; **Ms Maria State**, National Board of Health and Welfare, Sweden; **Ms Alessandra Pernice**, Università Cattolica del Sacro Cuore, Italy

Facilitator: **Prof Sandra C. Buttigieg, MD**, Professor and Head of the Department of Health Systems Management and Leadership, University of Malta, Malta

Session summary

The session brought together experts to explore the complex interplay of some crucial elements in contemporary healthcare. The discussions examined clinicians' trust in AI tools for cardiac care, identifying factors influencing the adoption of AI technology for diagnosing heart diseases. Emphasis was placed on the WHO's support for Romania's healthcare reforms, highlighting the need for political commitment, legal frameworks, and data infrastructure in quality improvement. The persistence of outdated medical procedures was addressed, advocating for their systematic discontinuation while balancing patient needs and resources. Additionally, the impact of digitalisation on patient-provider relationships and technostress was investigated, with recommendations for tailored training programs to manage the transition to new technologies. Collectively, these presentations underscored the importance of trust, digital innovation, and quality indicators in optimising healthcare delivery and patient outcomes.

Dr Mahdi Mahdavi presented the results of the research '*Navigating the path to trust in AI tools and their use in cardiac care settings: a survey of consultant cardiologists in the UK'*. The presentation started with three research questions regarding clinicians' willingness to trust and use AI applications in healthcare settings, particularly for diagnosing heart diseases. The questions explored factors that might influence clinicians' intention to adopt AI technology, such as their perception of potential consequences on clinical autonomy and responsibility, as well as contextual factors like perceived risks associated with using AI applications. The study's results, highlight a generally positive attitude towards AI adoption among cardiologists, while also noting some mixed findings and the importance of technical reliability and security in building trust in AI systems within this clinical domain.

Dr Valter R Fonseca, MD presentation, '*Implementing quality of care indicators in Romanian hospitals: development and piloting'*, outlined the context and key objectives of WHO technical support within Romania's healthcare reforms, particularly focusing on establishing quality indicators, enhancing healthcare access, and facilitating communication efforts related to this initiative. Dr Fonseca also emphasised the importance of strong political commitment, robust legal backing, aligned processes and structures, defined data collection and reporting methodologies, and adequate data infrastructure as critical enablers for effective implementation of quality improvement initiatives in the healthcare domain.

Ms Maria State presented the study '*Care that should not be done. National comparison of adherence to national guidelines recommendations'*, highlighting that several outdated procedures are still being used in some guideline areas, despite recommendations to phase them out for many years. The reasons given for this difficulty in discontinuing certain long-term treatments include the perceived benefit exceeding the risks for patients, the problematic nature of stopping ongoing therapies and respecting the patient's own wishes. Ms State emphasised the need for ongoing planning and efforts, including potential changes to compensation and assignment descriptions, to discontinue outdated procedures and practices across healthcare sectors while considering resource implications and national priorities.

Ms Alessandra Pernice's study, '*Dealing with the digitalisation of healthcare: a patients' perspective'* aimed to explore the effects of digital innovations on patient-professional relationships and patients' experience of

technostress. Overall, while acknowledging patients' openness to digital innovations, the study underscores the stress and challenges faced by healthcare providers and patients. It recommends implementing tailored training programs for both groups to better manage the adoption of new technologies and associated stress, potentially involving patient advocacy groups in delivering such training initiatives.

The presentations underscored the complex interplay between technology, human factors, and systemic challenges in modern healthcare. While AI offers immense potential for improving patient care, its successful implementation hinges on building trust among clinicians and addressing concerns about autonomy and responsibility. Concurrently, enhancing healthcare quality demands a multifaceted approach, including the establishment of robust quality indicators, the elimination of outdated practices, and the careful integration of digital innovations. The human element remains central to these transformations, necessitating tailored training programs to mitigate stress and optimise the patient-provider relationship. Ultimately, a balanced and patient-centred approach is essential to harness the benefits of technological advancements while preserving the core values of healthcare.

Take-home messages

- While AI offers immense potential for improving patient care, its successful implementation hinges on building trust among clinicians and addressing concerns about autonomy and responsibility.
- There is a need to explore innovative solutions to reduce stress among healthcare workers, such as implementing training programmes. Furthermore, it is crucial to adopt a no-blame and no-shame approach. Otherwise, the risk of negative consequences could undermine the effort's success.
- A balanced and patient-centred approach is essential to harness the benefits of technological advancements while preserving the core values of healthcare.

Abstract session - Disease-specific care management

Speakers: **Dr Sara Zuccarino**, Scuola Superiore Sant'Anna, Italy; **Ms Mariana Rodrigues Simões**, Local Health Unit of Coimbra, Portugal; **Prof Dr Guido Offermanns**, University of Klagenfurt; Karl Landsteiner Institute for Hospital Management, Austria; **Prof Immanuel Moonesar**, Mohammed Bin Rashid School of Government, UAE

Facilitator: **Prof Catherine Keller**, Director of the Institute of Management, École des hautes études en santé publique (EHESP), France

Session summary

Disease-specific care enhance patient outcomes by considering individual needs, diagnostic uncertainty, and the diverse contexts in which healthcare is provided. Especially in recent years, more context-sensitive treatment and management schemes may be considered to better cope with increasing demands placed upon healthcare systems.

Dr Sara Zuccarino presented the study '*End-of-life care (EOLC) for cancer patients: views and perceptions of community and hospital-based professionals*'. Inaccuracy in prognosis, difficulty in recognising treatment futility and in implementing adequate care hinder the quality of EOLC. The aim of the study was to describe the state-of-art of EOLC organisation and management for adult cancer patients in Tuscany. The themes tackled involved medical management, continuity of care and transition, patient and family factors, expertise and training, and concerns and challenges to EOLC delivery. One finding was that hospital and community-based professionals show similar perceptions regarding EOLC. Follow-up directors believe that communication on palliative care and early discussions on EOLC should be enhanced, while hospital directors are less sensitive to these issues.

Ms Mariana Rodrigues Simões presented '*Enhancing coronary patient recovery through digital integration: a cardiology service initiative in Portugal, +closetoyourheart*'. Within the hospital involved in the study there are 4,000 coronary consultations leading to 500 acute coronary admissions. Additionally, the recovery from acute coronary syndrome is complicated, being a multifaceted process involving several stages and interventions, but also significant lifestyle changes. Challenges such as high bed occupancy and rapid patient turnover, coupled with barriers in effective patient awareness and low health literacy influence short and long-term outcomes for these patients. The project seeks to address these issues by offering a personalised multi-professional plan; integrating care between hospital and primary healthcare; offering integrated information and communication channels and making it digitally accessible; and streamlining the first post-discharge contact.

Prof Dr Guido Offermanns discussed the study '*Key factors for effective multidisciplinary work in tumour boards linking team culture and communication to the perceived benefit for patients in cancer care*'. Tumour Boards are considered a gold standard in oncology, offering treatment recommendations in weekly meetings and discussing every initial cancer diagnosis. The regular implementation of Tumour Boards requires a high commitment of human, financial, and time resources. The benefits are sometimes controversial from a business and management perspective, with no clear link between Tumour Board discussions and improved outcomes. In Austria, 40,000 people are diagnosed with cancer each year. While the Austrian health system is among the world leaders in treatment costs, the outcome of oncological care is only average for most entities. The project followed the results of the Austrian Tumour Board Survey. Some conclusions are that a positive team culture can lead to a more positive perception of the Tumour Board, making the members of the Board put more effort in running it efficiently.

'*A case study on the mental health of children in the United Arab Emirates*' and how the COVID-19 pandemic affected mental health policy was presented by **Prof Immanuel Moonesar**. 71% of the adult population in the UAE and ~60% of the younger population suffer from some form of generalised anxiety disorder. Almost 75% of people

in the Middle East that need help do not seek it. The research agenda involved a four-step process. First there was a priority setting exercise, followed by two policy brief reports (in 2021 and 2022). Afterwards a national policy dialogue was organised with multiple stakeholders. Finally, there was an evaluation of both of the policy briefs and the policy dialogue, and a post-dialogue survey was issued. Some barriers to the study were raised by the COVID-19 pandemic and its effects on face-to-face interactions, stakeholder engagements, and legislative changes. Important lessons learnt were that knowledge translation was crucial in advancing children's mental health on the policy agenda. Access to mental health treatments in schools and primary healthcare remains insufficient and inequitable. There is a need for ongoing monitoring and evaluation of evidence-informed policies. Future efforts should focus on assessing the impact of policy changes on health outcomes.

Disease specific care management is very important in a world of ever-increasing medical needs from the natural process of an ageing population, the need to expand healthcare to populations that previously lacked access, but also to help better deal with unforeseeable events exacerbating already existing burdens. It is important to keep in mind that not only individual patient needs must be met, but also the needs of the various levels at which healthcare is provided. Cultural norms and geography are similarly factors that must be taken into consideration in the search for better, more effective management.

Take-home messages

- One problem highlighted in the management of End-of-Life Care is the scarcity of digital tools to communicate and disseminate information professionally.
- Recovery from Acute Coronary Syndrome is a multifaceted process involving several stages and interventions. Challenges such as high bed occupancy and rapid patient turnover, coupled with barriers in effective patient awareness and low health literacy influence short and long-term outcomes.
- Tumour Boards are considered a gold standard in oncology. The regular implementation of Tumour Boards requires a high commitment of human, financial, and time resources. The benefits are sometimes controversial from a business and management perspective, with no clear link between Tumour Board discussions and improved outcomes.

Abstract session - Personalised care strategies and patient-centred healthcare

Speakers: **Dr Gillie Gabay**, Achva Academic College, Israel; **Dr Mariska Hackert**, Maasstad Hospital; Erasmus University, The Netherlands; **Mr Matthijs van der Linde,** National Health Care Institute, The Netherlands; **Dr Elisa Peruzzo**, Sant'Anna School of Advanced Studies, Italy; **Prof Lucia Ferrara,** Cergas SDA Bocconi, School of Management, Italy; **Dr Terje Peetso**, North Estonia Medical Centre, Estonia; **Mr Michael van der Voorden**, Erasmus University Medical Center, The Netherlands

Facilitator: **Prof Federica Morandi**, Director of Academic Programs, ALTEMS – Graduate School of Health Economics and Management, Università Cattolica del Sacro Cuore, Italy

Session summary

This session focused on the latest innovations and challenges in healthcare management, with a particular focus on enhancing patient-centred care, optimising clinical practices, and leveraging digital tools to improve health outcomes. Evidence-based approaches and insights on implementing effective health management strategies in diverse healthcare settings were shared.

Dr Gillie Gabay presented the study '*Developing a predictive algorithm to personalise the communication of clinicians with chronically ill elders in digital encounters – a conjoint analysis-based study within the patient-centred view*'. The study addressed barriers such as lack of training and concerns about misdiagnosis in digital settings. Data from 600 chronically ill patients was analysed, revealing three significant patient mindset clusters. By having patients rate messages in the waiting room, clinicians could tailor communication more effectively, reducing consultation times from 12 to 7 minutes. The algorithm is being tested in accountable care organisations across seven U.S. states, aiming to reduce costs and improve digital tool usability.

Dr Mariska Hackert and **Mr Matthijs van der Linde** discussed '*Managing the value of care in daily clinical practice: expert roadmap by the Dutch Value-Based Health Care network, Linnean*'. They outlined steps for operationalising VBHC, including selecting care pathways, assembling interdisciplinary teams, and using dashboards to connect patient outcomes with costs. The initiative involved insights from 15 Dutch experts and over 20 international experts, aiming to create a comprehensive framework for value-based care. Attendees inquired about the challenges of data integration, the scalability of the proposed framework, and strategies for engaging stakeholders in value-based care initiatives.

Dr Elisa Peruzzo presented the research '*Operationalising patient-centredness using patient-reported experience measures in the Tuscany healthcare system*'. The study aimed to clarify the definition of patient-centred care and develop methodologies for its implementation. Preliminary results indicated that while patient-centeredness is complex, integrating PREMs could provide valuable insights for improving care practices. Discussions revolved around the feasibility of widespread PREM adoption, the role of technology in capturing patient experiences, and potential barriers to implementing patient-centred approaches in different healthcare systems. However, to further prove the sustainability of this system, it was recommended to consider different regions, environments, targets and settings for upcoming studies on this topic.

Prof Lucia Ferrara discussed '*Advancing patient-centred breast cancer care: insights from the adoption of shared decision making (SDM) and decision aids in Italy*'. The study highlighted the benefits of SDM in enhancing patient satisfaction and knowledge. Despite these benefits, the integration of SDM in healthcare systems remains limited. The research underscored the need for cultural shifts and the adoption of decision aids to support patient engagement. Attendees asked about the comparative effectiveness of different decision aids, the impact of SDM on clinical outcomes, and the steps needed to foster a cultural shift towards patient engagement in decision-

making. Prof Ferrara emphasised the importance of a cultural shift among practitioners in order to support the implementation of similar methods among healthcare systems in Europe.

Dr Terje Peetso presented '*Effective patient engagement using online platform*'. The study focused on improving patient adherence and streamlining the patient journey from initial symptoms to comprehensive examination. The Onkontakt project, which received positive feedback from 77% of participants, demonstrated the potential of online platforms in enhancing patient engagement and preventing conditions like sepsis. Questions addressed the scalability of online engagement platforms, data security concerns, and strategies for maintaining patient engagement in digital health initiatives. Although the study suggests that stroke patients don't share the same interest in an online aid platform as cancer patients, data sharing on both sides is crucial in monitoring their pathway, as well as enabling patients to contribute to the improvement of the whole clinical process.

