EHMA
European Health Management Association

Health Management in action: fostering health systems' resilience

An EHMA webinar series

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Introduction

As European health systems continue to recover from the COVID-19 crisis and take stock of the lessons learnt from the management of the pandemic, the European Health Management Association (EHMA) has designed a webinar series to discuss health management topics considered crucial to improve health systems preparedness and response.

The series *'Health Management in action: Fostering health systems' resilience'* showcased specific areas of expertise of health managers, as well as experiences, case studies and best practices developed during the COVID-19 pandemic. The series aimed to identify evidence-based recommendations that can support decision-making for future health threats at various levels, including organisational, regional, national and European.

The series was composed of ten episodes:

- Health managers and leaders: harnessing the power of digital technologies
- Co-created responses to crisis situations
- How can funding models foster health systems' resilience?
- Towards future-readiness: measuring health systems' resilience
- Health service delivery before and after the pandemic
- Mental health at the frontline of the pandemic: health workforce stress management
- Empowering communities: a way towards stronger health systems
- Towards a better EU health preparedness and response: gaps and solutions
- From COVID-19 to monkeypox: how to apply the lessons learnt'
- The legacy of COVID-19.

The series was addressed to a variety of stakeholders, including health managers, research, academia, healthcare professionals, and policy-makers. Each episode was widely disseminated through the EHMA membership and network, and reached a high level of participation and engagement. Additionally, to ensure maximum dissemination of the key messages, each webinar was recorded and remains available on the EHMA website and YouTube channel.

1. Health managers and leaders: harnessing the power of digital technologies

The first episode of the webinar series '*Health Management in action: fostering health systems' resilience*' focused on digital technologies and data-driven innovations deployed by hospitals, with concrete case studies from Portugal. The speakers presented how healthcare providers can benefit from these technologies to improve their processes and what are the basic requirements to fully harness the potential of these tools.

Health management and digital technologies

The digitalisation of healthcare has been a consistent trend across European health systems for the past years. It has created opportunities for digital technology providers to develop new solutions and has positively impacted on healthcare providers' operational decision-making. Real-world data (RWD), AI-driven algorithms and other technologies can influence in several different ways how healthcare is delivered and care pathways are designed.

Thanks to electronic health records, hospitalisation as well as discharge can be predicted. This impacts on hospital capacity and patient flows and, consequently decisions related to triage, admissions, and discharge. Digital technologies also help to better manage capacity and resources. Algorithms can predict nurse absenteeism rates or the duration of surgeries which in return can lead to optimising operating room's schedules. By applying data-based automatised processes, hospitals can reduce costs related to supply chain management. With a real-time and accurate overview of stocks of equipment and consumables, it is easier to plan orders and estimate the necessary quantity, thus avoid wasting resources.

Furthermore, the digital transformation can facilitate patient engagement in co-designing care pathways with healthcare professionals, thus providing better care with higher patient satisfaction. This radically changes the relationship between healthcare providers and patients and can make hospitals reconsider how health services are managed.

Case study on digital technology application

Nowadays 30% of the world's data is generated by the healthcare sector; however, health data is not always processed, stored, or analysed in an efficient way that allows it to become evidence for actions. Each health system has data or information regarding care, medication, administration, and outcomes, but those are often kept in silos. Data isolation undermines data value; however, before integrating information, data harmonisation is needed to make it comparable.

There is an urgent need to standardise the four steps of the data journey: 1) data capture, 2) data harmonisation, 3) data analytics, and 4) real-world insights. An improvement is especially required in steps 1 and 2, and to a lesser extent in step 3. The data journey should be quick and scalable, but for this to happen all four steps should be standardised in terms of processes and platforms.

To tackle these challenges, some Portuguese hospitals implemented two data initiatives:

- The Outcomes Network (CAT.PT-RWE) to tackle data isolation. The aim is to collect and analyse outcomes of care in cataract surgery across 13 different Portuguese hospitals to (i) create insights into direct clinical care; (ii) provide a database for large-scale clinical research; (iii) educate about data handling. The World Economic Forum expressed appreciation for this initiative and the programme is now being scaled to other disease areas.
- The European Health Data & Evidence Network (EHDEN) to increase data harmonisation. It is the largest EU Data harmonisation programme aimed to building a federated data network allowing access to the data of 100 million EU citizens standardised into a common data model.

Digital technologies and data-driven innovation can immensely support healthcare providers and significantly redesign the way care is delivered and health is managed. The European Medicines Agency (EMA), through its European Medicines Regulatory Network, has set the vision to use Real-World Evidence and establish its value across the spectrum of regulatory use cases by 2025. This date is very near and the ambitions are high but the two Portuguese initiatives prove that things are moving in the right direction.

