

Oral

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(Meeting Room 1)

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

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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.