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Exploring Curriculum Considerations to Prepare Future Radiographers for an AI-Assisted Health Care Environment: Protocol for Scoping Review

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The use of artificial intelligence (AI) technologies in radiography practice is increasing. As this advanced technology becomes more embedded in radiography systems and clinical practice, the role of radiographers will evolve. In the context of these anticipated changes, it may be reasonable to expect modifications to the competencies and educational requirements of current and future practitioners to ensure successful AI adoption.

The review aims to explore and synthesize the literature on the adjustments needed in the radiography curriculum to prepare radiography students for the demands of AI-assisted health care environments.

Using the Joanna Briggs Institute methodology, an initial search was run in Scopus to determine whether the search strategy that was developed with a library specialist would capture the relevant literature by screening the title and abstract of the first 50 articles. Additional search terms identified in the articles were added to the search strategy. Next, EBSCOhost, PubMed, and Web of Science databases were searched. In total, 2 reviewers will independently review the title, abstract, and full-text articles according to the predefined inclusion and exclusion criteria, with conflicts resolved by a third reviewer.

The search results will be reported using the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) checklist. The final scoping review will present the data analysis as findings in tabular form and through narrative descriptions. The final database searches were completed in October 2024 and yielded 2224 records. Title and abstract screening of 1930 articles is underway after removing 294 duplicates. The scoping review is expected to be finalized by the end of May 2025.

A scoping review aims to systematically map the evidence on the adjustments needed in the radiography curriculum to prepare radiography students for the integration of AI technologies in the health care environment. It is relevant to map the evidence because increased integration of AI-based technologies in clinical practice has been noted and changes in practice must be underpinned by appropriate education and training. The findings in this study will provide a better understanding of how the radiography curriculum should adapt to meet the educational needs of current and future radiographers to ensure competent and safe practice in response to AI technologies.

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