Take-home messages

- The digitalisation of healthcare has provided opportunities for all: technology providers who can put new and innovative solutions on the market; healthcare providers who can make data-driven operational decisions thanks to digital tools; and patients who can be more involved in the co-creation of their care pathways.
- Digital technologies can improve decision-making and planning in several areas including patients flow; staffing; scheduling; and supply chain management. They also bring a financial benefit with cost savings across departments.
- The standardisation of the data journey is a precondition to harnessing the full potential of data. It encompasses four steps: 1) collection 2) harmonisation 3) analysis 4) real-world insights of data.
- In Portugal, two initiatives for better data standardisation were launched: the Outcomes Network (CAT.PT-RWE) to tackle data isolation and the European Health Data & Evidence Network (EHDEN) to increase data harmonisation.

Speakers

- **Dr Alexandre Lourenco**, Health Administrator, Coimbra Hospital and University Center, Portugal
- **Mr Pedro Ramos**, Member of the Board of Directors, Promptly Health, Portugal

2. Co-created responses to crisis situations

The second episode of the webinar series '*Health Management in action: Fostering health system's resilience*' focused on crisis management and the role of leadership and governance in navigating emergencies and reaching solutions.

The governance angle

Leadership is key in crisis management. A must-have leadership skill is to remain focused on the vision, the goals and the strategy to achieve set objectives. However, during crises, the management team has to deal with the unknown, which is a risk element to take into account alongside safeguarding the reputation of the organisation. Governance must also ensure stakeholders' and shareholders' confidence, as they need to trust leaders' determination and efforts to get back to business as usual. Furthermore, during a crisis, staff needs support and this can vary depending to the size and structure of the organisation. Finally, governance must ensure the respect of regulatory requirements that have the power to enhance the organisation's resilience.

The 3 Cs in crisis

A crisis always requires a response at executive level which can be articulated through different models of governance. Crisis management can be summarised in '3 Cs': Communicate, Command, and Control. Communication is essential in crisis management as it allows the organisation to remain aware of the management's vision and plans and what is expected from the staff. Command means that authority is vested in an individual that sets the direction, coordination and control of the response to a crisis. This usually applies when there is a highly critical incident that affects the whole organisation. Differently, control outlines what needs to be achieved, leaving the staff some leeway to develop their own framework to deal with the crisis. The level of control depends on the risk management scalability of the emergency situation.

Proper leadership requires a clear framework that pays attention to tasks, the team and individuals' needs. Leaders have a crucial responsibility to support their staff, who are at the frontline of service delivery in healthcare organisations. As such, staff's mental health and well-being is essential and leaders should have it as a priority.

Fluidity and a multidomain full spectrum approach are required in the command and control process to manage a crisis. In the early stages of a crisis, it is likely to adopt a command approach while keeping a (1) traditional, hierarchical structure. But soon in crisis management, there may be the need for (2) adaptative teams within the hierarchy to harness ideas in a thinking space. Such governance framework should evolve into (3) networking adaptative teams under the control of a collaborative commander. Eventually, the leader will benefit from the teams' ideas and insight. Leaders should also build multi-safety nets within their organisations to foster resilience.

Crisis-management governance

Crisis-management governance should be concept-driven, adopt cross-defence lines of development, be resource-aware, experimentally developed, research-informed, support-enabled, evidence-based, programmatically managed, strategically aligned, and develop a framework that allows the organisation to learn. The integrated emergency management cycle is a different way of thinking that foresees: anticipate future crises, assess possible scenarios, prevent the impact, prepare mentally, respond, and recover. The recovery phase is essential to strengthening the organisation ahead of future crises.

To lead in a crisis, governance needs to listen, learn, and lead. The ideas to solve a crisis come from the team, but the governance body leads by being an example. During a crisis management situation, words and actions should align. What matters most in a crisis response plan is 'KISS': Keep It Simple and Short. Whoever the leaders, the plan has to be absolutely specific, and to be communicated to and understandable by the staff.

Leadership may face two types of crises. In internal crises, the priority is to define what business-as-usual looks like and to collaborate within the team to come to a solution. External crises may require command and control simultaneously.

Take-home messages

- A crisis always requires an executive level of response. Therefore, governance has a unique role to play to manage risks and maintain reputation, safeguard stakeholders' and shareholders' confidence, support the staff, and ensure compliance with regulatory requirements.
- There are '3 Cs' that are essential in crisis management: communication, command, and control, and '3 Ls' in the governance response to a crisis: listen, learn, and lead. Additionally, crisis management plans should follow the KISS rule: Keep it Short and Simple.
- While the definition of business as usual and collaboration is predominant in internal crises management; external crises are more often addressed through a command and control approach.

Speaker

- **Mr Nabil Jamshed**, Head of Corporate Governance, Guy's and St Thomas' NHS Foundation Trust, United Kingdom

3. How can funding models foster health systems' resilience?

The third episode of the webinar series '*Health Management in action: Fostering health system's resilience*' focused on financial models with the specific case study of the Italian National Health System and the benefits of a value-based payment model.

There are three major models of healthcare financing: private insurance sources; mutualistic systems; and the universalistic model of the National Health Service, as in the UK and in Italy. Normally health systems apply a mix of these three models. In the case of Italy, although the major part of financing comes from the national government's budget, other private sources complement it to meet the more and more complex needs of the population.