Mr Michael van der Voorden presented the study '*Women's preferences during childbirth in hospitals in the southwestern Netherlands: a Q-methodology study*'. The research identified four distinct viewpoints and emphasised the importance of personalised birth plans. The study highlighted the variability in women's preferences and the need for healthcare providers to adopt a flexible approach. The implementation of personalised birth plans, the training required for healthcare providers, and the integration of patient preferences into existing obstetric practices were discussed. Moreover, for a more applied and efficient system, hospitals need to share capacity and to set the goal of making a common effort to adapt the childbirth process to a 21st century approach.

The presentations demonstrated that personalised communication, value-based care, patient-centred approaches, and effective patient engagement are essential for improving health outcomes. The discussions underscored the necessity of addressing barriers such as training, data integration, and cultural shifts within healthcare systems. Overall, the research presented provides valuable insights and practical strategies for enhancing the quality and efficiency of healthcare delivery.

Take-home messages

- Personalised communication between clinicians and chronically ill elderly patients during digital encounters might improve the overall clinical results, costs and time of consultations.
- The Dutch Value-Based Health Care network, Linnean, integrates data for a cost- and quality-efficient clinical work. It collects information from various medical centres, creating a universally valid system on a national level as a step towards a modern health approach.
- PREMs offer a concrete implementation guideline for a patient-centred healthcare and improved clinical practice.

Abstract session - Professional wellbeing and collaborative practices

Speakers: **Mr Mario Masiello**, Università Cattolica del Sacro Cuore, Italy; **Ms Francesca De Domenico**, University of Messina, Italy; **Dr Miglė Trumpickaitė**, European Junior Doctors' Association, Belgium; **Ms Oona Kuosmanen**, University of Eastern Finland, Finland; **Ms Elena Maggioni**, University of Milan, Italy; **Dr Dorel-Petru Tirt,** University of Oradea; Public Health Directorate of Bihor County, Romania

Facilitator: **Dr Silvia Gabriela Scintee**, Deputy Director General, National Institute for Health Service Management (INMSS), Romania

Session summary

The session explored the latest research and practices in enhancing professional wellbeing.

Dr Mario Masiello presented the study '*Professional relationships in the context of community health centres: a systematic review*'. The review identified key factors influencing professional relationships, such as communication styles, organisational culture, and inter-professional collaboration. The study highlighted the importance of fostering positive relationships to improve patient care and organisational efficiency.

Ms Francesca De Domenico's study '*How different performance information types drive decision-making in healthcare organisations: an experimental study*' revealed that visual and comparative data significantly enhance decision accuracy and efficiency. The findings suggest that healthcare administrators should carefully consider the format and presentation of performance data to support better decision-making processes. Ms De Domenico shared that the next step in her research would be to address the differences across the different regional healthcare systems in Italy.

Dr Miglė Trumpickaitė presented a '*Qualitative overview of the situation of Junior Doctors in Europe*'. Key issues identified included excessive workload, insufficient training opportunities, and mental health concerns. The study called for policy interventions to improve working conditions and support systems for junior doctors, ensuring their wellbeing and professional development. A question was raised concerning steps to reduce the gap between general doctors and other doctors. Dr Trumpickaitė affirmed that the study did not determine there is a gap. The goal of the study was to provide evidence for advocacy to policy makers.

Ms Oona Kuosmanen's study, '*Perceived need and help-seeking for psychosocial support among health and social care professionals: a systematic review*', highlighted significant barriers to seeking help, including stigma, lack of time, and inadequate support services. Recommendations included developing more accessible support programs and promoting a culture of openness regarding mental health.

Ms Elena Maggioni discussed the research '*Collaborative practices between General Practitioners and secondary care specialists: a review of barriers and enablers*'. Key barriers included communication breakdowns, differing priorities, and lack of integrated systems. Enablers included joint training programs, shared care protocols, and effective communication channels. The review suggested practical strategies to enhance collaboration and improve patient outcomes.

Dr Dorel-Petru Tirt's study '*Use of a Geographic Information System (GIS) in the analysis of patients' access to the Permanent Centres of Family Physicians (PCFPs) in Bihor County*' demonstrated how GIS can identify underserved areas and optimise the placement of healthcare facilities. The findings provided a framework for improving healthcare accessibility and planning in the region.

The abstract session provided valuable insights into current research and practical applications in the field. The presentations highlighted the importance of fostering positive professional relationships, effective decision-making, and support systems for healthcare professionals. Networking with researchers and practitioners from

various institutions was particularly beneficial, offering opportunities for future collaborations and knowledge exchange.

Take-home messages

- Positive professional relationships in community health centres are crucial for effective patient care and organisational performance. Efforts to enhance communication and collaboration should be prioritised.
- The format and presentation of performance information significantly impact decision-making in healthcare organisations. Visual and comparative data can improve accuracy and efficiency.
- Junior doctors face significant challenges, including workload and mental health issues. Policy interventions are necessary to improve their working conditions and support systems.
- Health and social care professionals need accessible psychosocial support. Overcoming barriers such as stigma and lack of time is essential for their wellbeing.
- Effective collaboration between GPs and specialists can be achieved through joint training, shared protocols, and improved communication.
- Geographic Information System is a valuable tool for analysing and improving patients' access to healthcare facilities. It aids identifying underserved areas and optimising healthcare resource.

Abstract session - Tools for decision-making

Speakers: **Dr Jolien van de Sande**, Tilburg University, The Netherlands; **Ms Giaele Moretti**, Sant'Anna School of Advanced Studies, Italy; **Prof Lucia Ferrara**, Cergas SDA Bocconi, School of Management, Italy

Facilitator: **Prof Ann Mahon**, Professor and Head of the Health Management Group, University of Manchester, United Kingdom

Session summary

The session provided a comprehensive exploration of contemporary challenges and advancements in healthcare regulation, technology assessment, and policy implementation. Focusing on the regulatory landscape for medical devices and pharmaceuticals, it highlighted the evolving role of Health Technology Assessment and the implications of technological advancements, particularly the use of AI. The need for a balanced regulatory approach that fosters innovation, while ensuring patient safety, underscored the importance of accessible treatments and streamlined processes amidst bureaucratic hurdles.

Dr Jolien van de Sande presented the main findings of the study '*Assessing the added value of algorithmic decision-making in healthcare practices – A comparison between ADS and pharmaceuticals*'. She discussed the regulatory landscape and evaluation methods for medical devices and pharmaceuticals, highlighting stricter regulations for the latter. AI tools require extensive data for assessing pharmaceuticals and even more for medical devices, which often focus on diagnostics rather than treatment, complicating AI evaluation due to the need to assess patient outcomes. The study findings indicated a lack of guidance and regulations to keep pace with the rapid evolution of technological advancements. Additionally, hospitals and universities face resource constraints when implementing new technologies, especially in comparison to the private sector. As a result, decision-making in healthcare must involve both the European Union and national regulations to address complex challenges like sustainability and personnel shortages, which are further complicated by the lack of sufficient evidence. In the race between technological advancements and regulatory frameworks, technology has outpaced regulations. To bridge this gap, the concept of 'sandboxing' was developed. This approach creates a controlled environment where new technologies, products, or innovations can be tested and developed without being subjected to the full extent of regulatory requirements.

Ms Giaele Moretti presented the research '*Measuring performance of the health care pathway for Hepatitis C (HCV): a population-based analysis on an Italian Region*'. In 2014, a new drug capable of curing HCV in 3-4 months was developed, but it was very expensive. Efforts were made to share this treatment with the affected population and encountered significant bureaucracy. This study included 6 out of 14 centres in the Tuscany region. Semi-structured interviews with clinicians and physicians were conducted to co-design the following surveys. Three questionnaires were applied at different intervals, revealing a decrease in patient numbers over time. The best results of the study were that patients had the opportunity to talk with a specialist; had access to treatment; the treatment proved to be appropriate for most cases; and most had better outcomes after 6 months. Maintaining communication with all personnel responsible for treating these patients was crucial to identifying the best indicators for program effectiveness. In September 2023, a screening campaign was conducted in Tuscany, transitioning from measurement to evaluation. A new screening session was planned for 2024. This was the first attempt in Italy to design and develop an infectious disease pathway integrating key performance indicators from both patient-reported measures and administrative data. Also, this investigation opened doors for other infectious disease pathway models to be designed and developed by specialists to address other public health issues.

Prof Lucia Ferrara presented the study '*Multilevel governance in healthcare: examining regional responses to national policy healthcare reforms in Italy*'. The study was performed in the context of the COVID-19 pandemic, which revealed coordination issues within the Italian health system. A Ministerial Decree issued in June 2022 set

new organisational and technological standards for healthcare with the goal to create more uniformity among regional healthcare systems and guarantee greater unity. The study aimed to understand regional responses to the Ministerial Decree, focusing on 10 Italian regions. Regional documents showed between 10-30% overlap (using the university's plagiarism detection software) with the original decree, highlighting a tendency towards copying national standards with minimal changes. However, some regions that had similar overlap percentages worked together and were close to the targets. Approaches ranged from broad inclusion to top-down or bottom-up implementation. Overall, better coordination and clearer guidelines would be needed to address these challenges.

The session provided a nuanced perspective on the intersection of healthcare innovation, policy and patient care. Key themes included the imperative for clear, adaptable regulations that balance innovation with safety, the significance of patient engagement and accessibility in healthcare delivery, and the pivotal role of governance in shaping healthcare systems' resilience and responsiveness. Moving forward, addressing these challenges will require collaborative efforts among policymakers, healthcare providers, and technology innovators to foster an inclusive, efficient, and patient-focused healthcare ecosystem. The session underscored the ongoing evolution of healthcare policies and practices in response to technological advancements and societal needs, highlighting opportunities for continued innovation and improvement in healthcare delivery worldwide.

Take-home messages

- 'Sandboxing' indicates a controlled environment where new technologies, products, or innovations can be tested and developed without being subjected to the full extent of regulatory requirements.
- Health Technology Assessment must be properly developed for evaluating both pharmaceuticals and medical devices because the technology is evolving faster than the regulations can keep up with.
- When establishing a new policy, clear provisions should be given for its implementation at the different levels such as local or regional.

Abstract session - Data-driven decisions

Speakers: **Olena Chernenko, MD**, The Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine, Ukraine; **Dr Brent Opmeer**, Vilans, The Netherlands; ARC West, University of Bristol, United Kingdom; **Ms Roos van Lammeren**, Leiden University Medical Centre, The Netherlands

Facilitator: **Dr Silvia Gabriela Scintee**, Deputy Director General, National Institute for Health Service Management (INMSS), Romania

Session summary

This session emphasised the importance of data in enhancing decision-making within and beyond the medical field. The session highlighted how newer technologies, such as Artificial Intelligence, alongside existing technologies can significantly improve collaboration, data sharing, and ultimately, decision-making processes.

Olena Chernenko, MD presented on the topic '*Artificial Intelligence for mass screening of diabetic retinopathy: proceeding to national level in Ukraine during 2022-2023*'. Dr Chernenko discussed how AI enhancements have been crucial in improving the quality and efficiency of diabetic retinopathy screenings, particularly in the war-torn regions of Ukraine. The program, initially piloted in 2022, has now expanded to one-third of non-frontline regions. The AI technology enables screening without the need for specialised patient preparation and uses two separate AI systems to detect multiple signs of retinopathy, achieving a 95% sensitivity and over 90% specificity. This has significant potential, as it could help preserve the vision of up to 150,000 Ukrainians by detecting early signs of the disease. Dr Chernenko noted that, while the AI system has a high accuracy rate, it serves as a screening tool, with all patients referred to a physician for further diagnosis, thus minimising the impact of false positives.

Dr Brent Opmeer presented '*A conceptual framework of six building blocks for successful development, acquisition and/or implementation of digital innovations in healthcare organisations: a governance perspective*'. Dr Opmeer discussed the potential of data reuse in healthcare to enable personalised care, improve care quality, and optimise healthcare processes. The six building blocks of the framework involve assessing the value proposition canvas; the design and development step; determining data access and availability rules; finding ways to turn raw data into actionable insights; making sure there is a clear ownership of decisions and management of the change they bring; and finally, evaluation and technology assessment. They are designed to help developers, assessors, and implementers systematically address challenges and enhance innovation. While for healthcare policy makers, to stimulate and facilitate evidence generation and knowledge mobilisation by developers and assessors. Dr Opmeer stressed that while the framework is beneficial, it is not a definitive solution and is still a work in progress.

Dr Opmeer's second presentation on 'RegioKracht' (Region Strength), outlined '*A national data-driven approach to enhancing regional collaborative governance in Dutch long-term care*'. This program supports regions in transitioning toward future-proof long-term care, particularly in the face of increasing demand and a shrinking workforce. The program aims to improve collaboration through coaching and knowledge mobilisation, addressing the varied developmental phases and dynamics of regional governance with a data-driven approach. Initial challenges included reluctance from end-users to participate in surveys and an initial supply-driven rather than demand-driven approach.

Ms Roos van Lammeren presented on '*Collaborative governance for population health: best practices of a local initiative to reduce health inequalities*'. She emphasised the strong impact of socio-economic status on health and the necessity for all stakeholders - governmental and non-governmental - to align their goals through effective communication. Ms Van Lammeren identified key characteristics of collaborative governance, dividing

them into formal and informal governance. Formal governance requires multi-level collaboration across disciplines, with adequate resources being essential. Informal governance involves engaging citizens through incentives and ensuring sustained commitment. Effective communication is vital, especially when coordinating between organisations from diverse backgrounds.

Take-home messages

- Data-driven decision making is essential. Relying on data enhances quality and efficiency. Both new and existing technologies, play a crucial role in improving decision-making processes.

- AI systems can significantly improve detection accuracy. This technology can be pivotal in large-scale health initiatives, especially in challenging environments.

- A structured framework is crucial for implementing digital innovations. A building blocks framework provides a systematic approach to developing, assessing, and implementing digital innovations, ensuring challenges are addressed and innovations are effectively integrated.

