

# Artificial Intelligence in Nursing: Opportunities, Challenges, and Integration Strategies

Natasha Ramontal, DHSc, RN, BCPA, MA, BSN, BBA

SINI 2025  
*Thriving*  
IN THE AGE OF AI:  
MASTERING EMERGING  
TECH IN HEALTHCARE

## Background

Artificial intelligence (AI) is transforming healthcare delivery across several disciplines, including nursing. With capabilities to enhance clinical decision-making, streamline workflows, and support personalized care, AI presents substantial benefits. However, its integration into practice also introduces ethical, legal, and professional challenges. This presentation examines the advantages and disadvantages of AI in nursing, outlines critical considerations for nursing scope of practice, and offers evidence-based recommendations for its responsible and effective implementation.

## Objectives

The objectives are to:

- Define the role of artificial intelligence (AI) in modern nursing practice, including current applications such as clinical decision support, predictive analytics, and workflow automation, and
- Identify challenges related to the ethical, legal, and professional implications of AI, including issues of data privacy, clinical judgment, and potential bias in algorithms.

## Pros of AI in Nursing

AI has the potential to enhance nursing care in multiple ways, improving efficiency, accuracy, and patient outcomes. Some of the key benefits include:

- Improved Clinical Decision-Making
- Enhanced Workflow Efficiency
- Predictive Analytics for Patient Care
- Virtual Nursing Assistants
- Personalized Patient Care

## Problem

Risks and Implications of AI in Nursing include:

- Workforce readiness, including proper data extraction and interpretation
- Challenges related to capacity, competency, trust, and confidence in AI systems
- Need for increased technological proficiency
- Adaptability to rapidly evolving digital tools
- Awareness of cybersecurity threats
- Ethical considerations in AI-driven care
- Risk management strategies to safely integrate AI

The implementation of AI often places additional demands on the nursing workforce, pushing them beyond traditional roles and capabilities.

## Recommendations

The rapid evolution of digital health technologies and data-driven care models has elevated the role of AI within nursing education. Innovative strategies and tools employed to integrate AI competencies into nursing curricula, advance faculty development, and continuing education for nurses is crucial. This is essential for competency-based education, instructional innovation, and the need for scalable nursing faculty training programs.



## Conclusion

Digital transformation in healthcare demands a corresponding evolution in nursing education. Emerging technologies such as artificial intelligence (AI), telehealth, and big data analytics are changing clinical practice and reshaping the required skill set of modern nurses. Nursing informatics must be central to nursing curricula to prepare students for future roles (Sensmeier, 2020; Topaz et al., 2023), and it must be included in ongoing training of seasoned nurses to build digital literacy to prepare nurses for technology-rich healthcare environments.

## Bibliography

Sensmeier, J. (2020). The role of nursing informatics in advancing the quality of care. *Computers, Informatics, Nursing*, 38(3), 112-117. <https://doi.org/10.1097/CIN.0000000000000583>

## Notes

Thank you to all nurses for your ongoing commitment to growing your skills and enhancing the quality of care you provide to your patients.

# **Artificial Intelligence in Nursing: Opportunities, Challenges, and Integration Strategies**

Natasha Ramontal, RN, DHSc, MA, BSN, BBA

## **Poster Abstract**

Artificial intelligence (AI) is transforming healthcare delivery across several disciplines, including nursing. With capabilities to enhance clinical decision-making, streamline workflows, and support personalized care, AI presents substantial benefits. However, its integration into practice also introduces ethical, legal, and professional challenges. This presentation examines the advantages and disadvantages of AI in nursing, outlines critical considerations for nursing scope of practice, and offers evidence-based recommendations for its responsible and effective implementation. Nursing practice is increasingly influenced by digital health innovations, especially AI. As AI systems are embedded in everything from clinical decision support to predictive analytics, the role of the nurse is evolving. This presentation aims to provide a balanced perspective on AI's value and challenges in nursing and to guide safe and ethical integration aligned with nursing standards. AI has immense potential to transform nursing by enhancing clinical accuracy, efficiency, and personalized care. However, thoughtful integration grounded in ethics, clinical expertise, and nursing values is essential. As nurses continue to advocate for holistic, patient-centered care, they must also be leaders in shaping how AI is used in practice.