Current state of play in resource allocations

In Italy, the 21 regions are at the centre of health service delivery. They are mandated to provide the so-called 'core benefit package' to citizens and are resourced from the national budget. Regions are also fully responsible for organising the provision of healthcare services through a network of local health agencies, authorities and organisations. The private sector also contributes through accredited hospitals and other healthcare organisations both at residential and home care levels. The allocated national budget is complemented by regional and local sources, and even hospitals can generate their own income by providing specific services. The budget allocation is based on historical expenditure weighted by sex and age. This method, however, does not take into account social deprivation, education, employability and family conditions of the regional setting. Each region further allocates resources to the local health authorities and hospitals, according to their epidemiological situation, population needs, and the Diagnosis Related Group (DRG). Research or academic hospitals are granted additional resources.

Efficiency and effectiveness of healthcare systems – can a value-based approach be the solution?

In Italy, there is an emerging consideration, that is to complement the current method of resource allocation with a value-based approach. On the one hand, population needs are increasing. On the other hand, it is not only the financing towards hospitals and healthcare providers that should be assessed for the value produced, but also the investments by private manufacturers, pharma, devices industry, technology providers. Therefore, the assessment is becoming more and more complex.

In value-based healthcare, data, measurements and assessments are absolutely crucial. As an example, Italy was one of the first countries to establish pharmaceutical registries to collect data about the outcomes of treatments by innovative drugs. Based on the data collected, value-based agreements were concluded with pharma companies where payments were commensurate to the value generated as outcomes.

Sustainability and resilience of the Italian National Health System

An analysis about the Italian National Health System has been carried out in collaboration with the London School of Economics and the World Economic Forum along five dimensions: governance, financing schemes, workforce, technologies and delivery models. The evaluations revealed that the Italian Health System's financing mechanisms is quite equitable and sufficiently resilient because of its ability to adapt and change. However, in some regions the ageing health workforce leads to difficulties in providing care at an appropriate level of quality and quantity. In terms of sustainability, the system does not take into account deprivation, education, employability and there has been scarce attention to value-based payments in some regions.

Three recommendations have been issued to policy-makers:

- Take into account social deprivation, education, employability and housing conditions in the resource allocation formula to regions.
- Facilitate access to private integrity funds through tax incentives.
- Scale-up the value-based payment model from drugs to other areas of care.

Take-home messages

- Health system financing models are usually hybrid and combine components from different models. Depending on the specific combination of funding mechanisms, hybrid financing models impact differently on the health system's sustainability and resilience.
- In order to improve sustainability and resilience, value-based payment models prove to be helpful, based on the Italian examples. This payment model can be experimented in relatively simple contexts, such as innovative drugs and then scaled-up to other areas of care.
- In value-based healthcare, data, measurements and assessments are absolutely crucial. Only through data it is possible to measure the value generated.

Speaker

- **Prof Americo Cicchetti**, Professor at the Faculty of Economics, Catholic University of Sacred Heart; Director at ALTEMS – Alta Scuola di Economia e Management dei Sistemi Sanitari, Italy

4. Towards future-readiness: measuring health systems' resilience

The fourth episode of the webinar series '*Health Management in action: Fostering health system's resilience*' focused on indicators to measure health systems' readiness and presented the process that led the Health Policy Partnership (HPP) to the creation of their Readiness Assessment framework.

Why a readiness assessment framework?

Health systems are changing because of new threats such as COVID-19, climate change, financial struggles, and the ageing population to name a few. At the same time, solutions are emerging: evidence- and data-based decision making; suggested new ways of working; new diagnostic methods and therapies; different utilisation of existing treatments; and new methods of measuring success. Readiness is about incorporating such new solutions into the health system.

Readiness is the ability of the health system to rapidly and sustainably adapt its policies, processes and infrastructure to support the integration of a component of care or a way of working. It means for a health systems to react to external changes while continuing to provide core and new services. Readiness is also strictly connected to integration. A new component of care should be adopted and assimilated into every aspect of a health system to be available to all the people who may benefit from it. Assessment frameworks can be used to increase health system readiness. By identifying barriers to integration, they support the elaboration of realistic and effective policy recommendations. Finally, they enable the comparison and the sharing of learnings among health systems.

Measuring readiness requires rigorously collected data. Standardised assessment frameworks increase efficiency of data collection, ensure the right data is being collected, and allow comparisons across systems. Assessment frameworks require a clear aim. Feasibility, usefulness, and credibility are also key elements. Moreover, assessment frameworks cannot exist separately: they need context and a transparent explanation of potential limitations. Nothing happens in isolation; therefore, a system approach is crucial.

Case study – the HPP Readiness Assessment Framework

The Health Policy Partnership (HPP) built a Readiness Assessment Framework around the WHO essential health system building blocks, further supported by a narrative review of the literature and interviews with experts. Moreover, it integrates a multidisciplinary group of experts that offered diverse perspectives on health system-related aspects. While firstly restrictively applied to radioligand therapy, the HPP Framework was then modified to be more broadly applicable.