- Regional collaborative governance needs tailored approaches. A national initiative highlights the importance of region-specific strategies in developing collaborative governance, especially in long-term care, to meet the unique needs and dynamics of each region.

- Effective collaboration requires clear communication and shared goals. In collaborative health initiatives, aligning stakeholder objectives through clear communication and shared goals is critical for successful governance, particularly in addressing health inequalities.

Abstract session - Quality of care and value-based health services

Speakers: **Mr Gerard Albreda Gil**, Healthcare Strategy and Innovation Department, Hospital Germans Trias i Pujol, Spain; **Dr Nino Mikava, MD,** The Business and Technology University, Georgia; **Prof Dr Paul van der Nat**, St. Antonius Ziekenhuis; Radboudumc; Santeon, The Netherlands; **Dr Alina Breazu, MD**, National Institute for Health Service Management (INMSS), Romania; **Dr Bogdan Florin Covaliu**, Iuliu Hatieganu University of Medicine and Pharmacy, Romania

Facilitator: **Dr Maarten Janssen**, Programme Director, Erasmus Centrum voor Zorgbestuur; Lecturer and Researcher, Erasmus School of Health Policy & Management, The Netherlands

Session summary

Against the backdrop of continuous developments in health systems, quality of care must keep pace and incorporate innovative techniques to improve on patient-centred services.

Mr Gerard Albreda Gil presented '*Shaping new healthcare strategies by mapping out the internal innovation ecosystem in a tertiary hospital*'. The study is based on the use of an innovation map to inform and improve governance, leadership, and strategic management practices within the hospital. Mr Albreda Gil highlighted obstacles faced by the organisation in fostering an innovative culture. They relate to defining innovation; communication gaps; and a lack of resources or platforms for innovation efforts. The conclusions emphasise the influence of organisational hierarchies, departmental differences, and the importance of tailoring innovation strategies to specific contexts and roles within the organisation. They also underscore the challenges posed by communication barriers and differing perspectives across various stakeholder groups.

Dr Nino Mikava, MD presented '*Evaluation of health, social and educational needs of the children having Type 1 diabetes: challenges and solutions*' in Georgia. The objective was to identify existing gaps in state programs and/or system arrangements that prevent children with diabetes from having access to necessary services. Dr Mikava underlined the importance of providing comprehensive information and support to parents and caregivers, facilitating effective communication with healthcare providers, involving a multidisciplinary team of specialists, and offering educational resources in accessible formats with regular updates on evolving treatments. Her research highlighted the need for improvements to better support and empower parents and caregivers in managing their children's diabetes. Key findings included financial difficulties, limited access to qualified paediatric endocrinologists, and challenges in travelling to the capital for regular check-ups.

Prof Dr Paul van der Nat discussed '*Value-based healthcare implementation in The Netherlands: a quantitative analysis of multidisciplinary team performance*', highlighting that patient value is determined by the ratio of outcomes to costs. Key points included the need for multidisciplinary teams, improved cost measurement, enhanced patient participation, and better collaboration with partners. He also noted that while questionnaires are useful for identifying areas for improvement, high scores do not imply that VBHC implementation is complete, as questions may evolve over time. Additionally, the study's findings may be biased due to the selection of high-performing teams and missing data. In conclusion, effective value-based healthcare implementation requires a focus on multidisciplinary collaboration, cost management, and continuous adaptation to evolving needs.

Dr Alina Breazu, MD presented '*The hospital performance assessment by Pabon Lasso*'. She discussed the hospital performance assessment using the Pabon Lasso model, a tool commonly used by decision-makers, including hospital management and policymakers. Hospitals are the most resource-intensive part of a health system. The study focused on hospitals in categories I and I-M from six regions; data was extracted from the DRG National database; and the analysis included only hospitals with surgical departments. Three standard hospital performance indicators were used: average length of stay, bed occupancy rate, and bed turnover. The conclusions underscored the importance of using robust methodologies and comprehensive yet efficient

indicators to assess and compare hospital performance. The study highlighted the need for validated methods to provide reliable data for the decision-making process.

Dr Bogdan Florin Covaliu presented '*The Qualitician: a new profession in the field of healthcare quality and risk management at the European level*'. Dr Covaliu emphasised that, with the healthcare sector facing continuous challenges and European reports indicating a need for improved care quality, the shortage of professionals in quality and risk management is becoming more apparent. The role of the 'Qualitician' is proposed as essential to fill these gaps and enhance healthcare services. Dr Covaliu outlined the key responsibilities of a Qualitician, which include educating and advising staff on quality health services; developing and implementing quality improvement measures; organising quality audits and activities; and managing risks and non-conformities within healthcare facilities. He also shared feedback from participants, noting that the most engaging topics were patient satisfaction, patient safety, and the tools used for quality management.

Take-home messages

- Creating an innovation map is crucial for assessing a hospital innovation ecosystem and improving governance, leadership, and strategic management. Key challenges include defining innovation, communication gaps, and lack of resources or platforms.

- There is a pressing need to address gaps in healthcare, education, and social services for children with type 1 diabetes in Georgia. Improving access to services, supporting caregivers, and involving a multidisciplinary team are essential steps to ensure comprehensive care.

- Effective value-based healthcare implementation relies on multidisciplinary collaboration, meticulous cost management, and ongoing adaptation to evolving healthcare needs.

- Robust methodologies and efficient indicators like those from the Pabon Lasso model are essential for assessing hospital performance and guiding evidence-based decision-making.

- A new profession, the 'Qualitician' is essential to meet the increasing demands for high-quality care across Europe. This role focuses on improving healthcare services through education, quality improvement measures, and effective risk management.

Abstract session – Sustainability in health and social care

Speakers: **Prof Steve Thomas**, Trinity College Dublin, Ireland; **Ms Rosa Vidal**, La Unió, Spain; **Ms Natalia Allué**, Fundació Sanitària Mollet, Spain; **Dr Maike Tietschert,** Erasmus School of Health Policy and Management, Erasmus University, The Netherlands; **Mr Olli Tolkki**, Pirkanmaa wellbeing services county, Finland

Facilitator: **Prof Nicolas Sirven**, Professor, École des hautes études en santé publique (EHESP), France

Session summary

Delivering healthcare that does not damage the environment is economical and has a positive social impact. To maintain and improve care while demand and costs are rising, health and social care systems need adequate funding, a skilled workforce, and increases in productivity.

Prof Steve Thomas presented '*Learning from a global review of health system resilience*'. He introduced two archetypes: the Complex Adaptive System, which balances infrastructure, resources, relationships, and processes; and the Capacity and Shock Cycle, which covers preparedness, shock response, and recovery, emphasising coordination, resource allocation, and flexible care delivery. He highlighted that resilience involves power and equity, noting that vulnerable populations are often the hardest hit and poorly served in crisis responses. Prof Thomas stressed the importance of focusing on the dynamic nature of resilience, including preparedness, cumulative impacts, and adaptive strategies. Key strategies for enhancing health system resilience include strengthening governance, adopting a societal approach to health, protecting vulnerable groups, improving workforce conditions, fostering proactive governance models, enhancing intersectoral cooperation, addressing the impacts of climate crises, and ensuring resources support access to care and address health determinants.

Ms Rosa Vidal presented '*Health and climate: from environmental sustainability to economic sustainability*', focusing on actions to enhance the public and private sector's response to the climate crisis. The presentation highlighted twelve sectorial sustainability dimensions: facilities and buildings, transportation, green pharmacy, supply chain, resources, food and nutrition, research and innovation, professional involvement, sustainable care models, digitalisation, climate change adaptation, and governance. Key action lines included sharing knowledge and best practices, raising awareness, providing training and research opportunities, leveraging intervention levers, and fostering international partnerships. Ms Vidal also discussed the *Deshealth* project, which aims to improve the quality and relevance of educational activities, strengthen collaboration networks, and address the educational gap in sustainability. The project seeks to define an academic pathway to design educational programs in sustainability, enhancing capacity for transnational and cross-sectoral work.

Ms Natalia Allué presented her study '*Hospital Universitari Mollet, a net zero centre*'. She noted that if the healthcare sector were a country, it would rank as the 5th largest polluter, with hospitals contributing to 4.4% of total CO2 emissions in Europe. Over the past 14 years, Fundació Sanitària Mollet has made significant progress in reducing its environmental impact and carbon footprint. The organisation's strategy involves four key areas: 1) Structure, implementing sustainable architecture with naturally lit buildings, radiant ceilings, rainwater reuse, geothermal energy, renewable electricity, effective recycling and waste management; 2) Processes, minimising hospitalisation days through home care, promoting virtual visits, optimising medical tests, and using green practices such as Green Labs and anaesthetic gas capture; 3) Governance, combining ethical thinking with quality, committing to climate action, and planning for the future; and 4) Culture, embedding sustainability into the organisational culture. Notably, despite an increase in hospital activity, electricity consumption decreased by 26.37%, emissions were reduced by 91%, and water use dropped by 36.36%, showcasing the success of these sustainable initiatives.

Dr Maike Tietschert discussed '*Transitioning to reusable medical devices: requirements for material logistics infrastructures*'. She highlighted that over the past 30 years, high-income countries have largely depended on single-use medical devices and have simplified logistics for reusables. To effectively transition to reusable devices, a comprehensive approach is needed, focusing on reusing, repairing, reprocessing, and recycling, supported by robust material logistics infrastructure. Essential infrastructure components include managing the transportation of medical devices within the hospital, ensuring accurate tracking and tracing, and providing adequate storage for reprocessing and repair. Reprocessing methods range from light and high-level disinfection to steam sterilisation and hydrogen peroxide gas plasma sterilisation, encompassing the treatment of medical textiles and endoscopes. The presentation emphasised that reusable medical devices have a lower environmental impact and cost compared to single-use devices. Increasing their use can reduce dependency on suppliers and enhance sustainability. However, a significant gap remains in addressing the material logistics infrastructure needed to support these devices effectively. Developing value-retention strategies and circular business models for specific medical devices is crucial to bridging this gap.

Mr Olli Tolkki presented '*How to plan integrated and sustainable social and health services network for 500,000 inhabitants – Case Pirkanmaa*'. This presentation outlined the significant reform of public health, social, and rescue services in Pirkanmaa. The reform, initiated with legislation adopted by the Finnish Parliament in June 2021, established Pirha (Pirkanmaa wellbeing services country), as the largest wellbeing services county in Finland, responsible for comprehensive health, social, and rescue services. The main objectives were to develop a unified, integrated, and cost-effective service network while improving customer orientation, service availability, and accessibility. Key challenges included managing socio-demographic changes, a shortage of personnel, a fragmented structure, and funding deficits. The reform sought to balance cost control with legislative requirements and population needs, ensuring economic sustainability. Through transparent planning and a solid methodology, Pirha managed to initiate implementation and achieve preliminary results within 12 months. Two critical factors emerged: strengthening internal and external communication plans and establishing a project management office to maintain focus and manage the process. Notable achievements included improved customer satisfaction, enhanced availability of low-threshold and digital services, and committed personnel despite ongoing changes. The success of the reform will ultimately depend on its ability to address these challenges while improving satisfaction among residents and staff.

The involvement of all professionals is key to identifying the most effective actions to reduce the carbon footprint. For a transition to reusable medical devices, a thorough analysis of requirements is needed. Consistent terminology is vital for comparing future healthcare sustainability studies. A clear plan, defined responsibilities, solid methodology, and stakeholder involvement are essential for successful system changes.

Take-home messages

- The involvement of all professionals is crucial in determining the most feasible actions with the greatest impact to reduce the carbon footprint.
- Maintaining a sustainable healthcare system while providing high-quality, effective, and safe healthcare is a major economic and social challenge for healthcare services and consumers.
- Solutions to prevent the looming environmental crisis can only be achieved if all stakeholders are held accountable for their actions and their environmental impact.

Abstract session - AI, innovative technologies and effective communication

Speakers: **Dr Amal Fakha**, University of Groningen, The Netherlands; **Dr Madalin-Marius Margan**, Victor Babes University of Medicine and Pharmacy; Timis County Emergency Clinical Hospital, Romania; **Mr Federico Umberto Mion**, Ente Ospedaliero Cantonale, Ospedale Regionale di Lugano, Switzerland; **Ms Joana Seringa**, NOVA - National School of Public Health, Universidade Nova Lisboa, Portugal

Facilitator: **Prof Naomi Chambers**, Professor, Alliance Manchester Business School, United Kingdom

Session summary

In the last few years, AI has rapidly evolved and affected many aspects of modern life. One area of special interest is the potential of AI for better decision making and increased efficiency in various aspects of healthcare operations. Leveraging tools and software from other sectors can also offer great benefits to the healthcare sector. The key is to identify where they can be most effectively applied.

Dr Amal Fakha presented the research '*Leveraging artificial intelligence for optimising transitional care*'. She defined care transitions as movements between multiple healthcare providers and services. They are common, and vital for chronic diseases and multimorbidity. They do, however, come with risks and challenges, such as care fragmentation, poor communication, medication errors, and can lead to rehospitalisation. Transitional care is defined as a set of actions that should guarantee a continuity and fluidity of care. These services aim to improve or prevent care transitions, which consist of various pathways and a combination of different care services. The key results encompassed 15 studies, each exploring different AI tools, with the majority focused on the transition from hospital to home. Most of the tools focused on triage and transition, helping to assess the type of care patients would need and where they would require it. While AI applications have the potential to be more resilient as they bring efficiency, questions remain regarding maintenance and financial resources. The rapid evolution of AI leads to a high attrition rate for individual products, raising concerns about their long-term viability.

