

Artificial Intelligence in Nursing Practice: Opportunities, Challenges, and the Need for New Practice Competencies

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Trends and Issues in Nursing Informatics Column

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COLUMN

Developments in artificial intelligence are rapidly expanding and the use of artificial intelligence health technologies (AIHT) in nursing practice is also expanding. We often talk in nursing about preparing for the use of AIHT in the future, and while we need to prepare for how these technologies will affect us in the future, AIHT are affecting nursing practice now. Nurses have already been using artificial intelligence tools like the Rothman Index scores to determine patient acuity, and AI algorithms to help predict disease and prevent adverse events (Robert, 2019). For many of these algorithms the data used by the computer to determine risk is collected and entered by nurses, therefore nurses need to be aware of the relationship between the data they collect and enter into the EHR, and the AI technologies being used to support patient care (Ronquillo et al., 2021).

Given the impact of current AIHT and their potential exponential growth, priorities for the nursing profession have been identified, including the need for nurses to not only understand the AI technologies that they use, but to be involved in all stages of AIHT development (Ronquillo et al., 2021). These are essential priorities when talking about moving forward with safe and effective nursing practice in an increasingly AI integrated world, but operationalizing those priorities can be a daunting task when it comes to articulating exactly what it means to understand and develop AI technologies for practice.

One of the ways to identify specific nursing actions needed to integrate those priorities and evaluate how well we are reaching those targets is to create a competency framework, which is exactly what was recently done in Quebec. The revised Quebec healthcare AI framework for nursing education contains five competencies.

1. Students will be able to apply knowledge of informatics and digital health technology to the practice of nursing.
2. Students will be able to apply their knowledge of AIHT and their inherent benefits and limitations.
3. Students will be able to use AIHT safely and effectively within their nursing practice.
4. Students will be able to participate in the development of AIHT guidelines considering ethical, social, and legal implications.
5. Students will be able to engage in the development of AIHT training to support continuing nurse education.

These competencies are categorized into theory or application to practice and have corresponding performance criteria leveled based on education from CEGEP through to PhD (Lattuca et al., 2023).

While this framework is specific to the healthcare context in Quebec, many of the performance criteria are relevant to nursing practice across the country and could be implemented in many different jurisdictions to support the development of nursing students. However, while frameworks for nursing education help ensure our future nurses are prepared to work with AIHT, these technologies are already here, so we also need competency frameworks to support our current practicing nurses.

References

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