The HPP Framework encompasses a series of questions grouped according to the five domains of the health system: (1) governance, (2) regulation and reimbursement, (3) identified need, (4) service provision, and (5) health information. It captures granular details

specific to the component of care being assessed. It includes quantitative and qualitative questions, whose answers should be considered together. The Assessment Framework does not provide an overall metric of readiness; it is a gap analysis to facilitate the comparison of qualitative data. Each component of care has its own way of working and requirements; therefore, the benefit of a general framework is that it can be adapted to specific contexts.

The development of an assessment framework starts with (1) a policy analysis and eventually a policy report. Then, (2) the framework is iteratively adapted to the environment in which is applied. Finally, (3) the research is translated into consensus-driven policy to drive optimal system readiness and is implemented. Stakeholders engagement is key. Stakeholders support the validation of research, prioritisation of barriers, development of policy recommendations, and finally the implementation of change.

When measuring health systems' readiness, it is crucial to have clear objectives and an understanding of change mechanisms. Implementing findings will be easier if clear objectives and change mechanisms were defined at the outset. Validating and aligning objectives at each stage is particularly important for longer projects.

Take-home messages

- Readiness is the ability of the health system to rapidly and sustainably adapt its policies, its processes and its infrastructure to support integration of a component of care or new way of working.
- Integration is the adoption and assimilation of a component of care or way of working into every aspect of a health system in order to ensure its availability to all people who may benefit from it.
- Assessment frameworks can be used to increase health system readiness, but they need to rely on rigorously collected data and, when being implemented, they need a wide stakeholder engagement.
- The Health Policy Platform (HPP) created a Readiness Assessment Framework, that is generally applicable to deliver a qualitative gap analysis of a health system.

Speaker

- **Ms Lucy Morgan**, Senior Researcher, Health Policy Partnership, United Kingdom

5. Health service delivery before and after the pandemic

The fifth episode of the webinar series '*Health Management in action: fostering health systems' resilience*' focused on health service provision and how it has changed after COVID-19, with a specific focus on the role of informal carers.

Health services after COVID-19

Since the 70s, the health service landscape has been characterised by fragmented delivery. Underfunded social care and community services caused backlogs with hospital discharge. The workforce shortage is another chronic problem for all health services in Europe. Prior to the COVID-19 pandemic, healthcare data was used to detect and treat patients more effectively. In the UK, the National Health System (NHS) started collecting health population data in 2015-16, while the private sector started with diagnostics data.

The COVID pandemic radically transformed health services. While the fragmentation persists, emergency legislation in most countries ordered healthcare facilities to provide Intensive Care Unit (ICU) capacity. During the pandemic, social and community care was cut off from hospital care provisions due to infection control measures. ICU and nursing capacity were increased through the redeployment of staff. Healthcare data focused on detecting infections and diagnostics and analysis capacity was increased dramatically. Access to personal data and early warning systems were developed, often based on emergency legislation that elapsed without leaving a lasting legacy.

Two perspectives emerged with regards to the legacy COVID-19 left in health services,. One belief is that COVID left limited learnings as it was an emergency underpinned by emergency legislation. The second perspective considers the legacy significant, especially about the power of data, resilience, workforce deployment and service collaboration. COVID showed that the adoption of rapid learning cycles in healthcare services and adaptation and increased resilience of staff are possible. While exacerbating the previous situation, the COVID pandemic also increased awareness of innovative approaches and novel use of data for health service delivery.

Addressing the situation and needs of informal carers across the EU

An informal carer is any person who provides - usually unpaid - care to someone with a chronic disease, disability or any other long-lasting care needs outside of a professional context. Informal carers are the largest providers of health and social care support. They account for about 10-20% of the total EU population and are mainly women. The estimated value of informal care is between €320 and €368 billion. To keep a work-life and care balance, informal carers are often forced to work part-time to the detriment of their financial stability and may suffer from social exclusion. Informal care also impacts the mental and physical health of carers, with a higher incidence of anxiety and depression. As a result of COVID-19, informal care increased both in terms of weekly hours, intensity, and number of carers.

A better interface between formal and informal care can be beneficial, for instance, to identify possible other informal carers in Europe. During the pandemic, civil society organisations were extremely supportive of informal carers. Technology, if properly boosted, could offer support. For example, a phenomenon that emerged with the pandemic is long-distance and cross-border informal care.

In September 2022, the European Commission published the European Care Strategy. The Strategy aims to ensure accessibility, affordability and quality of care, adequacy of care systems and to strengthen care professions' attractiveness by improving working conditions. Moreover, the European Commission calls on Member States to establish mechanisms to identify and support informal carers by providing them with access to information, training, work-life balance solutions, social protection, and financial support.

Take-home messages

- Before the pandemic, fragmentation, workforce shortage, and a limited use of health data characterised the health service landscape.
- While exacerbating the previous situation, the COVID pandemic increased awareness of innovative approaches and novel use of data for health service delivery.
- An informal carer is any person who provides - usually unpaid - care to someone with a chronic disease, disability or any other long-lasting care needs outside of a professional context.
- Informal carers account for about 10-20% of the total EU population and are mainly women. The estimated value of informal care is between €320 and €368 billion, which means that without informal carers, health systems would collapse.