Dr Madalin-Marius Margan discussed the study '*Harnessing large language models (LLMs) for structured clinical data extraction: a tool for informed decision-making in healthcare management*'. Dr Margan presented the key benefits of structured data in hospital management, with particular importance given to improving operational efficiency, quality and performance monitoring, supporting research and innovation efforts, increasing patient engagement and satisfaction, enhancing interoperability, and finally aiding in financial management. The observed strengths of LLMs were their efficiency at synthesising complex, multimodal clinical data sources; their ability to answer complex medical questions with few to no examples; their easy involvement in a clinical setting; and their ability to solve a variety of tasks with one model. Their limitations were their high costs, their potential for bias, as a model trained on biased data may perpetuate stereotypes, and finally the possibility to "hallucinate" and make answers, give nonsense answers, or give conflicting information. One important aspect observed was that extraction quality was affected due to a lack reporting standardisation through inconsistent terminology, differences in measurement units, and diverse data formats.

Mr Federico Umberto Mion presented '*From hotel to hospital: technological transfer and process innovation in the housekeeping department*', focusing on the system implemented in the Lugano Regional Hospital. Past literature underscores the indispensable role of cleaning staff and highlights the lack of adequate recognition of this staff in terms of preventing infections. The platform presented, named Hoxell, was initially conceived to be used in the hospitality sector and is now being deployed for the first time in hospitals. It involves the use of a tablet to be kept up to date on the location and requirements of any cleaning task that must occur. The platform also supports uploading of standard operating procedures, and pictures of how rooms should be arranged, leading to a standardisation of care. The implementation of this system led to multiple positive outcomes such as reduced infections, improved staff safety, and helped in the prevention of the spread of infections. Internal communication also significantly improved, as well as management of personnel through real-time monitoring.

The platform saved staff time that could now be used to focus on quality controls, leading to improved patient satisfaction. Finally, thanks to the platform, it was possible to develop a multitude of statistics and reports useful for management that will help improve resource allocation.

Ms Joana Seringa discussed the research '*Empowering self-management: translation and content validation through expert judgement of the Heart Failure Symptom Tracker (HFaST) tool for the Portuguese population*'. She highlighted that heart failure has high morbidity and mortality, and there is an urgent need to reduce hospitalisations in the context of ever-increasing strains on health systems. Previous symptom-tracking questionnaires were very long; thus, the decision to condense them to a six-step process that was easy and quick to administer. The results of the translation and cross-cultural adaptation were encouraging. The translation process ensured consistency, with the back-translated HFaST tool closely aligning with the original version. Equivalence between the original and translated versions gathered substantial to almost perfect agreement, having Fleiss' k values ranging from 0.678 to 1.000. The pre-test demonstrated high comprehensibility, with a score of 96%. Moving from an 8-point Likert scale to a 6-point format helped the comprehensibility of the questionnaire.

It is important to remember that AI tools may already exist and starting from scratch is not always necessary. However, it is crucial to recognise that these existing AI products must be adapted to fit specific requirements and cannot always be implemented directly. Additionally, it is vital to use software in a way that complements the human element.

Take-home messages

- The question should not be whether to use AI tools or not, but rather how to optimise the use of existing tools and how to facilitate their implementation.
- A key challenge in using Large Language Models for generating structured data is the lack of standardisation in reporting, which is often influenced by individual physicians' styles. AI tools and Large Language Models should be viewed as complementary to human efforts and must d always operate under human supervision.

Abstract session - Financial strategies and payment mechanisms

Speakers: **Ms Giulia Falasca**, Università Cattolica del Sacro Cuore, Italy; **Dr Adina Geana**, National Institute of Health Services Management (INMSS), Romania; **Dr Kristína Králiková,** Comenius University, Slovakia; **Mr Fabrizio Schettini**, Carlo Cattaneo – LIUC University and LIUC Business School, Italy; **Mr Damir Ivanković**, WHO Athens Quality of Care and Patient Safety Office, World Health Organization Regional Office for Europe, Greece; **Mr Nathan Shuftan** and **Ms Katherine Polin**, European Observatory on Health Systems and Policies, Germany

Facilitator: **Dr Guido Noto**, Assistant Professor, University of Messina, Italy

Session summary

In this session, presenters covered a wide array of topics, including health economic evaluations of vaccination strategies, the development of unified data collection systems, methodologies for calculating hospital-level costs, optimal payment mechanisms for one-day surgery care, the economic impact of frequent healthcare users and approaches to effective change management in primary healthcare.

Ms Giulia Falasca presented the research '*Health economic evaluations of vaccination strategies: an umbrella review*'. This study examined the cost-effectiveness of various adult vaccination strategies, particularly for influenza, pneumococcus, herpes zoster, COVID-19, tetanus, diphtheria, and others. Acknowledging the suboptimal uptake of vaccines among adults and its contribution to the increased disease burden, the research aimed to synthesise existing evidence on the economic value of these vaccines. The study focused on elderly and at-risk adult populations. The findings underscored the need to prioritise adult vaccination to optimise health outcomes, especially when vaccine supply is available, and emphasised the importance of cost-effectiveness analysis to guide public health policies.

Dr Adina Geana discussed '*Unitary collection tools, cost calculation, and cost standard methodologies at hospital sector level: case study in Romania*'. This EU-funded research aimed to improve the accuracy of hospital service cost calculations to update Romania's Diagnosis-Related Groups (DRG) system. The project involved key institutions, including the Ministry of Health and the National Insurance House, to systematise data collection process and develop a unified cost calculation model. A representative sample of 50 hospitals was selected based on criteria like competency level, ownership status, and COVID-19 reporting. The study established standardised cost criteria for the most frequent national pathologies, resulting in a more accurate and relevant DRG calculation system to better reflect the complexity of cases in Romania's healthcare system.

In the study '*Is fee-for-service the best payment mechanism for one-day surgery care? Innovative approach based on adjusted DRG system*', **Dr Kristína Králiková** explored alternative payment mechanisms for one-day surgery in Slovakia. Traditionally, Slovakia employs fee-for-service payments for outpatient and one-day surgeries, capitation for primary healthcare, and a combination of budgets and DRG for inpatient care. The research identified significant disparities in reimbursement rates for one-day surgeries compared to other medical procedures, which often results in financial disincentives and variability depending on the insurance provider. To address this, Dr Králiková proposed integrating one-day surgeries into the DRG system to promote innovative, transparent, and equitable pricing for services. The suggested model included a decision-support tool that uses software to tailor reimbursement methods and annual adjustments.

In his study '*The organisational and economic impact of frequent users: re-designing the healthcare network within the hospital and the territorial settings*', **Mr Fabrizio Schettini** investigated the burden recurrent patients place on the Italian healthcare system. The research highlighted issues of fragmentation and poor coordination within healthcare networks, contributing to prolonged waiting times and inefficiencies in emergency departments. The study identified 9.216 frequent users who averaged 1,4 emergency department visits and

accounted for 6.700 hours of total assistance, requiring the effort of 4.3 doctors on average. Notably, 78% of these patients required outpatient tests, particularly in oncology and radiology. There is an urgent need to redesign the hospital system to better manage the issue of frequent users by referring them to community-based care solutions and developing alternative care pathways. This re-design should mitigate the economic impact of frequent patients on the healthcare system by enhancing coordination, reducing unnecessary emergency visits, and improving overall health literacy among patients.

Mr Damir Ivanković work, '*Pay-for-performance and pay-for-quality models for hospitals: a rapid environmental scan*', conducted as part of a WHO consultancy for Romania between 2022 and 2023, reviewed incentive-based models in hospital care. The research synthesised evidence from literature spanning 2004-2023, identifying common approaches and critical considerations in pay-for-performance and pay-for-quality models. The review revealed a variety of design dichotomies, such as rewards vs penalties, volume vs value, and individual vs organisational incentives, among others. Key elements for successful implementation include agreed definitions of performance and quality, supportive organisational culture, clearly defined performance indicators, and meaningful financial incentives. Mr Ivanković emphasised the need for ongoing refinement to ensure these models effectively balance financial incentives with quality improvement in healthcare delivery.

In their study '*Implementing innovations in primary health care: enablers and barriers to effective change management*', **Mr Nathan Shuftan** and **Ms Katherine Polin** investigated the factors affecting the implementation of primary healthcare innovations across eight countries. Using the WHO Health Systems Framework and the SELFIE 2020 sustainable integrated care models, they identified key enablers such strong leadership, adequate financing, skilled workforce alignment, and effective use of technology and information systems. Conversely, barriers often include insufficient political support, fragmented financing, workforce misalignment, and poor integration of technology and information. The study underscored the need for open lines of communication, tailored strategies and political commitment to overcome these barriers in primary healthcare innovation.

The session underscored the importance of innovative and adaptable healthcare models, particularly in the realms of primary healthcare, hospital management, and vaccination strategies. Common themes such as the necessity for strategic financing, and effective use of technology emerged as essential enablers across various healthcare settings. Additionally, the integration of incentive-based models and the emphasis on health literacy are essential to improving patient outcomes and addressing systemic inefficiencies.

Take-home messages

- Prioritising adult vaccination could hold economic and health benefits by reducing disease burden and reinforcing public health policies.
- A unified cost calculation model could enhance the accuracy and relevance of the DRG-based reimbursement method, better reflecting case complexity.
- Redesigning healthcare networks to manage frequent users more effectively could improve system's efficiency and reduce economic strain.
- Key elements for successful pay-for-performance models in hospital care include clear and mutually accepted definitions of performance and quality, a supportive organisational culture, well-defined performance indicators, meaningful financial incentives and the alignment of short- and long-term goals.
- Effective primary healthcare innovation relies on political support, financial alignment, skilled workforce, and technology integration.

Abstract session - Healthcare workforce, policy reform and strategic frameworks

Speakers: **Asst. Prof Dragos Garofil**, Carol Davila University of Medicine and Pharmacy; Ministry of Health, Romania; **Ms Ioana Novac**, WHO Romania, Romania; **Ms Constanta Mihaiescu-Pintia**, National Institute of Health Services Management (INMSS), Romania; **Mr Lukas Schöner**, Technical University of Berlin, Germany; **Ms Monica Georgiana Brinzac,** Babeş-Bolyai University, Romania

Facilitator: **Dr Silvia Gabriela Scintee**, Deputy Director General, National Institute for Health Service Management (INMSS), Romania

Session summary

This session consisted of five presentations, three focusing on healthcare issues in Romania, such as healthcare workforce migration and skills, and two tackling significant healthcare issues in other EU countries, namely prioritisation for oral health care benefits and medical deserts.

Asst. Prof Dragos Garofil presented the paper '*Strategies and impacts of health workforce migration in post-EU accession Romania*'. This study underscored the critical need for multifaceted policy interventions to effectively manage health workforce migration. It emphasises the importance of using financial incentives; investing in infrastructure; aligning educational outcomes with regional needs; having a proactive distribution approach; strengthening professional development and career pathways; and enhancing collaborative efforts to achieve a balanced workforce supply. Since its accession to the European Union in 2007, Romania experienced a significant health workforce migration. Several policy interventions were implemented, including educational interventions, such as increasing the number of residency positions; regulatory interventions, such as expanding public sector job opportunities; and financial incentives, increasing salaries in the public hospitals. Thus, between 2015 and 2022 there was a retention of 27% of doctors. For the first time, Romania has a strategy for developing the healthcare workforce and a national program designed to further develop infrastructure and training.

Ms Ioana Novac and **Tomas Zapata, MD** presented the study '*Reforming the health and care workforce landscape: a case study of the Romanian National Recovery and Resilience Plan*'. Although Romania is the 5th biggest producer of medical doctor graduates in the EU region, the main issues remain capacity gaps in medical specialties and imbalances in geographical distribution. Another issue is represented by the ageing workforce. The Bucharest declaration advocates for initiatives to improve health workforce supply mechanisms, improve recruitment and retention, enhance the performance of health and care workers, ensure better planning, and improve investment in workforce development, education, and protection in the WHO European Region. The National Recovery and Resilience Plan aims to address those challenges with three main reforms: a health labour market assessment; a multiannual strategic plan for human resources in health; and sector action plans. The policy recommendations focused on assuring quality workforce data; empowering human resources in health planning units with appropriate governance support; developing systemic stakeholder relationships; as well as establishing an inter-agency committee to promote coordination and policy development.

Ms Constanta Mihaiescu-Pintia presented the project '*Monitoring and evaluation of regional masterplans for health services in Romania*'. This EU-funded project aimed to develop a relevant, operational and comprehensive system of indicators for monitoring and evaluation (M&E) of regional health services masterplans, including data collection and reporting tools, to support evidence-based health policies, decisions, planning resources and health interventions in Romania. The methods employed included literature review for selecting suitable indicators; a critical appraisal of indicators currently used in Romania for health services evolution and reimbursement; and the development of a complete dataset of monitoring and evaluation indicators for health services, structured per levels of care. The National Health System's objectives targeted three main areas: public

health, healthcare services, and an intelligent and equitable health system. The project results granted a comprehensive and complex set of M&E indicators for resources, process, outcome and impact, designed for all the eight regional masterplans of the NHS. M&E RHSM is the first national comprehensive dataset of healthcare indicators at provider, county, region and national level, generating many data reports providing a unitary data platform for all health interventions and their outcomes.

Mr Lukas Schöner presented the research '*Exploring criteria and perspectives to inform systematic and evidence-based prioritisation mechanisms for an oral health care benefits basket in EU countries*'. Most EU countries have limited or no coverage for oral health care leading to unmet needs and financial hardship. The process of prioritisation of oral health services and public coverage's benefits basket lacks transparency. The consensus was that preventive and emergency care are considered most essential, while treatment of prevalent oral health conditions, diagnostics and advanced oral services were considered less essential. There was no consensus regarding cosmetic care. It was concluded that there should be general coverage for everyone, with priority to people of low socio-economic status and older or high-risk populations. Coverage for children and adolescents was considered essential and adults were considered less priority compared to other populations. In terms of what services should be covered, the consensus was that everyone must be covered, especially for prevention and emergency care and that preventive services and health education are most essential for children and adolescents.

