# Plenary 4

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**PL004. Reimagining Resilient Health Systems: Integrating Risk, Intelligence, and One Health for Safety**

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The COVID-19 pandemic has revealed critical vulnerabilities in Europe's public health infrastructure, highlighting significant challenges faced in the European Union (EU's) mission to strengthen health systems, and to increase security and preparedness. Key obstacles such as fragmented data systems, unequal access to care across EU Member States (MS), limited trauma system capacity, and the lack of real-time health surveillance and intelligence, hamper timely detection, assessment, and the deployment of coordinated response to cross-border health threats. These gaps have already been highlighted in the EU's health preparedness agenda, yet its scope ought to widen beyond infectious disease outbreaks so as to address a wider spectrum of preventable non-communicable harms, incl. injury, violence, and occupational trauma. Moreover, evolving and interconnected pressures such as climate change, antimicrobial resistance (AMR), urbanization, and an extremely intense pace of technological advancement, demand a more integrated, agile, and forward-thinking approach to safeguard health systems and security across the Continent.

As the EU seeks to align public health systems and security with environmental sustainability and digital transformation, it becomes clear that siloed preparedness strategies are insufficient. Instead, interoperability, cross-sector collaboration and data integration, and citizen empowerment, must form the foundation of future-proof health systems, and also health surveillance systems. A comprehensive approach ought to consider all levels of care and adopt an intersectoral prism, to ensure patient and citizen safety whilst safeguarding the interests of public health and a robust innovation ecosystem.

This panel will convene representatives from the patient community together with public health experts to explore how Europe can enhance its capacity to anticipate, absorb, and adapt to health crises. The discussion will focus on integrating risk intelligence, cutting-edge technologies, and inclusive governance models to safeguard public health and promote safety throughout the life course. Additionally, particular emphasis will be given to access and accessibility, including the creation of inclusive environments for individuals living with disabilities or experiencing compromised access for other reasons. Key themes include the strategic opportunities emerging at the nexus of digital transformation, the potential of data integration across sectors, citizen engagement, risk intelligence, and multisectoral governance. The panel will examine how the next generation of European health systems can be co-created to be anticipatory, inclusive, interoperable and resilient.

The session will explore how whole-of-society (WoS) approaches can drive comprehensive safety and prevention strategies across all levels of health systems, involving all stakeholders, from the local community to national and European institutions. Emphasizing the critical need for harmonized and interoperable data streams across sectors, including health, environment, transportation, education, and social services, the discussion will highlight how integrated data can be used to enhance reporting on short- and long-term health and societal outcomes, reduce system burdens, and support robust, evidence-informed policymaking in both high- and low-resource contexts.

Resilient infrastructures must not only provide efficient emergency responses but also ensure equitable access, support mental health, adequately address trauma and injury, and reduce inequalities. The session will thus discuss how spaces that are designed inclusively, integrating accessibility, dignity, and psychological safety, can foster trust in health systems, improve patient and worker wellbeing, and support recovery and reintegration.

A special focus will be placed on the transformative role of digital innovation in health governance. This includes the expanding use of real-time analytics, Artificial Intelligence (AI-) powered predictive modelling, and interoperable surveillance platforms that enable rapid, precise, and proactive decision-making. The panel will examine how the potential of these technologies can be responsibly harnessed to anticipate and identify emerging risks in real-time, how they ought to be evaluated so as to optimize resource allocation, and strengthen system responsiveness.

Moreover, the panel will delve into the practical integration of One Health principles, promoting a holistic, interdisciplinary and inter-sectoral approach to health security. Central to this approach is embedding citizen and patient voices in the design and governance of health systems and of AI technologies to ensure that policies are grounded in lived experiences, foster public trust, and reflect community needs.

Finally, the session will critically assess frameworks for evaluating the effectiveness, safety, and equitable value of emerging health technologies in detail. It will underscore the importance of ensuring that innovations translate into accessible, affordable, and timely tools that meet the diverse needs of populations, particularly in vulnerable or underserved communities, thereby advancing health equity alongside technological progress.

Through moderated discussions and practical case studies, this panel aims to foster a shared understanding among European institutions, civil society, and scientific stakeholders on how to co-create health systems that are not only crisis-responsive but also sustainable, trusted, and safe for all populations.