Speakers

- **Prof Axel Kaehne**, Director, Evaluation and Policy Analysis Unit and Professor of Health Services Research, Edge Hill University; Editor in Chief, Journal of Integrated Care (Emerald), United Kingdom
- **Mr Stecy Yghemonos**, Executive Director, Eurocarers, Belgium

6. Mental health at the frontline of the pandemic: health workforce stress management

The sixth episode of the webinar series '*Health Management in action: fostering health systems' resilience*' focused on pragmatic approaches to protect the mental health of the health workforce as adopted in the Magnet4Europe research project.

The sustainability of health systems relies on their workforce, which was put to the test during the COVID-19 pandemic. The stressful working conditions impacted the workforce physical and mental health. Magnet4Europe is a 4-year project focussing on mental health in the workplace. It aims to redesign organisational health management to improve workforce wellbeing. KU Leuven coordinates the project, which is implemented across 65 European hospitals in 6 counties in collaboration with 65 US Magnet hospitals.

Based on the Magnet principles, the organisational redesign starts from a gap analysis and builds an action plan tailored to and co-created with the target hospital. Twinned with established Magnet hospitals in the US, European hospitals are guided by their counterparts on the other side of the pond. Regular communications, a critical mass of hospitals in several countries, and rigorous scientific ex-post evaluation are crucial to the success of the process.

Clinicians wellbeing was measured through surveys. The indicators adopted are burnout levels, job dissatisfaction, intention to leave, depression, anxiety, health, and work-life balance. For example, improvement in nurse staffing levels emerged as a top priority for both nurses (79%) and doctors (42%). The work environment impact on mental health and wellbeing is measured by 5 indicators: staffing adequacy, foundations for quality, management & leadership support, nurse-physician relationships, and involvement in hospital affairs. Depending on the results, the work environment is classified as poor, medium, or good. Where the work environment is good, higher job satisfaction, a lower percentage of burnout and a lower percentage of intention to leave are registered. This trend is common to nurses and physicians, but for doctors, the percentages of burnout and intention to leave are even higher.

Some lessons learnt stood out during the project implementation. The cause of burnout and other mental health issues is mainly situated in the organisation of work. There is a difference between individual interventions, focused on coping with stress, and organisational interventions to prevent stress. Organisational interventions are highly preferred by staff as they work on the cause rather than the symptoms.

The case study – The Hospital Bremerhaven-Reinkenheide, Germany

Bremerhaven-Reikenheide is a community hospital which counts 800 beds and 1,900 between nurses and physicians. In the Magnet4Europe project context, this hospital developed a professional practice model and a mentoring program.

- A Professional Practice Model is a conceptual framework for nurses, nursing care, and interprofessional patient care that depicts how nurses practice, collaborate, communicate, and develop professionally to provide the highest-quality care. The hospital submitted surveys to nurses to understand what was not working at the organisational level. The adopted bottom-up approach enabled nurses to self-empower while being an active part of the work environment improvement.
- Mentoring is a professional partnership between a mentor and a mentee to accompany new colleagues into a new area of responsibility and retain them in the long term. The mentoring programme involved all hospital staff and participation and feedback were positive.

Take-home messages

- In good work environments, higher job satisfaction, a lower percentage of burnout, and a lower percentage of intention to leave are registered. The cause of burnout and other mental health issues is mainly situated in the organisation of work.
- There is a difference between individual interventions focused on coping with stress and organisational interventions focused on preventing stress. Organisational interventions are highly preferred by staff as they work on the cause rather than the symptoms.
- COVID-19 has worsened the mental health and wellbeing of health workers, but some organisations were better prepared. Improving the work environment is especially important to attract and retain clinicians.

Speakers

- **Prof Dr Walter Sermeus**, Professor and Programme Director at KU Leuven Institute for Healthcare Policy; Head of the KU Leuven WHO CC on Human Resources for Health Research & Policy, Belgium
- **Mr Patrick Focken**, Magnet4Europe Coordinator, Hospital Bremerhaven-Reinkenheide, Germany

7. Empowering communities: a way towards stronger health systems

The seventh episode of the webinar series '*Health Management in action: fostering health systems' resilience*' investigated community engagement in health governance and health systems and the need to shift to community-based, health-promoting health systems.

The COVID-19 pandemic had an unequal impact on people, affecting more intensively vulnerable populations such as children, migrants, homeless people, and elderly care homes residents. This impact is likely to have long-term consequences. On the one hand, determinants of health and inequalities interfered with the pandemic. On the other hand, the pandemic widened inequalities, increased poverty, and exacerbated educational gaps.

