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The Roles of Artificial Intelligence in Interprofessional Healthcare Education: A Systematic Scoping Review

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Abstract	Background: Artificial intelligence (AI) is increasingly being introduced into healthcare education, with emerging applications that may support interprofessional education (IPE). However, current evidence on the use of AI in IPE remains limited, and the distinction between AI-enabled technologies and other digital educational approaches has not been consistently described. Objective: This scoping review aimed to map the existing evidence on the application and roles of AI in interprofessional healthcare education and to identify current research trends, educational outcomes, and knowledge gaps. Methods: This review followed the Joanna Briggs Institute (JBI) methodology for scoping reviews and is reported according to PRISMA-ScR guidelines. Five databases (PubMed, Scopus, CINAHL, ERIC, IEEE Xplore) were searched for studies published between 2014 and 2024. Eligible studies included those examining AI applications in IPE involving healthcare students or professionals. Data were extracted, charted, and synthesised using descriptive and thematic analysis. Results: Fifteen studies met the eligibility criteria. Most studies evaluated immersive virtual reality or simulation-based educational environments, while only a subset incorporated explicit AI functionalities, such as intelligent virtual agents or adaptive AI systems. Reported educational outcomes included improvements in communication, teamwork, collaborative learning, and learner confidence. However, the evidence was heterogeneous with respect to study design, intervention characteristics, and outcome measures, and most studies evaluated short-term educational outcomes rather than long-term competence or patient-related outcomes. Limited methodological rigor, inconsistent reporting of AI components, and ethical considerations were also identified. Conclusion: Current evidence suggests that AI-enabled technologies may support interprofessional healthcare education, particularly when integrated into immersive learning environments. Nevertheless, the available evidence remains limited and heterogeneous. Future research should clearly distinguish AI from other digital educational technologies, employ more rigorous study designs,

evaluate long-term educational and clinical outcomes, and address ethical considerations to support responsible implementation in healthcare education.

Keywords

Author Keywords: [artificial intelligence](#); [interprofessional education](#); [healthcare education](#); [virtual reality](#); [machine learning](#); [scoping review](#)

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Data availability statement

All data generated or analyzed during this study are included in this published article. No additional datasets were generated during the current study.