Smarter Every Shift: Developing a Nursing Artificial Intelligence (AI) Strategy That Clicks

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Since the emergence of generative Artificial Intelligence (AI) technologies, healthcare has faced a critical question: How can we harness the potential of this transformative technology to address the most pressing clinical challenges while navigating the risks associated with its rapid evolution? Setting a clear AI strategy for nursing is more than a technology initiative; it is a clinical and operational imperative. Nurses are shaping the future of intelligent healthcare while addressing frontline challenges at the point of care. To achieve successful AI integration into clinical practice, all nurses must engage in this global transformation at every level.

AI is already shaping nursing practice, and this influence will only continue to grow (Reading-Turchioe, et al., 2024). Nurses must be educated and engaged in AI planning, training, and implementation. Establishing AI literacy to facilitate nursing care models in an AI-enriched environment is critical for the profession's future (Reading-Turchioe, et al., 2024). To achieve this aim, nurses must stay ahead of the latest scientific developments and continually explore how this technology can be applied to clinical practice. Designing a comprehensive nursing strategy around the use and application of AI requires a structured and thoughtful approach. The following seven steps, illustrated in Figure 1, provide a summarized method using technical taglines to aid nurses in embracing successful AI strategies in practice.

AI Knowledge and Understanding

Nurses should begin by building a foundational understanding of AI concepts, domains, and practical application knowledge related to nursing care models, clinical decision-making, and value-based outcomes. Molly McCarthy, a global health technology nurse leader, described this new skill set as nurses needing "to learn how to integrate AI results into evidence-based practice while balancing that information with wisdom gained through nursing experience" (Robert, 2019, p. 37). To acquire foundational knowledge, basic literacy regarding terminology, and a general awareness of how these systems are trained and applied to nursing practice models is key. Equally important is an awareness of the legal and ethical implications of AI in healthcare. Applying this understanding to real-world nursing scenarios empowers nurses to make connections that inform AI models for meaningful application to practice, decision-making, and outcomes.

Craft a Culture That Embraces AI

Major transformation requires going beyond basic understanding AI principles to solve problems. It requires a shift in nursing mindset to embrace this logic as a key work enabler. Professional development, participation in AI design, strategic planning, and mentorship are all essential actions to embrace a culture of AI. Fostering engagement and readiness by establishing oversight, governance, resource alignment, prioritization, and cost strategies that support AI integration into nursing practice are activities typically exhibited with a strong AI culture. Duke University School of Nursing launched a resource hub and training initiative aimed at empowering nurses to harness AI, exemplifying a strong culture in this area (Johnson & Johnson Nursing, 2024).

AI Education

As artificial intelligence transforms healthcare, every nurse must be equipped with foundational skills and practical knowledge needed to evaluate, implement, and collaborate on AI-enabled solutions. This includes understanding not only the technical and clinical aspects of AI but also its ethical, operational, and human-centered implications. The American Association of Colleges of Nursing emphasizes that AI literacy is a critical component of 21st-century nursing competency, calling for its integration across nursing curricula and professional development (The American Association of Colleges of Nursing, 2021). Educational resources to develop this competency are increasingly accessible and continually expanding. Universities such as King's College London offer nurse-specific AI modules and certificate programs through platforms like the AI Nurses Network (London, 2021) . Self-paced, online learning resources, such as "AI in Nursing" (2024), provide curated content, real-world case studies, and practical guidance tailored for clinical practice. Podcasts like Generative AI in Nursing (Apple Podcasts, 2024) present insights from frontline nurse leaders on the ethical and practical challenges of AI integration. Foundational texts, such as AI in Nursing and Patient Care by Bannanje (2024), further enhance understanding by connecting AI concepts to nursing practice and patient care models. Embedding resources into formal curricula, clinical orientation, and continuing education is crucial for preparing the nursing workforce for a healthcare system increasingly influenced by AI.

Right AI Fit

Participate in the selection and collaboration of trusted technology partners who specifically align their solutions to nursing requirements. Ensuring that AI models are nursing-centric in their design supports the desired outcomes for these tools. The HIMSS Nursing Innovation Advisory Group recommended using the 5 Rights of AI in Healthcare as a framework in evaluating AI solutions. This five-step method involves confirming that the right objective, approach, competence, data, and safeguards have been considered when applying AI solutions in nursing (HIMSS Nursing Innovation Advisory Group, 2023).

Seamless Integration into Nursing Workflows

Establish a detailed plan for AI adoption, validation, maintenance, and scaling across nursing workflows and use cases. While these systems offer immense gains in work efficiency and computation, they also have the potential to disrupt operations if they are not well thought out. A recent study of nurse managers cited concerns over technical infrastructure and financial resources of AI on the managerial process when proper support mechanisms have not been well-established (Almagharbeh, et al., 2025). The lack of thoughtful, highly integrated AI solutions presents significant impediments to AI adoption in nursing. (Almagharbeh, et al., 2025). Models that are not embedded in current practices or adequately resourced for ongoing development with clinicians are more likely to fail.

Elevate Nursing's Voice in AI Development

Ensure nursing participation in AI strategy, from case development to organizational priorities and future road mapping. Nurses should collaborate and innovate with technicians to help develop and integrate AI in healthcare. Kathleen McGrow, CNO of Microsoft explains that nurses play a pivotal role in designing AI systems by ensuring they reflect real-world nursing workflows (McGrow, 2025). Nurses should assume a central role in steering the integration of AI into practice. This can be achieved through problem prioritization, solution identification, strategic partnerships, policy development, and application of change management principles (Sloss, et al. 2024).

Assess Workforce Implications

AI is taking over routine administrative and documentation tasks, thereby freeing up nurses' time to focus on care-related tasks. Engaging nursing expertise in terms of when, where, and how AI will be deployed in care models is necessary to maximize the efficiency of the nursing workforce (Yakusheva et al., 2025). Understanding how AI can create efficiencies, augment nursing tasks, and shift roles will become a new key skill for nurse leaders. Ensuring support for nursing caregivers during automation transitions aided by AI will also be key to avoiding any potential threat to nursing identity and critical nursing work that must align with human intervention, such as clinical wisdom that comes through practice experience and empathy.

Figure 1. 7 Steps in Designing AI Nursing Strategy

As healthcare continues to evolve and transform in this digital era, nursing must be an active architect, not a passive recipient, of AI integration. For nurses to be ready, they must advocate for their seat at the AI strategic table and craft the safest and most effective path forward for this technology. Knowledge and advocacy are essential. Developing a thoughtful, practical, and nursing-centric AI strategy is crucial to preserving the profession's integrity while enhancing its future impact. By following these seven steps, nurses can ensure that AI is a focused and thoughtful roadmap for delivering smarter, safer, and more compassionate care with every shift and every click. ■

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