Lessons learnt from the pandemic should be translated into strategies. It is crucial to systematically reach out to and include views from communities and groups of people in society. For this purpose, we should enhance capacity-building for inclusive health governance, create a systematic and regular mechanism for social participation, and foster social movements. Trust in society can only be built bottom up and in co-creation. Critically important is that preparedness plans assess and mitigate the 'collateral damage' of response measures across sectors. In this regard, it is helpful to engage with Behavioural and Cultural Insights (BCI) units and multi-disciplinary sciences, to ensure mental health support, social protection and support measures, empower communities, boost health promotion and disease prevention, and build resilience and wellbeing.

We should nudge for a shift toward community-based, health-promoting health services. In this process, the role of health managers is essential. Health services should implement specific health promotion and prevention interventions, such as screenings and vaccinations, but also preventative home visits and outreach initiatives to vulnerable communities. Finally, health services should engage with health promotion and prevention in other sectors to address for example social needs, addictions, substance misuse, sexual violence, abuse, and mental health.

It is important to generalise resources available at the community level: local authorities can support bottom-up, community initiatives. At the local level, governance can remove legal and structural barriers, provide funding, and facilitate the sharing of experiences.

Inclusive health governance can enhance trust in health policy by enabling people to express their voices and address power imbalances in our society. Inclusive health governance encompasses different levels of participation, from highly participatory to more institutional, and is guided by three principles: inclusiveness, intensity, and influence. The participatory work can be conducted in person, through consultative or deliberative methods, or through formalised mechanisms with fixed seats.

Finally, if designed and applied to meet the needs of different groups facing vulnerability, technology can empower communities and improve health. This requires securing safe digital environments and infrastructure, improving access of people with or facing

vulnerability, engaging groups we want to reach more in the development and testing of these technologies, and improving digital health literacy as well as skills of health professionals and the wider community.

Take-home messages

- The involvement of communities in health governance and in health systems is crucial. Local authorities should facilitate effective community engagement and inclusive health governance.
- In crisis response, mechanisms to consider Social Determinants of Health (SDoH) are needed to avoid long-term consequences. This requires engaging with people most impacted in systematic ways.
- We need to shift to community-based, health-promoting health systems and focus on prevention, with the support of health management.
- It is crucial to explore the use of technologies while improving digital health literacy and closing digital exclusion and gaps.

Speaker

- **Ms Caroline Costongs**, Director, EuroHealthNet, Belgium

8. Towards a better EU health preparedness and response: gaps and solutions

The eight episode of the webinar series '*Health Management in action: fostering health systems' resilience*' offered insights on health system resilience and shock cycles.

Over the last few years, the succession of multiple, interrelated crises brought the term 'permacrisis' to the fore. In the health sector, living in a state of permacrisis means continuously preparing health systems for the next crisis in a dynamic shock cycle that encompasses 4 stages[1]: (1) preparedness; (2) shock onset and alert; (3) shock impact and management; and (4) recovery and learning. Health systems are resilient when can manage each stage of the shock cycle. In other words, health systems resilience is the ability to prepare for, identify, manage (absorb, adapt, and transform), recover and learn from shocks to improve their performance. From a recent systematic literature review[2], it emerged that there has been an uneven focus on the different stages of the shock cycle. Major attention has been paid to the management phase, while the recovery and learning phase is the least researched area.

The COVID-19 shock cycle is currently between stage 4 ('recovery and learning') and stage 1 ('preparedness'). Lessons from COVID are crucial as the legacy of the previous crisis becomes the preparedness for the next one. The pandemic originated an unprecedented staff turnover, followed by burnout crises and the 'big resignation'. As people could not receive routine care in the acute phases of the pandemic, health systems are now suffering from long waiting lists and backlogs. A controversial legacy of COVID is the contested space of finance: countries are not clear about translating funds originally dedicated to COVID-related expenses to other health expenses.

The pandemic shed light on governance muscles, demonstrating that countries have the strength to take decisive actions at all levels, such as lockdowns, emergency measures, innovative facility management, and the uptake of telemedicine. COVID-19 also exercised the governance muscles in collaborative actions in surveillance, procurement, funding, and learning. Last but not least, leaders had to take fast decisions based on limited information. Eventually, data and information proved decisions to be wrong; thus health systems improved also in terms of agility and reversibility.

From a recent study on how international health system austerity responses to the 2008 financial crisis impacted health systems and workforce resilience, other lessons can be drawn. A top-down governance can originate a lack of ownership from those delivering care as well as distrust in the decision-making agenda. To avoid this situation, the decision-making process should be transparent and involve care providers. It is also very risky is

[1] Thomas, S., Sagan, A., Larkin, J., Cylus, J., Figueras, J., & Karanikolos, M. (2020). Strengthening health systems resilience: Key concepts and strategies Retrieved from WHO, Denmark: https://apps.who.int/iris/bitstream/handle/10665/332441/Policy-brief%2036-1997-8073-eng.pdf

[2] Fleming, P., O'Donoghue, C., Almirall-Sanchez, A., Mockler, D., Keegan, C., Cylus, J., Thomas, S. (2022). Metrics and Indicators Used to Assess Health System Resilience in Response to Shocks to Health Systems in High Income Countries - A Systematic Review. Health Policy. doi: https://doi.org/10.1016/j.healthpol.2022.10.001

health professionals perceive a diminished value of their profession. Front-line workers could feel powerless and detached, thus resisting change and sabotaging policies. Finally, an health-seeking behaviour change can happen, leading to a reduction in primary care usage in favour of an increase in emergency care. Without accurate health literacy, such a shift could originate medication mismanagement and delayed treatment.