Ms Monica Georgiana Brinzac discussed the study '*Transforming healthcare: unveiling and tackling medical deserts – the OASES project*'. Medical deserts are geographical areas where people do not have access to healthcare. The OASES project aimed to create an overview of medical deserts in the seven countries (Cyprus, Finland, France, Hungary, Italy, Moldova, and Romania), assessing and characterising medical deserts and the mitigation strategies in place or planned. A geographical medical deserts map was designed. The results revealed an omnipresence of medical deserts, underscoring their pervasive nature. Recommendations included increasing the number of practising health workers, expanding the scope and roles of professionals with focus on improving collaboration and closing the skill gap, using financial incentives to create no or less overturns, recognising the importance of primary care delivery and increasing its efficiency, taking national measures and using E-health.

Take-home messages

- Health workforce migration is an ongoing issue for several EU countries. It is an important challenge for health management and requires multifaceted policy interventions, including targeted financial incentives; investments in infrastructure; assessing regional needs; continuous policy evaluation and adaptation; and collaborative efforts to achieve a balanced workforce supply with equitable distribution.
- Medical deserts are geographical areas where people do not have access to healthcare and mitigating them should be a priority to ensure current and future healthcare necessities. There are six recommendations to mitigate medical deserts: increasing the number of practising health workers; expanding the scope and roles of professionals; using financial incentives; recognising the importance of primary care delivery and increasing its efficiency; taking national measures; and using E-health.
- Having a unitary healthcare data platform as well as established indicators to evaluate resources, process, outcome and impact of a healthcare masterplan are essential for a country's healthcare system.

Abstract session - Job satisfaction and wellbeing

Speakers: **Dr Gillie Gabay**, Achva Academic College, Israel; **Dr Alina Forray, MD**, Iuliu Hațieganu University of Medicine and Pharmacy; Babeș-Bolyai University, Romania; **Mr Kalle Seppälä**, Tampere University, Finland; **Prof Walter Sermeus**, KU Leuven, Belgium; **Dr Patrick Pihelgas,** European Junior Doctors' Association, Belgium; **Mr Frank van de Baan**, Maastricht University, Netherlands

Facilitator: **Prof Federica Morandi**, Director of Academic Programs, Università Cattolica del Sacro Cuore, Italy

Session summary

Job satisfaction and wellbeing are crucial elements in workforce management.

Dr Gillie Gabay presented the results of her study '*The protective role of sense of coherence in resident physicians (RP) facing secondary trauma due to patient death in intensive care – A reflexive thematic analysis inquiry*'. Findings indicated that RPs shared difficulties managing emotional aspects, often feeling helpless and struggling with patient suffering. Some RPs coped well, centering on patient emotional needs, while others reported poor wellbeing, low self-efficacy, and career doubts. The study emphasised the need for support systems to process secondary trauma, suggesting interventions such as regular activities for trauma processing, integration of wellbeing indicators, and provision of bereavement care and psychological counselling.

Dr Alina Forray presented the results of the study '*Exploring the safety culture and second victim experiences of Romanian nurses after adverse events (AE)*', revealing that a predominantly female and experienced workforce frequently encounters near-miss incidents and serious AEs. Despite a strong interest in training for coping with and communicating about AEs, only a small percentage of nurses inform patients about these events. Findings highlight the importance of organisational support and a positive safety culture, particularly in older nurses and surgical departments, to mitigate the adverse effects on professionals. Key recommendations include enhancing training opportunities, developing robust patient safety policies, and establishing a legal framework to protect healthcare professionals and foster a blame-free culture.

Mr Kalle Seppälä outlined findings from the research '*Perceived need and help-seeking for psychological support among health and social care professionals: a survey and analysis*'. Healthcare and social care professionals operate in high-stress environments, significantly affecting their mental wellbeing and, consequently, the quality of care. Due to high stress environments and constant challenges, a significant portion of the surveyed professionals (73%) felt the need for mental health support after experiencing work-related distress. However, only a quarter received help from their employers, forcing many (22%) to seek help elsewhere or take sick leave (22% overall, averaging 30 days). This lack of readily available support highlighted a gap between the demand and availability of mental health services. Furthermore, the study suggested that these mental health issues can significantly impact not only the employee's wellbeing but also patient care and overall productivity.

Prof. Walter Sermeus presented '*Magnet4Europe: results from a randomised intervention trial to improve clinician wellbeing in the healthcare workplace*'. Conducted as a wait-list cluster randomised controlled trial with a nested mixed-methods evaluation, the study involved 67 acute general hospitals across six European countries (Belgium, Germany, Ireland, Norway, Sweden, England) and 63 US hospitals. Each European hospital was paired with a US hospital to facilitate data collection and feedback. Implementation began in 2021-2022, leading to improvements in the nursing work environment, clinician well-being, patient safety, and care quality. With over 40 years of evidence, the Magnet Model has been proven to create better work environments and job outcomes, and its principles have demonstrated replicability. The study anticipated significant reductions in nurse burnout (18%), intent to leave (15%), and job dissatisfaction (12%) if hospitals achieve at least 80% implementation of the Magnet Blueprint, indicating that work environments are modifiable and can enhance job outcomes through targeted improvements.

Dr Patrick Pihelgas disclosed results from the study '*Factors influencing job satisfaction in the European health workforce: a Junior Doctors' perspective*' which explored European junior doctors' work-related experiences and their impacts on personal and professional lives through in-depth interviews with leaders of 24 Junior Doctors associations. Key issues affecting job satisfaction included work overload, poor working environments, compensation concerns, lack of flexibility, and employment mobility. Training-related challenges comprised high workloads, insufficient supervision, limited academic time, and inadequate clinical progress. Work-life balance was hindered by inflexible schedules and career impact. The study concluded that aging doctors' retirements, increasing demands for work-life balance, and the need for retention efforts necessitate action at all levels.

Mr Frank van de Baan reveled outcomes from the study '*Where two worlds collide: exploring the role of frontline managers in sustaining nurse wellbeing and retention*'. The study, conducted in three hospitals across various units, involved 49 interviews to explore how team leaders support nurse retention and wellbeing, as perceived by both team leaders and nurses. Using an interpretive grounded-theory approach, the data revealed that both groups view team leaders as pivotal in supporting nurse wellbeing and retention, utilising strategies such as compensating for organisational shortcomings and circumventing norms. However, while nurses appreciate these efforts, they are insufficient to address the deeper issue of feeling undervalued.

All studies underscored the multifaceted challenges faced by healthcare professionals, pointing out the urgent need for comprehensive and systemic interventions. Addressing issues such as burnout, work-life balance, and psychological wellbeing is paramount for ensuring the sustainability of the healthcare workforce and ultimately, patient care. A holistic approach encompassing organisational support, professional development, and work environment optimisation is essential to create a thriving and resilient healthcare system.

Take-home messages

- Addressing issues such as burnout, work-life balance, and psychological wellbeing is paramount for ensuring the sustainability of the healthcare workforce. A holistic approach encompassing organisational support, professional development, and work environment optimisation is essential to create a thriving and resilient health system.

- Mental health issues, especially those caused by distressing situations at work, severely impact health workers, as well as the patient care and productivity. However, work environments are modifiable and can enhance job outcomes through targeted improvements.

Abstract session - Health workforce and strategies for resilience

Speakers: **Dr Patrick Pihelgas,** European Junior Doctors' Association, Belgium; **Dr Eszter Kovacs**, Semmelweis University, Hungary; **Mr Paolo Michelutti**, Programme Mattone Internazionale Salute (ProMIS), Italy; **Prof Mohamad Alameddine**, University of Sharjah, UAE

Facilitator: **Prof Dr Walter Sermeus**, Emeritus Professor, Leuven Institute for Healthcare Policy, KU Leuven, Belgium

Session summary

Speakers shared insights and proposed solutions to address urgent healthcare issues such as shortages in the health and care workforce, task shifting, digitalisation, and work-life balance.

Dr Patrick Pihelgas presented the results of the study '*Junior Doctors' proposals for healthcare workforce retention*', related to the growing concern over the shortage of healthcare professionals due to increased demand and attrition. This study aimed to explore the work-related experiences of young European doctors and their impact on personal and professional lives underlining potential solutions. Through qualitative research and thematic analysis of in-depth interviews with leaders from 24 Junior Doctors Associations across Europe, the following key recommendations emerged: improving governance by prioritising health and care workforce needs; implementing planning systems, and increasing investments in them; enhancing working conditions with more flexibility, better work environment, and workload management; promoting occupational wellbeing through professional networking and strategies against institutional violence; ensuring robust training by protecting residency training and supporting academic activities; and finally addressing inequalities by reducing the gender gap, achieving gender representation in leadership roles, narrowing the pay gap, and increasing the recruitment of women in underrepresented specialties.

Dr Eszter Kovacs discussed '*Increasing health workforce resilience – evidence and lessons learnt on task shifting from the TaSHI project*'. She started by defining health workforce planning as "ensuring that the right number of people with the right skills are in the right place at the right time to provide the right services to the right people". Then she focused on current labour market challenges, such as professional shortages, uneven distribution, insufficient recruitment, retention issues in remote areas, increasing mobility, inefficient workload management, unattractive working conditions, rising care needs, and inadequate governance. Task shifting is essential to managing scarce resources, involving delegating tasks from healthcare professionals to patients, machines, or other professional groups to improve care organisation and human resource management. The need for systemic changes; critical patient education; the importance of interprofessional education and addressing implementation barriers were some of the key lessons learnt shared during the session.

Mr Paolo Michelutti presented '*General strategy for improving digital skills of the Italian health workforce*'. The process of health digitalisation in Italy is co-funded by the European Union and costs over 5 billion euros, focusing mainly on electronic health records (EHR), telemedicine, new technologies, and information systems. With a population of 60 million and over 1.2 million registered health professionals across 30 professions, the country is enhancing its health system's quality and resilience. From November 2022 to February 2023, a collaboration between the Ministry of Health, ProMIS, AgeNAS, Italian Regions, and Deloitte worked to analyse digital skills, creating EHR communication and training guidelines, developing a digital skills strategy, and drafting an action plan. The digital skills strategy includes strategic governance, tailored training design, and thorough execution planning, integrated into the national Continuous Professional Development programme. On 30 May 2024, a Regional Partnership on Digital Skills Upskilling was launched to pilot, evaluate, and improve the digital education programme. The strategy is in its first phase, piloting in three regions with plans to monitor, adjust, and implement it nationally within two years.

Prof Mohamad Alameddine presented the outcomes of a review study which was conducted in Sharjah, the first Emirate city that implemented a four-day work week model in the UAE. The prominence of work-life balance increased significantly after the COVID-19 pandemic, as working and schooling from home significantly disrupted work-life balance. Current tools address various dimensions, contexts, and professions involved rather inadequately. This issue is particularly challenging in the healthcare sector due to the negative spillover effects between professional and personal lives. A scoping review of articles on work-life balance measurement was conducted. The review highlighted the heterogeneity in definitions and quantification methods, underlining the need for broader conceptualisation that reflects diverse employee experiences and a gender-sensitive examination of work-life balance. Recommendations include focusing more on unmarried and childless individuals and examining positive spillover effects between work and life.

This session highlighted the multi-layered challenges and potential solutions within the healthcare sector. Key insights included the critical need for better governance, improved working conditions, and robust training to address the shortage of healthcare professionals. Strategic health workforce planning and task shifting were highlighted as essential for optimising resource management. Together, these insights and recommendations provide a roadmap for addressing pressing issues and fostering a more sustainable and effective healthcare system.

Take-home messages

- Health workforce planning can be defined as ensuring that the right number of people with the right skills are in the right place at the right time to provide the right services to the right people.
- Task shifting is essential to managing scarce resources, involving delegating tasks from healthcare professionals to patients, machines, or other professional groups to improve care organisation and human resource management.
- There is a critical need for better governance, improved working conditions, and robust training to address the shortage of healthcare professionals.

Abstract Session - Tools for the health workforce of the future

Speakers: **Ms Charlotte Jewell**, Université de Liège, Belgium; **Mr Paolo Michelutti**, Programme Mattone Internazionale Salute (ProMIS), Italy; **Dr Alina Timotin**, Nicolae Testemitanu State University of Medicine and Pharmacy, School of Public Health Management, Moldova; **Elettra Carini, MD**, National Agency for Regional Health Services, Italy; **Dr Virginia Rosales**, Örebro University School of Business, Sweden

Facilitator: **Dr Eszter Kovács**, Assistant Professor, Health Services Management Training Centre, Semmelweis University, Hungary

Session summary

This session explored key innovations and strategies in healthcare communication and management. The adoption of digital tools for enhanced communication and patient monitoring, the significance of online presence for family doctors, and the impact of meaningful routines on improving patient care and staff satisfaction were some of the main topics.

Ms Charlotte Jewell outlined findings from the study '*Maintaining relations: a multiple case study on the use of digital communication tools in Belgian hospitals during the COVID-19 crisis*'. Hospital A (February -July 2021) focused on internal, external, and lateral communication through six focus groups with 53 participants. Hospital B (August 2022 - February 2023) concentrated on COVID-19 crisis management with 29 interviews across various staff levels. The primary motivation for adopting digital communication tools, particularly WhatsApp, was the need for instantaneous information transfer during the uncertain and unstable crisis period. Digital tools filled gaps in traditional communication, allowing for efficient information dissemination and maintaining relationships. In Hospital B, WhatsApp was used to send top-down information, while in Hospital A, Messenger was preferred for more interactive communication. The study highlighted the importance of effective communication during a crisis, demonstrating that while communication methods transformed to meet situational realities, maintaining and establishing relationships remained central. Overall, the research underscored the crucial role of hospital managers in fostering connectivity and implementing digital communication tools to support their teams during challenging times.

