Digital modeling and artificial intelligence driving innovation in hospital system

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Abstract

Digital transformation is redefining hospital systems through the integration of digital models, artificial intelligence (AI), and health data, driving an evolution toward organizations that are more sustainable, predictive, and value-oriented. The lecture will explore the role of the hospital Digital Twin, data interoperability, and intelligent systems in supporting planning, the management of clinical care processes, and strategic decision-making.

Particular attention will be paid to AI's contribution to optimizing care pathways, managing resources and waiting lists, and governing healthcare organizations. Key topics will include data quality, interoperability, cybersecurity, the AI Act, the European Health Data Space (EHDS), and the responsible management of artificial intelligence.

The lecture will also analyze the role of Real-World Data (RWD) and Real-World Evidence (RWE) in bridging the gap between the hospital and the community. By utilizing data from continuity of care, telemedicine, connected devices, and Patient-Reported Outcomes, it will be shown how the traditional information gap following discharge can be closed; this generates new evidence for clinical research, supports personalized medicine, and improves the monitoring of outcomes, treatment adherence, and the management of chronic and frail patients.

Through practical case studies, the lecture will present the "Learning Health System" hospital model, in which the integration of AI, digital models, and real-world data transforms every care pathway into a continuous source of knowledge, innovation, and improvement—enhancing clinical and organizational outcomes as well as the sustainability of the healthcare system.

Short bio

Innovation Manager with over twenty years of experience leading complex strategic programs, managing public organizations, developing innovation ecosystems, and building partnerships among institutions, universities, research centers, businesses, and startups.
She has held senior roles—including general management, strategic and scientific leadership, and expert project management—across public bodies, healthcare organizations, local authorities, foundations, and international organizations, coordinating multidisciplinary programs with investments exceeding €500 million.
Her professional profile focuses on innovation governance, technology transfer, research valorization, digital transformation, regional economic development, and the creation of public-private networks aimed at enhancing the competitiveness of production systems and fostering human and sustainable capital growth.

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