To be prepared for the cost of living crisis, there are a few steps to be taken. First, we should introduce registries for people who are vulnerable to energy price hikes so that appropriate remedial action can be fast-tracked. Recently, warm banks arose: public sector spaces that deliver care warm to people that cannot afford to pay for it. Secondly, we should consider dropping healthcare access costs or implementing free care to preserve access for vulnerable groups. Finally, as the decision-making process should react quickly during crises.

Take-home messages

- Resilient health systems are those able to manage each stage of the shock cycle, namely preparedness, shock onset and alert, shock impact and management, and recovery and learning.
- The COVID pandemic represented an opportunity to exercise governance muscles in terms of collaboration, both at the national and international levels, and to practice high-pressure, fast decision-making.
- Previous austerity did not protect people. Ahead of the next crisis, we should target resources to protect vulnerable populations and their access to care and providers.

Speaker

- **Prof Steve Thomas**, Professor of Health Policy and Management; Director Health Policy and Engagement, School of Medicine, Trinity College Dublin, Ireland

9. From COVID-19 to monkeypox: how to apply the lessons learnt

The nineth episode of the webinar series '*Health Management in action: fostering health systems' resilience*' brought the perspective of the Public Health Authority of the city of Frankfurt in dealing with the COVID-19 pandemic and how they implemented the lessons learnt to the later monkeypox (mpox) outbreak.

The daily tasks of the Public Health Authority of the city of Frankfurt are infection control, municipal hygiene, disaster management, official medical examinations, children health, community psychiatry, environmental health, dental services, humanitarian medicine, preventive medicine, and health communications. Being a Federal Republic, Germany regulates the response to infectious diseases at the federal level and the states must comply with federal law.

In the early stages of the COVID-19 pandemic in Germany, the priority was the identification of measures to reduce the risk of viral transmission; while with the arrival of the vaccines, vaccination hubs were created. Following a federal order in December 2020, the Frankfurt vaccination centre was created in 4 weeks and was fully operational in January 2021, hosting up to 4,000 patients per day.

Everything was new in the response to the COVID-19 pandemic. The urgency of the situation required a learning-by-doing approach. Staff often were people without previous experience; therefore, communication played a crucial role. The documentation, analysis, and transfer of vaccination data required new technologies to be introduced. Data analysis was crucial to inform policies and had to be compliant with data protection standards. Vaccine logistics was also new, both for public authorities and for the pharmaceutical industry. For the first time, vaccines were purchased centrally and distributed at the local level. Another challenging element was scientific and public communications, due to the broad media interest. Finally, it was unclear how long the emergency phase would last, making planning even more difficult.

The outbreak of a new disease, the monkeypox (mpox), brought new challenges. The vaccination process was complicated by uncertainty in the payment model, complicated communications, and decentralised logistics. Differently from the COVID-19 pandemic, mpox impacted a more defined group of the population: men having sex with men. The restricted patient group raised sensitive issue in communication.

However the lessons learnt from the COVID pandemic facilitated the response to mpox. Health personnel was trained to respond to an uncertain situation and became more familiar with new digital technologies. Strategies and procedures for the vaccination campaign were already in place. The systems adopted in response to COVID-19 and the new approaches to work were implemented to tackle mpox.

Take-home messages

- Public Health Authority's daily tasks are infection control, municipal hygiene, disaster management, official medical examinations, children health, community psychiatry, environmental health, dental services, humanitarian medicine, preventive medicine, and health communications.
- The mpox outbreak presented similarities and differences with the COVID pandemic. Where possible, lessons learnt from the COVID response were applied to contain the mpox spread. The personnel was trained to respond to an uncertain situation and became more familiar with new digital technologies. Strategies and procedures for the vaccination campaign were already in place.

Speaker

- **Dr Peter Tinnemann**, MPH, Head of the Global Health Science Unit at the Institute of Social Medicine, Germany

10. The legacy of COVID-19

The tenth episode of the webinar series '*Health Management in action: fostering health systems' resilience*' focused on the role of Family Doctors in measuring and counteracting global environmental health threats at the local level and the legacy of COVID-19.

According to the World Health Organization, 23% of all global deaths are linked to the environment (roughly 12.6 million deaths a year). Moreover, the WHO stated that between 2030 and 2050, climate change will cause 250,000 additional deaths per year due to malaria, malnutrition, diarrhoea, and heat stress. To address climate change, the local implementation of global strategies is needed. Considering General Practitioners' (GPs) and Paediatricians' influence on individual patients and communities, they could play a role in connecting global concerns with local actions.