Mr Paolo Michelutti presented '*A health workforce forecasting tool to support and promote dialogue between stakeholders in Italy*'. The tool aims to anticipate future needs by analysing the current situation, which involves the complex coordination of 19 regions, 2 autonomous provinces, and multiple ministries (Health, Higher Education, Labour, Finance). Italy's healthcare system includes 30 health professions and 51 medical specialties, with over 1.2 million health professionals and 1 million family/informal caregivers. Challenges include an aging population (+25% over 65 in the next 15 years), an aging workforce, digitalisation, changing demands, and a tradition of maintaining the *status quo*. The tool focuses on regulating student inflow into the labor market to balance supply and demand over the next 20-30 years, involving around 5,000 stakeholders annually in decision-making. Post-2015, a unified tool with data from national and local sources facilitated long-term planning. The forecasting tool, developed with a user-friendly interface, included variables for supply and demand and is updated annually by the Ministry of Health and other agencies.

Dr Alina Timotin discussed '*Online presence of family doctors and institutions in primary healthcare*' which significantly influences their personal and institutional images and plays a vital role in internal and external communication. A survey of 396 primary healthcare managers revealed that they primarily use online tools for meetings and corporate emails internally and for informational panels, social media, and web pages externally. Among 331 family doctors, a high percentage use platforms like Facebook, Viber, YouTube, and WhatsApp, although only a small portion frequently share COVID-19 information on social media. Out of 988 doctors interviewed, younger professionals are more active users of social media, while older doctors tend to be passive users. More than 25% of doctors use social media to promote health and provide information, but over 50% do

not use it for online consultations. Despite recognising the advantages of social media, such as easy access to information, primary healthcare managers note a lack of marketing capabilities, and family doctors face challenges in disseminating health information accurately. There is also reluctance towards online presence among the elderly and those in rural areas.

Elettra Carini, MD presented '*Impact of Telenursing on home care in Italy by 2026*', a new primary care reform in Italy aimed at implementing digital innovation, including telemedicine and telenursing, as part of the National Recovery and Resilience Plan (NRRP). The goal is to reach 300,000 patients, targeting at least 10% of those over 65, easing the monitoring of chronic diseases. Key investments include telemedicine and home care services. The National Telemedicine platform, tested in November 2023, focuses on governance, clinical workflows, standards, and outcome dashboards. Telemedicine services include televisit, teleconsultation, teleassistance, and telemonitoring for various medical conditions, with infrastructure led by Lombardy and Puglia regions. Telenursing aims to deliver nursing care digitally, improving proactive, personalised care, reducing unnecessary hospital admissions, and enhancing patient satisfaction and safety. The reform seeks to modernise care delivery, transitioning from service-based to outcome-based models, leveraging comprehensive patient data for better understanding and management.

Dr Virginia Rosales discussed '*Making routines meaningful: routine crafting in primary healthcare*' which are often not implemented effectively due to a lack of meaningful alignment with healthcare practices and needs. Staff often find that some routines are not useful, and managers sometimes allocate unnecessary tasks. The purpose of crafting routines is to add tasks that provide better patient care and to align practices to make them more meaningful. Findings show that meaningfulness in routines increases when there is flexibility to deviate from or change guidelines. Job crafting, which involves altering routines in personally meaningful ways, enhances the meaningfulness of work, leading to better routine maintenance and improved patient care. This study, conducted in three primary healthcare units in Sweden through 25 semi-structured interviews, concluded that crafting meaningful routines is fundamental in primary healthcare due to high workloads and staff turnover, contributing to patient safety and continuity of care.

The COVID-19 pandemic highlighted the urgent need for adaptable communication strategies, while the increasing complexity of healthcare systems necessitates robust workforce forecasting and management. The integration of digital tools, from communication platforms to telemedicine services, offers significant potential for improving patient care, optimising resource allocation, and enhancing the overall efficiency of healthcare systems. However, successful implementation requires careful planning, stakeholder engagement, and a focus on patient-centred outcomes.

Take-home messages

- The COVID-19 pandemic highlighted the urgent need for adaptable communication strategies, while the increasing complexity of healthcare systems necessitates robust workforce forecasting and management.
- The integration of digital tools, from communication platforms to telemedicine services, offers significant potential for improving patient care, optimising resource allocation, and enhancing the overall efficiency of healthcare systems. However, successful implementation requires careful planning, stakeholder engagement, and a focus on patient-centred outcomes.
- Family doctors and primary care institutions should improve their online presence to better connect with patients and promote health information.

Abstract session - Training, competence and digital proficiency

Speakers: **Prof Federica Morandi**, Università Cattolica del Sacro Cuore, Italy; **Dr Olivier Grimaud**, EHESP; Inserm, France; **Ms Elif Erbay**, Ankara University, Turkey; **Dr Stefano Luca Patania**, Associazione Italiana Health Coaching, Italy; International Erich Fromm Society, Germany; **Dr Irina-Alina Cucu**, Babes-Bolyai University, Romania

Facilitator: **Dr Silvia Gabriela Scintee**, Deputy Director General, National Institute for Health Service Management (INMSS), Romania

Session summary

As populations age and healthcare services costs continue to increase, great stress is put on existing healthcare structures. This is leading to a growing demand for better trained health workers and a better standardisation of trainings to deliver higher quality outcomes.

Prof Federica Morandi presented the study '*Managerial training in healthcare: a longitudinal analysis on Italian NHS professionals*'. The study assessed the increasingly advanced competencies and skills that health managers have to acquire to lead complex organisational structures. A major finding was that competencies move as a bundle: if participants are trained on a specific competency, they acquire others simultaneously. Another finding was that not all those trained reacted in the same way, which calls for specific training techniques and methodologies. While the sample size was small, the results may inspire new studies, especially with regards to training fewer, higher proficiency individuals.

Dr Olivier Grimaud presented '*Mapping competency in public health training – experience of the Europubhealth consortium*', a Master Programme. The methods employed involved a survey of 11 components between December 2020 and July 2021, focusing on determining to which extent the courses enabled students to develop the offered competencies and the expected proficiency levels. The framework utilised in the study defined ten domains of competencies, each of these having multiple items that fell under their umbrella. The results seem to indicate a specialisation effect; especially in the second year of the Master Programme, where some universities focus their efforts in improving their results in domains where they already excel.

Ms Elif Erbay discussed the research '*Skills for tomorrow's healthcare: a study on hospital staff in Türkiye*' that aimed to evaluate current skill levels of hospital staff in areas such as digital and AI; communication; interdisciplinary and green skills. This evaluation aimed to provide insights into areas where staff development is needed and inform organisational practices. The results highlighted that respondents feel most competent in interdisciplinary skills, and least competent in digital and AI skills. High school education led to higher scores, particularly in digital and green skills. No significant differences in skills based on occupation were observed. Equipping hospital staff with essential skills is crucial for the long-term sustainability of health systems. It is important to assess current skill levels and prioritise development and reskilling in areas that need improvement. Participants identified digital and AI skills, foreign language knowledge, emotional intelligence, problem-solving, green skills, and time management as critical for future success in healthcare.

Dr Stefano Luca Patania delivered a presentation on '*Ethical pragmatism for innovative governance leadership – the new role of humanistic health coaching*'. It was highlighted that by focusing on ethics, it is possible to move from a bi-dimensional way of thinking to a three dimensional one. An innovative human-centred development model as an ethical switch in coaching was presented to the audience. It was suggested that there should be a shift to purpose, rather than just goals, a move from 2D Intelligence to 3D Reason, and pragmatic ethics as a pre-existing condition for the journey. Dr Patania presented a systemic switch in Consulting. Moving from <IQ> to <WeQ> and Emotional Intelligence, towards a focus on how to generate value within the system and presents

success as a systemic achievement. A radical change in the management mindset was presented as producing immediate effects on the person in terms of performance and wellbeing.

Dr Irina-Alina Cucu presented '*Managers are trained, not born: mapping and analysing graduate programs in healthcare management in Romania*'. The research aimed to describe and compare health(care) management programmes, highlighting their curricula, objectives, duration and unique aspects, such as educational strategies and employment outcomes. 17 graduate programmes were identified, the majority taking place in medical university centres. Programme duration was comparable between the various programmes, the majority being either one or two years, with differing accreditation as a result. Some difficulties were encountered when trying to pin down the syllabus or description for each discipline or in identifying the expected goals and programme outputs. An important factor studied was transparency and ease of access of information. One positive discovery was that the presence of these programmes was expanding, both in number and geographic distribution, greatly encouraging their accessibility.

When assessing future training needs of medical professionals, multiple aspects must be kept in mind, such as the impact of specific managerial training on developing future competencies, the increased specialisation of training centres, and the great importance of geographic distribution for training accessibility.

Take-home messages

- It is important to go beyond previously established methods of education to keep up with constantly changing settings.
- From an organisational and educational point of view, it is important to attract the right people into training. Furthermore, it is important to maintain the human approach in healthcare education.
- Teaching methods are important; however, it is also essential to have robust methods of assessing results. Both elements must be constantly improved.

Abstract session - Digital healthcare ecosystems

Speakers: **Ms Ruchika Madhotra**, University of Birmingham, United Kingdom; **Prof Dr Marija Jevtic, MD**, University of Novi Sad, Serbia; **Ms Giulia Mezzanotte,** Fondazione Bruno Kessler (FBK), Italy; **Dr Nino Mikava, MD,** The Business and Technology University, Georgia; **Ms Pilar Gangas**, International Federation for Integrated Care (IFIC), The Netherlands

Facilitator: **Prof Federico Lega**, Professor, University of Milan; and Head, Research Centre in Health Administration (HEAD), Italy

Session summary

A major impact of the COVID-19 pandemic was the use of technology both from medical specialists and patients to maintain an advanced level of care. These initiatives are driven by a vision to empower patients, facilitate multidisciplinary integrated and continuous care, and promote prevention. Healthcare delivery is also a multidisciplinary approach involving specialists from different and must take into consideration the impact of new IT solutions on healthcare equity must be meticulously monitored at the EU level to ensure that technological advancements contribute to reducing disparities rather than exacerbating them.

Ms Ruchika Madhotra presented '*A scoping review on the impact of electronic health records (EHRs) implementation on health service productivity*', based on existing literature, and analysed the assistance that managers need to introduce digital devices. The review outcomes were categorised into five productivity factors: workload, time, user perception, efficiency and financial impact. 1. Workload - Decreases were found, suggesting productivity loss; 2. Time - An excess amount of time was spent in documentation when using EHRs which limits the number of patients seen in a set time; 3. User perception where users reported mixed opinions of productivity impacts associated with EHRs; 4. Efficiency increased with EHR implementation; 5. Financial impact - Significant implementation costs which were not met with significant gains.

Prof Dr Marija Jevtic, MD presented '*Implementing of a model of digital healthcare ecosystem based on blockchain technology – a pilot study*'. The system was implemented in a test environment set up in a private healthcare clinic in Novi Sad, Serbia, in three stages: initiation stage, stabilisation, and functional application with medical and administrative staff and patients. The main areas for application were electronic health records, supply chain, management and sharing of patient data, drug traceability, and cryptocurrency payments. The Blockchain is a reliable and transparent data system with a core divided into two databases: patient health records and data of business transactions. To make the experience friendly to patients, a Web3 decentralised software application, named BCHealth, was developed with two main components: 1. Healthcare provision (used by medical personnel to generate and securely store health reports and by the patients to access information about their health); 2. Business correspondence (used by stakeholders).

Ms Giulia Mezzanotte presented '*From innovation to integration: a case study of digital health technologies in the Trentino healthcare system*'. The Italian National Healthcare System is a difficult sector to introduce digital technologies due to its many regulations and barriers: regulatory requirements, reimbursement pathways and pricing, organisational barriers, and cultural and social determinants. A model for digital health uptake was created. Ms Mezzanotte highlighted the most important results through a model of four attributes: healthcare professionals, integrated into care as usual, patient risk stratification model, governance and also a flowchart of patients entering primary care has been designed.

Dr Nino Mikava presented '*Evaluation of perceptions and attitudes of doctors towards telemedicine*' in Georgia. In Georgia, 70 % of the population has a shortage in medical support. Telemedicine would help but the major barrier is the attitude and perception, lack of confidence, and fear about the quality of medical practice. The study showcased a lack of qualifications and specific skills for teleconsultations and a lack of instruction skills

coming from patients, such as self-examination or how to collect more information during the online session. In the end, doctors requested specific training (500 doctors already trained) to increase their awareness about the successful utilisation of telemedicine and they are planning to implement training for all doctors in Georgia, no matter the actual usage of telemedicine.

Dr Pilar Gangas Peiro presented the 2CARE4EU project which aims to improve the treatment of chronic diseases, rehabilitation in remote areas, predictive analysis for frailty prevention and integrated care solutions addressing multimorbidity challenges. The available tools are CAREMatrix (for healthcare managers), eCARE (for managing ageing people), ROSIA (for remote areas) and INCARE HEART (for heart failures). The key for a demand-driven research project like 2CARE4EU was co-creation with end-users (clinicians and patients). The recommendations for digitally enabled integrated care implementation are constant feedback, accountability, building trust, involving project leaders, adapting the local procurement model, involving industry stakeholders, and communities and sharing challenges.

Understanding needs, organising strategies, prioritising and adapting is crucial to make technology friendly for both healthcare professionals and patients. Constant training and continuous support are necessary to maintain services at the highest level and to adapt the technology to make it fit-for-purpose.

