Risks, Benefits, Motivations, and Impact on the Work Environment of Unsanctioned Smart Technologies: A Scoping Review KM Kokorelias, A Grigorovich, K Denecke, U Rehman, AM Levy, MT Harris, R Booth, J McMurray. *Gerontechnology* 25(s*)*

Purpose Artificial Intelligence (AI) and personal mobile technologies are reshaping how healthcare professionals manage their work. While many tools are introduced through formal institutional channels, others are adopted informally to fill gaps in workflow, communication, and decision support. These tools, often described as shadow technologies, sit outside sanctioned information technology systems and bring both benefits and risks (Silic et al., 2016). Their growing use raises questions about how they influence job performance, decision-making, satisfaction, and workforce sustainability, particularly in settings where clinicians support aging populations and older adults with complex needs. This scoping review examined how AI-enabled shadow IT and personal mobile technologies affect the work environments of regulated healthcare professionals, the motivations driving adoption, and the reported benefits and risks **Method** We conducted a scoping review guided by the Joanna Briggs Institute methodology (Peters et al., 2020). The protocol was registered on the Open Science Framework. A professional information specialist conducted comprehensive searches across CINAHL, Scopus, and IEEE Xplore, complemented by targeted Google Scholar searching, citation tracking, and reference list screening. Strategies were peer reviewed using the PRESS Checklist (McGowan et al., 2016). Searches ran on October 30, 2025. A total of 14131 citations were screened in Covidence through a two-stage review involving five reviewers. Studies were eligible if they examined regulated healthcare professionals working in institutional or employer-regulated environments and described the unsanctioned use of AI-enabled or mobile shadow technologies. We included qualitative, quantitative, and mixed-methods studies published in English. Data extraction captured study characteristics, participant demographics, technology types, motivations for use, frequency and purpose of use, impacts, risks, and organizational responses. Findings were synthesized using descriptive statistics and narrative analysis. **Results and Discussion** One hundred studies met the inclusion criteria. Most were conducted in hospitals within high-resource systems and examined smartphone apps, generative AI tools, messaging platforms, and decision-support applications. Motivations for use included convenience, time pressure, limited access to sanctioned tools, and the desire to maintain clinical proficiency. Perceived benefits included improved workflow efficiency, faster access to information, enhanced communication, and strengthened confidence in decision-making. Some studies noted value for professional development among aging or late-career clinicians who used these tools to manage evolving knowledge demands. Reported risks included data privacy concerns, unclear legal and ethical implications, accuracy issues with AI tools, and the absence of clear governance. Clinicians described fear of reprimand, stigma from colleagues, and inconsistent organizational support. Findings show that AI-enabled shadow technologies are becoming embedded in clinical practice as clinicians respond to workload pressures and gaps in existing systems. While these tools improve efficiency and support daily tasks, their unsanctioned nature can introduce risks tied to data security, patient safety, and organizational liability, especially in care settings serving older adults.

References

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