In the case of climate change, non-fatal health effects such as allergic, endocrine, and metabolic diseases are early indicators of environmental health conditions. A delay in quantifying these conditions could yield disarrangement of the overall health system with remarkable effects on individual and public health. Environmentally-driven effects on health are highly complex to interpret; multidisciplinary coordination is still to be improved; and coupling the epidemiological mission with the influential role of Family Doctors (FDs) is still a challenging mission. Sentinel physicians provide support to overcome those challenges.

Vivian Van Casteren defined a sentinel network of GPs as "*a system that keeps a watchful eye on a sample of the (overall) population by supplying regular and standardised reports on the incidence and the main epidemiological characteristics of specific diseases and of procedures in primary healthcare*". Sentinel physicians support public education and awareness raising. They are involved on a daily basis in local, regional, and national strategies to tackle antimicrobial resistance (AMR) within a One Health approach. Moreover, they can implement early alert systems, thus impending weather extremes and infectious disease outbreaks. Sentinel physicians can enhance disaster preparedness, including increasing the capacity of the health system to respond to emergencies. Their role is key in implementing infectious diseases control programmes in fields such as food safety, vaccine programs, case detection and treatment, and in improving surveillance through vector control, risk indicators, and health outcomes. Finally, they can support the establishment of appropriate health workforce training.

The Italian Network of Sentinel Physicians for the Environment - Rete Italiana Medici Sentinella per l'Ambiente (RIMSA) carries on epidemiological surveillance and advocacy duties. RIMSA aims to promote a GP and Paediatrician's profile able to take care of Environmental Health prevention activities, especially in the area of climate change. The Network strives to reaffirm the role of GPs and Paediatricians in promoting healthy habits and sustainable lifestyles, not only in terms of individual health (micro) but also within a collective (meso) perspective of Planetary Health (macro).

Multidisciplinary collaboration among GPs, Paediatricians, hospitals, and actors involved in prevention needs to be regulated by a policy framework. Regulations could facilitate health managers' efforts to contain environmental threats to health. Health managers can support the education of health professionals about environmental health issues.

Lessons learnt from the COVID pandemic

The COVID-19 pandemic likely had a zoonotic origin. Such a possibility increased the importance of the One Health approach, the unity of multiple practices that work together locally, nationally, and globally to help achieve optimal health for people, animals, and the environment. Antimicrobial resistance (AMR) is an example of a field where the One Health approach should be implemented.

The outbreak of COVID-19 in time and space clarified that the distinction between local and global has largely become superficial. The pandemic also emphasised the crucial role of Primary Health Care (PHC) in diagnosis, screening, triage, and monitoring activities. The current emergency has highlighted the need for GPs to work in coordination with PHC and hospitals: a multidisciplinary workforce can play a vital role in recognising and managing environmental and social factors of community health.

Take-home messages

- GPs and Paediatricians could play a helpful role in connecting global concerns about environmental impacts on health with local actions.
- Environmentally-driven effects on health are highly complex to interpret; multidisciplinary coordination is still to be improved; and coupling the epidemiological mission with the influential role of Family Doctors (FDs) is still a challenging mission. Sentinel physicians provide support to overcome those challenges.
- Key lessons learnt from the COVID pandemic are the importance to implement a One Health approach; the need to overcome the difference between local and global concerns; and the crucial role of PHC in diagnosis, screening, triage, and monitoring activities.

Speaker

- **Dr Paolo Lauriola**, ISDE Modena's President and Head of the Regional Reference Centre 'Environment & Health' of ARPA Emilia-Romagna, Italy

Conclusions

The COVID-19 pandemic disrupted healthcare delivery, shedding light on pre-existing structural challenges. The lessons learnt from this pandemic must be used to increase resilience, while moving towards more responsive and robust health systems. True to its mission of supporting the spread of knowledge on effective health management, the European Health Management Association (EHMA) collected lessons learnt and best practices through a webinar series on fostering health system resilience.

In the ten episodes, experts from the EHMA network explained how health systems and health management should respond to health crises. Every crisis creates a shock cycle. Health systems are considered resilient if they can well respond to each stage of the cycle. Innovative financing models and management tools, such as assessment frameworks, can be used to measure and increase health system readiness.

The webinar series also explored relationship issues that can be addressed through governance and leadership models. By adopting a governance model that combines communication, command, and control, it is possible to ensure that the staff follows the leadership, actively contributes to the crisis management, and co-creates solutions. In health crises another essential relationship is the one with the health workforce that is suffering the most in terms of both physical and mental health. The management must ensure actions and mechanisms are in place to protect healthcare workers. Finally, health managers are in a privileged position to facilitate the shift to community-based, health-promoting and prevention-focused health systems, where communities are actively involved in governance and co-creation.

Several other lessons can be drawn from the management of the pandemic. Health managers should lead the way towards an holistic 'One Health' approach, overcoming the difference between local and global. The use of data and digital technologies are also increasingly important for evidence-based decision making and the monitoring and management of new health threats, such as the most recent monkeypox outbreak. All the lessons learnt from the pandemic offer health managers and leaders the opportunity to treasure the legacy of the COVID-19 and ensure a strong health management response at organisational, local, national and European level in the face of new health threats.