Take-home messages

- A major impact of the COVID-19 pandemic was the deployment of technology from both medical specialists and patients to maintain an advanced level of care.
- Delivering healthcare is a multidisciplinary job involving specialists from different fields: engineers, technical support, managers, stakeholders, investors, and researchers.
- Healthcare professionals need training to increase their awareness about the effective use of telemedicine and its benefits.

Scientific dialogue - Health innovations: from AI platforms to community empowerment

Speakers: **Elettra Carini, MD**, National Agency for Regional Health Services (AGENAS), Italy; **Dr Benedicte Skjold-Odegaard,** InterRegSim; University of Stavanger, Norway; **Prof Dr Viorel Jinga,** University of Medicine and Pharmacy Carol Davila; Clinical Hospital Prof Dr Theodor Burghele, Romania; **Ms Claudia Almeida**, NOVA National School of Public Health, Portugal; **Prof Dr Cora Pop**, University of Medicine and Pharmacy Carol Davila; University Emergency Hospital, Romania; **Dr Pirjo Laitinen-Parkkonen, MD**, Wellbeing services county of Keski-Uusimaa, Finland

Facilitator: **Prof Axel Kaehne**, Director of the Evaluation and Policy Analysis Unit, Edge Hill University, United Kingdom

Session summary

Health innovations are revolutionising the way we understand, manage, and improve health outcomes, driven by advancements ranging from AI platforms to community empowerment initiatives, as these innovations are enhancing efficiency and accuracy in healthcare delivery. Parallel to technological advancements, community empowerment is emerging as a pivotal force in transforming health landscapes. Grassroots initiatives are equipping individuals and communities with the knowledge and resources necessary to take charge of their health. The synergy between cutting-edge AI platforms and community-driven efforts represents a holistic approach to healthcare. Together, they not only improve clinical outcomes but also ensure that healthcare is accessible, equitable, and responsive to the needs of all individuals.

Elettra Carini, MD presented a primary care platform that has been developed in Italy since 2022, financed by the EU. The purpose of this platform is to integrate all primary care services, making them more accessible for both patients and health professionals. Moreover, the aim is to facilitate diagnosis and treatment activities of health professionals involved in primary care assistance and to encourage the use of services in community health houses by users. The use cases include support in basic diagnostic activities; monitoring of chronic patients; administrative-organisational routine tasks; realising a dynamic patient profile; producing of a personalised patient card; and establishing a communication link with health professionals. The platform allows patients and professionals to exchange therapies and treatments between different institutions.

Dr Benedicte Skjold-Odegaard presented InterRegSim, a government mandated network for simulation. The Norwegian healthcare system is founded on the principle of universal access; therefore, as patients deal with general taxes, the national insurance scheme, and public hospitals. Each region has a "RegSim", and InterRegSim aims to integrate them all in one entity, with full support of the government. The goal is to increase both patient and healthcare personnel safety.

Prof Dr Viorel Jinga presented a simulation project that was developed to facilitate students' access to medical education. CieH is a simulation centre with a 3D printing laboratory, workshops for general medicine and dentistry, and a space medicine core. The 3D printing laboratory is used to customise the preoperative planning for surgical specialties and create 3D models and prosthetics. The space medicine core is a new interdisciplinary field – in the space medicine laboratory, where students and teachers train to perform medical services in outer space. As for the VR, it is currently used more by neurosurgeons.

Ms Claudia Almeida presented the way the healthcare system has changed in Portugal since January 2024, via AI. Before, hospitals and primary care units were two different things. Since 1 January 2024, all healthcare services in the country have been organised as 39 Local Health Units. This idea emerged after observing the systems of other countries. Each unit concentrates the organisation of human, financial and material resources, making it easier for people to access and move between primary healthcare and hospitals according to their needs. The

new units reinforce the focus on health promotion and disease reduction. In the creation of these new units, healthcare professionals focused on adaptability and flexibility, strong leadership and team involvement and need for investment.

Prof Dr Cora Pop revealed how AI can be used in uterine cervical cancer screening. In the past years, 5 big screening programs were developed, integrating AI. The work for these programs began in 2016. With no infrastructure, the first program began in 2019. By integrating AI into cervical cancer screening programs, healthcare providers can offer personalised care, allocate resources more efficiently, and ultimately save lives through earlier and more accurate diagnosis. The integration of AI in screening programs enhances the consistency and reliability of results, reduces human error, and ensures timely intervention.

Dr Pirjo Laitinen-Parkkonen, MD introduced a digital dashboard that aims to support patients with both severe mental health disorders and diabetes. The main reasons for combining these two are the high costs of separated programs and a lack informed decision-making. In 2016, a paradigm shift towards value-based approaches has occurred and the foundation for value-based healthcare has been established. This dashboard uses a data foundation, collected via suitable information systems. By the end of 2025, the overall objective is to optimise value-based organisation and service production management, and to have a clear value-based guidance for healthcare initiatives.

Take-home messages

- Health innovations are revolutionising the way we understand, manage, and improve health outcomes. AI and new technologies should be integrated for improved diagnostics, personalised treatment plans and efficient healthcare delivery.
- The synergy between cutting-edge AI platforms and community-driven efforts represents a holistic approach to healthcare. Together, they not only improve clinical outcomes but also ensure that healthcare is accessible, equitable, and responsive to the needs of all individuals.
- Long-term sustainability of health innovations should be addressed by focusing on scalability, affordability and adaptability to diverse healthcare settings and community needs.

Scientific dialogue - Innovative approaches to health challenges

Speakers: **Prof Dr Florentina Ligia Furtunescu**, University of Medicine and Pharmacy Carol Davila, Romania; **Dr Rui Dang**, Ala-Too International University, Kyrgyzstan; Learna Ltd Diploma MSc, United Kingdom; **Dr Aurora Dragomiristeanu, MD**, National Institute of Health Services Management (INMSS), Romania; **Dr Muriel Levy,** KCE, Belgium; **Prof Dr Marija Jevtic, MD**, University of Novi Sad, Serbia; **Gianpaolo Tomaselli, MD,** Mater Dei Hospital; University of Malta, Malta; **Prof Damian Greaves**, St. George's University, Grenada

Facilitator: **Prof Dr Lasse Lehtonen, MD**, Director of Diagnostic Services, Helsinki University Hospital (HUS); and Professor, Helsinki University, Finland

Session summary

This session focused on the latest strategies and methodologies in Health Technology Assessment (HTA), reintegration of cancer survivors, chronic disease management, unmet health-related needs, and the impact of climate change on health. This session aimed to share insights on the necessity for innovative approaches to tackle ongoing and emerging health challenges.

Prof Dr Florentina Ligia Furtunescu discussed the development of HTA in Romania, emphasising the need for specialised and adaptive techniques to address the specific values and preferences of the Romanian population. Recognising the lack of HTA training, a collaborative project among universities initiated an HTA training program. This postgraduate program includes 100 hours across eight modules, aiming to enhance participants' capacity in health economics, management, and applied statistics. Despite positive feedback from the initial 200 participants, Prof Furtunescu acknowledged a shortage of experts and emphasised the role of the national HTA Agency and Ministry of Health specialists in capacity building. The program's goal is to integrate HTA in hospitals, improving decision-making and resource allocation.

Dr Rui Dang examined the impact of the COVID-19 pandemic on the employment status of cancer survivors aged 50+ in Europe. The study used data from the Survey of Health, Ageing, and Retirement in Europe (SHARE) covering 2012-2021. It compared employment trends among healthy individuals and cancer survivors before and during the pandemic. Findings revealed that cancer survivors were more likely to retire early, with only 12.8% employed during 2010-2019. The pandemic exacerbated these disparities, increasing work interruptions and early retirements among cancer patients. Dr Dang emphasised the economic implications of these trends and the need for policies to support the reintegration of cancer survivors into the labour market. Recommendations included designing interventions to improve work outcomes for cancer survivors, thereby mitigating economic losses and enhancing their quality of life.

Dr Aurora Dragomiristeanu presented a new integrated financial and service model for national curative health programs targeting chronic diseases with significant public health impact, such as diabetes, cancer, and cardiovascular diseases. The methodology involved retrospective data analysis of resource utilisation, financial allocation, reimbursement mechanisms, and the distribution of health providers. Despite Romania having the highest death rate in the EU due to avoidable diseases, the number of patients enrolled in national curative programs has increased. Dr Dragomiristeanu highlighted challenges such as limited access to care, fragmentation of services, and inefficient communication. The proposed model aims to regionalise healthcare services, ensuring comprehensive and coordinated care from emergency to palliative services. Pilot programs and training for healthcare providers are essential to successfully implement this model.

Dr Muriel Levy discussed an ongoing project by the NEED (Needs Examination, Evaluation and Dissemination) team to develop an unmet health-related needs evidence database and research infrastructure. The lack of a common definition of unmet needs has led to a misalignment between healthcare innovation and public health needs. The project involves a four-step implementation model: identifying health conditions for unmet needs

research, prioritising these conditions, collecting evidence based on a need's framework, which will be created based on a multi-method approach. The findings will be disseminated through an accessible database. The final database should help guide quality and decision making. Case studies conducted in Belgium demonstrated the project's potential to improve prioritisation, predictability, and collaboration in healthcare. Dr Levy emphasised the importance of patient-centred health systems and the need for international cooperation to ensure comprehensive needs assessments and effective policymaking.

Prof Dr Marija Jevtic, MD explored health cost evaluation methods related to climate change, using a participatory research approach. Results indicated that while the willingness-to-pay approach is common, many experts favour direct healthcare costs as a clearer indicator, despite potentially underestimating the full social costs. Prof Jevtic stressed the importance of a tool to map how climate change solutions affect different sectors, enhancing public understanding of the costs involved. The discussion also highlighted the medical community's role in reducing its carbon footprint, with hospitals producing significant waste. Prof Jevtic called for increased awareness within health management to address the environmental impact of medical practices.

Gianpaolo Tomaselli, MD presented a study on integrating circular and green economy principles in a Maltese acute teaching hospital. Hospitals generate substantial waste annually, and the study aimed to investigate how sustainable practices can be implemented effectively. The medical world is starting to embrace waste reduction and waste management strategies by introducing reusable materials and implementing waste intervention protocols. Implementing such initiatives does not only have a beneficial environmental effect, but it also contributes to the financial aspect of health strategies. Dr Tomaselli highlighted initiatives such as educational campaigns for staff, reducing plastic use in hospital canteens, and promoting recycling. While the project is in its early stages, future quantitative approaches are planned to measure the impact of these initiatives.

Prof Damian Greaves discussed the regional politics of healthcare decision-making, emphasising the need for resilience plans, especially in the Caribbean. He noted that while local and regional organisations have plans in place, effective implementation requires political commitment at the highest levels. Prof Greaves highlighted the importance of aligning healthcare policies with broader socio-political strategies to ensure robust and responsive healthcare systems. The discussion underscored the critical role of governance and political will in achieving sustainable health outcomes and addressing systemic challenges in healthcare delivery.

Take-home messages

- Health Technology Assessment (HTA) programs are essential for guiding resource allocation and improving health outcomes, particularly in underfunded healthcare systems.
- Targeted interventions are necessary to support the economic reintegration of cancer survivors, addressing the disparities exacerbated by the COVID-19 pandemic.
- Integrated financial and service models can enhance the effectiveness of chronic disease management, requiring regional coordination and comprehensive data analysis.
- Understanding the full social costs of climate change on health is crucial for developing effective mitigation strategies, with healthcare managers playing a vital role in reducing the sector's carbon footprint.
- Applying circular and green economy principles in healthcare settings can lead to significant environmental and health benefits, highlighting the need for continued innovation and measurement.

Scientific dialogue - Transforming healthcare: leadership, improvement, and patient-centred care

Speakers: **Dr Relinde de Koeijer**, Erasmus University, The Netherlands; **Dr Irina Eclemea, MD**, Elias Emergency University Hospital, Romania; **Ms Inka Sylgren**, University of Helsinki, Finland; **Mr Francesco Deligios**, IQVIA; Sant'Anna School of Advanced Studies, Italy; **Ms Maria Lovén**, University of Helsinki, Finland; **Dr Anca-Maria Balaceanu**, UMF Carol Davila, Romania; **Ms Ana Rita Loureiro,** Portugal

Facilitator: Prof Nicolas Sirven, Professor, École des hautes études en santé publique (EHESP), France

Session summary

The session presented ways to interact, understand, cope and provide care during hospitalisation for paediatric or adults patients with the aim to improve patients' outcomes in disease management, clinical path, and quality of life.

Dr Relinde de Koeijer presented the Clinical Leadership Program consisting of 127 physicians from 13 Dutch hospitals. The program aims to create a clear picture of a successful clinical leader. According to preliminary results, some of the themes for future improvement projects include optimising inflow; efficient planning; reducing waiting time; improving quality of care; and redesigning processes. The program also aims to enhance understanding of disruptions in care, improve the service chain by analysing the potential differences and provide viable suggestions, and add an extra layer to educational programmes.

Dr Irina Eclemea, MD evaluated patient safety culture in a large multi-specialty hospital in Bucharest, using survey (version 2)- HSOPS V2.0 as a methodology. She identified the areas of safety culture that need improvement, assessed their time trend, and the effectiveness of undertaken actions.

Ms Inka Sylgren presented on the topic of home care. Multimorbid home care clients tend to need and receive care and services from multiple healthcare providers, plus emergency care. There is a mix of different providers who are prescribing care and of nurses that are delivering care. Disruptions are, however, mainly focused on information exchange. The research aim was to explore the problem at a national level, disruptions and interfaces of communication.

Mr Francesco Deligios highlighted the importance of equity in providing healthcare services to people with Alzheimer's disease. The results revealed elements of the framework, including case finding, diagnosis, treatment and follow-up, and how the pathway needs to change. Mr Deligios mentioned an unexpected difference between healthcare providers, where the inequalities were combined with indicators that need to be monitored to enable a systemic approach to deliver the best healthcare for patients with Alzheimer's disease.

