

Oral

 Sun. Sep 28, 2025 9:00 AM - 10:15 AM JST | Sun. Sep 28, 2025 12:00 AM - 1:15 AM UTC  Session Room 8  
(Meeting Room 1)

## Oral 17

### [O-17-01] From Burnout to Resilience: Leveraging AI to Optimize Workloads and Build Sustainable Healthcare Systems

\*Nancy De Jesus<sup>1,2,3</sup> (1. CNRS-INSERM-CERMES3, Université Paris Cité, 45 Rue des Saints-Pères, 75006 Paris (France), 2. Pôle94G16 Hôpitaux Paris Est Val de Marne, 12 Rue du Val d'Osne 94410 Saint Maurice (France), 3. SPI-DDH, WHO Europe Région (Denmark))

Keywords : AI in healthcare、Workforce well-being、Burnout prevention、Digital health、Workload Optimization

The integration of artificial intelligence (AI) in healthcare holds transformative potential to address workforce challenges, particularly in mitigating burnout among health and care workforce (HCW). The WHO Europe SPI-DDH Working Group 4 (WG4) explores how AI can shift from being a digital tool to a strategic solution for enhancing HCW's resilience. Through an extensive study of **1,200 peer-reviewed articles, systematic and grey literature (2014-2024)**, we identified **16 scientific articles and 4 pertinent sources** that provide actionable insights into AI-driven burnout prevention and workload optimization. Key findings reveal that AI-enabled strategies can significantly reduce burnout risk by: (1) **predicting burnout hotspots** through real-time risk analytics (2) deploying **AI-powered red zone detection** to visualize high-risk departments and personalize interventions; and (3) implementing **adaptive workload redistribution** to dynamically adjust staffing based on real-time strain indicators. These approaches could enable healthcare systems to transition from reactive crisis management to proactive, system-wide burnout prevention. However, the successful implementation of AI-driven solutions require **real-world pilot testing**, alignment with workforce policies, and active engagement of HCW in the design process. Ethical considerations are essential to mitigate biases in predictive models and decision-making processes. Crucially, AI must **complement the roles of HCW**, rather than overwhelming them, to preserve the human-centric nature of healthcare. In conclusion, AI has the potential to enhance workforce well-being, optimize healthcare delivery, and build resilient systems. By prioritizing **HCW engagement, policy integration, and ethical AI use**, organizations can leverage AI to enable sustainable and equitable healthcare. AI could bridge immediate relief, such as burnout prevention, with long-term workforce evolution, driving resilient and adaptive systems. The SPI-DDH WG4's study highlights the need for cross-sector collaboration and AI infrastructure investment, positioning AI as a cornerstone of the future healthcare workforce.