Ms Maria Lovén presented on the topic of skin cancer. There is a situation of redundant work between primary and secondary care. Skin cancer is often not detected by GPs, which delays diagnosis and treatment. Skin carcinoma is the most common cancer worldwide (1/3 of the carcinomas) and the incidence is growing. The objectives of a quasi-experimental multi-centre intervention in Northern Finland were to find out if it is worth to bring a dermatologist into a primary healthcare setting. The study included 362 patients that presented skin change and 38 healthcare professionals. The patients were referred straight to the dermatologist via the nurse. Patients needed fewer visits, less cases were detected at a late stage, there was a reduction in doctor time and a significantly lower cost in the intervention group.

Dr Anca-Maria Balaceanu's study assessed quality of life aspects in patients with infantile haemangioma and aimed to find ways to improve patients' outcomes in terms of disease management, clinical path and quality of life. The study included 123 patients, followed for 14 months, and divided into complications/no complications groups. Patients with complications were identified and their pathway was analysed to understand the causes

and to develop a better pathway. To choose the best practice prescription, a multidisciplinary team is needed to treat and monitor every case during the treatment.

Ms Ana Rita Loureiro's research aimed to map and improve colorectal cancer patients' journey from diagnosis to surgery. In Portugal there is a 90-day legal timeframe from diagnosis until surgery, but half of the patients (57%) exceed this timeframe. The main goal was to shorten the waiting time and find the causes of the delays. An innovation project was designed and endorsed by Innovation Department of a Portuguese Tertiary Hospital with the support of a management and innovation advisory team. Ms Loureiro emphasised digital pathways, check-slots, special slots for appointments as a solution.

Take-home messages

- Healthcare specialists need to focus on different challenges including resistance to change, difficulties in translating a concept to a line responsibility, and lack of focus when implementing a project.
- Continuous improvement depends on talented physicians with personal leadership who dare to push boundaries.
- Managing patients' needs and making improvements require stepping into patients' shoes to understand their experience in a different way.

Scientific dialogue - Shaping the future of healthcare education

Speakers: **Dr Sule Kurt**, KU Leuven, Belgium; **Mr Shukanto Das**, Usher Institute, University of Edinburgh, United Kingdom; **Dr Maarten Janssen**, Erasmus University, The Netherlands; **Ms Nóra Fazekas**, National Directorate General for Hospitals, Hungary; **Mr Steve Gulati**, University of Birmingham, United Kingdom; **Dr Sarah Willis**, University of Manchester, United Kingdom

Facilitator: **Prof Dr Walter Sermeus**, Emeritus Professor, Leuven Institute for Healthcare Policy, KU Leuven, Belgium

Session summary

By providing a comprehensive and structured framework, healthcare educators can consistently and effectively integrate transversal skills development into their curricula, ensuring that future and current healthcare professionals possess the necessary competencies to deliver safe, effective and compassionate care.

Dr Sule Kurt illustrated a cross-sectional study aimed to assess the nursing and midwifery workforce across 29 WHO Europe member states. The study identified two primary educational pathways for becoming a midwife. These pathways include training as an independent profession at either the vocational or bachelor level, as well as pursuing post-track studies at the bachelor or master's level in countries such as Cyprus, Finland, Israel, Iceland, Sweden, Portugal, and Spain. The duration of midwifery education varies greatly between countries. In some cases, it takes three years for vocational and bachelor-level training, while in others, such as Portugal, the process to become a fully qualified midwife can extend up to eight years. In countries like Finland, Israel, Cyprus, Sweden, Spain, and Portugal, the length of education ranges from 4.5 to 8 years, reflecting significant differences in national requirements. Additionally, the title of 'registered midwife' (RM) varies across different nations.

Mr Shukanto Das introduced a strategic framework, 'SHIFT-SHARE', to tackle healthcare workforce shortages by employing task-shifting and task-sharing. This approach involves redistributing specific duties from more specialised healthcare professionals to less specialised workers, optimising the use of available resources. This framework is already being implemented across various healthcare systems worldwide, and addresses workforce gaps and enhances healthcare delivery in resource-limited environments. The SHIFTt-SHARE framework emphasises stakeholder engagement, the need of communication, and a structured approach to validate and implement task shifting/sharing interventions.

Dr Maarten Janssen presented a research project exploring the role of professional educators in supporting talent development and lifelong learning in the healthcare sector. The concept of lifelong learning or continuous medical education is emphasised, encompassing acquiring new knowledge, skills and leadership capabilities beyond formal training. The research highlights the crucial role of professional educators in structured programs, with the aim to explore their strategies and perspectives on facilitating talent development processes. The preliminary results indicate that professional educators employ a wide range of strategies to support professionals' talent development. This includes consistent interaction to understand individual strengths, needs, and aspirations, encouraging reflective practices to derive insights from experiences, and translating them into goals. However, educators also struggle with defining the boundaries of their role in relation to counselling.

Ms Nóra Fazekas highlighted the importance of developing transversal and technological skills in response to the changing skill requirements in the workforce due to automation and AI. H-PASS is a transformative initiative supporting EU Members States in enhancing healthcare professionals' competencies and system resilience. The program targets various health professions. The training program follows a modular structure, with multiple phases. The sessions are conducted in the national language and held at designated implementation sites across several European countries. However, there is still a lack of transversal skills-centred training in higher education and unexpected technological advancements and shifts have occurred since the original forecasts were made, highlighting the need for such initiatives to adapt to the rapidly evolving landscape.

Dr Maarten Janssen focused on the importance of continuous talent development within healthcare. Continuous medical education for healthcare professionals and managers extends beyond acquiring knowledge to encompass learning new skills, enhancing professional abilities, cultivating leadership, and fostering collaborative capabilities through various forms like workshops, mentoring, conferences, and training programs. Professional educators employ a wide range of strategies to oversee and support professionals in developing their talents. First, through consistent interaction, they discern individual strengths, developmental needs, and career aspirations, tailoring their strategies accordingly. Second, a key element is encouraging reflective practices, enabling professionals to derive insights from experience and translate them into ambitions and goals. Third, educators grapple with defining the boundaries of their role and the contact they have with participants, questioning where professional education ends and therapy begins.

Mr Steve Gulati presented a comparative case study and systematic literature review. There were notable role and identity tensions between coaching and mentoring within healthcare leadership. Additionally, it was observed that workplace mentors, coaches, and tutors were adapting to new roles while simultaneously redefining their existing responsibilities due to the structure of the programs they were part of. Finally, there was evidence of significant unpaid or 'donated' labour, which remained largely hidden or invisible within the system. The emergent results from this study stated that the role of workplace mentors in healthcare leadership development education is not entirely clear. Mentors may feel like they are expected to act as both coaches and teachers, and that these roles are not always compatible. They may also feel like they are not given the support they need to be effective in their roles.

Dr Sarah Willis discussed the transition of newly qualified pharmacists to independent practitioners and the evaluation of the Newly Qualified Pharmacists Pathway (NQPP) intervention, designed to support this transition. The transition to registered independent practitioner status is stressful, and the non-mandatory nature of the pathway undermined its legitimacy. Resources were dispersed across different platforms, recording reflections in an e-portfolio was challenging, and supervision quality varied. Notably, there was infrastructure gaps in the community pharmacies, hindering implementation. Overall, the presentation critically evaluates the NQPP intervention, acknowledging its purpose but also identifying significant barriers and areas for improvement in supporting the evolving scope of practice for newly qualified pharmacists, particularly in community pharmacy setting.

Take-home messages

- Unlike scientific disciplines where there are clear objective standards, assessing and developing transversal skills in healthcare education can be more challenging due to their inherently subjective and context-dependent nature. Having a structured framework can provide guidance and consistency for healthcare educators to effectively teach and evaluate these essential skills.
- Variability in midwifery education and qualifications across Europe highlights the need for standardisation to ensure consistent healthcare quality.
- The SHIFT-SHARE framework optimises healthcare resources by redistributing tasks, improving access, and enhancing collaboration in resource-limited settings.
- Role ambiguity among healthcare educators and mentors limits their effectiveness. Clearer definitions and support systems are essential for professional development.
- Effective transition programs, like the Newly Qualified Pharmacists Pathway, are crucial for newly qualified pharmacists to take on expanded roles, but infrastructure and supervision must improve for better implementation.

Scientific dialogue - Empowering healthcare workforce: strategies and solutions

Speakers: **Dr Lisa Baldini** and **Dr Marco di Marco**, National Agency for Regional Health Services (AGENAS), Italy; **Ms Mara Bumbu**, Babeș-Bolyai University, Romania; **Dr Lise Elliott** and **Prof Naomi Chambers**, University of Manchester, United Kingdom; **Ms Tanja Lesnik**, University of Klagenfurt, Austria; **Dr Raluca Sfetcu**, National Institute of Health Services Management; Spiru Haret University, Romania

Facilitator: **Prof Emmanuelle Leray**, Professor and Researcher, Ecole des Hautes Etudes en Sante Publique (EHESP), France

Session summary

A robust health workforce is crucial for resilient health systems and high-quality care, offering both medical services and essential support. This session focused on how improving human resource management, refining planning, and delivering comprehensive training can address systemic challenges such as burnout and uneven distribution of workers.

Dr Lisa Baldini and **Dr Marco di Marco** introduced the EU-funded project Joint Action HEROES. Dr Baldini highlighted the main objectives of the project being the optimisation of health workforce planning data, models, systems and tools; the enhancement of skills for health workforce planners; and finally, the implementation of robust stakeholder involvement for better health workforce governance. For each of the main objectives, the project will perform situational analyses and define desirable scenarios at national level. Each country will design a roadmap and carry out an implementation strategy to cover the gaps identified. Furthermore, JA HEROES will create a stakeholder engagement forum, bringing together all opinion leaders to explore ways of promoting and leveraging the enhancement of health workforce planning system in each country and a community of practice.

Ms Mara Bumbu highlighted key risk factors for heart disease. Her study focused on improving the distribution of cardiologists, addressing prevention needs from 2023 to 2030, advocating for more specialised healthcare professionals, increased funding, and the development of awareness and early detection campaigns in Romania. The results revealed that Romania has fewer cardiologists, primarily due to workforce migration, and higher rates of avoidable deaths compared to the rest of Europe. Additionally, the study found that low activity in interventional cardiology is mainly caused by an insufficient number of centres, uneven distribution of these centres nationwide, and inadequate funding.

Prof Naomi Chambers discussed how human errors have historically led to tragic events across various sectors, citing examples such as the Gresford Mining Disaster (1934), King's Cross Underground Fire (1987), and Hillsborough Stadium Disaster (1989). She noted that such tragedies are a global phenomenon affecting all systems. **Dr Lise Elliott** examined failings in maternity services, highlighted as a critical area for quality improvement in the UK. The study aimed to understand why healthcare staff sometimes act unkindly or selfishly towards patients and each other. She investigated staff experiences in organisations with known maternity failures, focusing on the Morecambe Bay (2015), Shrewsbury and Telford (2022), and East Kent (2022) reviews. The analysis revealed factors like interprofessional dynamics, inequitable treatment, fear of speaking out, bullying, and 'expansification', where staff are overworked beyond their capacity, leading to patient harm.

The shortage and retention of experienced nurses, particularly in critical care, are pressing issues globally. In her study, **Ms Tanja Lesnik** examined leaver profiles and precipitating events influencing the voluntary turnover of intensive care unit (ICU) nurses from public hospitals in Austria. The shortage of highly specialised ICU nurses significantly impacts patient safety and care quality. Reduced nurse-to-patient ratios lead to adverse outcomes and challenge hospitals in delivering safe and high-quality care. The study aimed to analyse the origins and impact of shocks, significant events that trigger turnover, and to develop various leaver profiles. ICU nurses face

emotional exhaustion from daily exposure to death and pain, contributing to high voluntary turnover. This study underscored the need for comprehensive solutions to address the nursing shortage and improve retention in critical care settings.

Burnout is a significant issue for healthcare professionals at all levels, yet practical solutions are often not implemented due to limited evidence-based interventions. **Dr Raluca Sfetcu** highlighted that the COVID-19 pandemic exacerbated burnout in the healthcare workforce. Burnout is linked to increased patient safety risks, decreased professionalism, and lower satisfaction with care. While substantial knowledge exists on preventing burnout, structured solutions for Romanian institutions remain unclear. Dr Sfetcu urged engaging managers to assess their views and support for structured approaches to tackling burnout in hospitals. Examples of interventions include the Psycho Assist programme, which provided online and phone counselling during the pandemic but was discontinued due to cost. Additionally, hospitals have implemented thematic monitoring, identified burnout risk activities, and introduced training and psychological support. Despite a lower average burnout rate during the pandemic, issues persist, particularly among younger professionals and in high-risk specialties like emergency medicine and oncology. There is a need for structured learning and managerial perspectives to effectively address burnout in the healthcare workforce in Romania.

Take-home messages

- JA HEROES aims to cultivate a dynamic collaborative learning environment and to exchange successful good practices across countries driving impactful change in the healthcare landscape by improving countries' capacities for health workforce planning.
- Addressing the shortage of cardiologists and the uneven distribution of centres in Romania is crucial for reducing cardiovascular disease incidence and improving overall public health.
- Labour Process Theory (LPT) provides key insights into how high workloads and factors like 'expansification' and interprofessional dynamics negatively impact patient safety, making it crucial to address these issues to enhance care quality and prevent future tragedies.
- Medical errors are a major public health issue and a leading cause of death and injury in maternity services, highlighting the urgent need for systemic improvements.
- Tackling emotional exhaustion in Intensive Care Unit nurses is essential to improve retention and address the global shortage, which affects patient safety and care quality.
- Health managers need to support and implement structured interventions to effectively address burnout in healthcare professionals.