

Nurse Informatics and Nurse Informaticist

Nursing Informatics

According to the “American Nurses Association”, Nurse Informatics (NI) is the assimilation of the nursing science, computer science, and information science in managing and communicating data, information, knowledge, and wisdom in nursing practice (Nashwan *et al.*, 2025). As an example, nursing informatics professionals are involved in creating, deploying, optimizing, and assessing electronic health records (EHRs), clinical decision support systems (CDSS), data analytics, redesigning workflow, and aligning the technology with the purpose of patient care.

Responsibility of Nurse Informaticist

A NI is an experienced RN with knowledge of informatics and technologies. They are leading the process of selection, implementation, and evaluation of health information systems (EHR, CDSS, documentation tools), motivating or guiding the workflow redesign to make sure that technology is supportive, educating, training, and supporting nursing personnel. Data integrity, data quality, data usability, and ensuring that the metrics are captured to be used in improving, researching, and making organizational decisions.

Influential Nurse Informaticist and the Contribution

According to some studies, the most impactful nurse is Virginia K. Saba, EdD, RN, FAAN, FACMI. Dr. Saba created the “Clinical Care Classification System”, a standardized nursing terminology of diagnoses and interventions that will facilitate nursing care to be visible and quantifiable within health information systems. She was a US Public Health Service Nurse Officer with a strong role in connecting the bridge between nursing, informatics, and leadership. Her work provided the infrastructure on which data norms of nursing and professionalization of

nursing informatics were laid (Dunn Lopez *et al.*, 2023). Her example explains why a nurse with an informatics background can influence the way the nursing documentation, workflow, and technology come together, exactly the position our organization will be able to leverage at the moment.

Nurse Informaticists and Other Health Care Organizations

Experiences of Other Healthcare Organizations

The experiences of NI in healthcare organizations are mostly positive. The reason is that their assistance will have an opportunity to make health systems more user-friendly and increase the digital literacy of staff members. Indicatively, it is evidenced that the presence of users of nurse power relates to the success of EHR programs and end-user engagement in change. In addition, in Canada, the use of health information systems increased enormously during the pandemic. In Western Canada, virtual health groups forced a movement in an attempt to have a better virtual appointment capacity (Peltonen *et al.*, 2023). Nursing informaticists have been forced to shoulder most of this work because of the blistering development and implementation of electronic services.

The Nurse Informaticist is an Intermediary

Along with the nursing staff, NI collects frontline feedback on workflow or documentation load, co-designs (simpler documentation templates in the EHR), trains, guides clinicians to use technology successfully, and tracks impact. In an interdisciplinary team, NI articulates clinical needs into informatics specifications, guarantees system design to suit care processes, facilitates interdisciplinary data-sharing and decision support, and serves as a source of governance, privacy, and performance metrics (Tun *et al.*, 2023). In the presence of IT or

technical personnel, they aid in defining functional requirements, user-testing, change-management, workflow alignment, and strategies of user-adoption.

Impact of Full Nurse Engagement in Health Care Technology

Patient care

The use of the full involvement of nurses in the field of health-care technology with the guidance of a Nurse Informaticist, has a direct impact on patient care. A cross-sectional study conducted in Jordan determined that there was a strong positive connection between nursing informatics competencies and clinical decision-making among nurses (Al-Qudah *et al.*, 2025). Therefore, the Nurse Informaticist will have the ability to spearhead and guide the total involvement of the nurses in technology and, in turn, improve patient-care quality, safety, and outcomes.

Protected health information (security, privacy, and confidentiality)

The management of the protected health information (PHI) requires strict supervision, as technology is becoming more sophisticated and extensive. According to evidence-based strategies, a nurse informaticist can spearhead, would be the establishment and monitoring of access controls, audit trails, clinical system-based role-based permissions, and ensuring that only the relevant users can access PHI (Meeker, 2024). They can utilizing the data governance structures (websites such as nursing data quality, metadata, interoperability standards) to such an extent that the transfer of data among the systems can minimizing unwarranted exposure. Since the Nurse Informaticist is knowledgeable in clinical workflows and in IT/security frameworks, this position is ideally positioned to synchronize privacy/security/confidentiality interventions with the immediate nursing practice and organizational risk management.

Workflow

Workflow and its optimization become more efficient and congruent with the nursing practice during those occasions when nurses are actively participating in the planning, design, and optimization of the health-care technology (as opposed to being passive end-users). The major effects are decreased duplicate documentation and data entry, and releasing the nursing time to direct interactions with the patient and not on administration. It has been seen that higher adoption, workarounds decreased, fewer staff frustrations, and lower risk of errors involves alignment of technology with nursing care pathways, with the resultant ease of hand-off, more understandable responsibilities, more timely alerts, and more effective coordination of interdisciplinary care.

Costs and Return on Investment

In a medical system, nursing informaticists can be used to reduce medical errors and costs incurred as a result. Even in the U. S., physical, financial, and societal impacts of medical errors are estimated at between \$20 billion by American Medical Institute (Rodziewicz *et al.*, 2024). They may be minimized through technology that enhances coordination of healthcare deliverers and considerably cut-cost of medical errors.

Opportunities and Challenges

There are several opportunities present to improve clinical practice and integrations, such as the tech design and implementation boosts the voice of nursing. Also, nurses can enhance participation of the staff, minimizes paperwork, and strengthens nurse satisfaction and retention that promotes innovation within informatics project frameworks led by nurses (Al-Qudah *et al.*, 2025). Besides those opportunities, the position will face some challenges including investment requirement (pay, education, facilities). According to the literature, a significant number of nursing-investment ROIs are incomplete or unclear. Some employees will object to the

technological change or reorganization of the workflow because they need to be trained and adapted. The integration of IT, clinical, nursing, and administrative groups is hard and requires leadership.

Collaboration of Interdisciplinary Team

The Nurse Informaticist can organize interdisciplinary working teams to map workflows that exist, find points of pain, and co-design solutions (Nashwan *et al.*, 2025). Interdisciplinary interventions can be implemented by using shared dashboards and analytics to point to the key quality metrics, and initiate cross-disciplinary responses. The NI, nursing representation, IT, and leadership should be members of the governance committees to prioritize the projects, keep in line with organizational strategy, and track the outcomes.

Summary of Recommendations

The main lessons for the CNO and the HR Manager are an invested Nurse Informaticist position that allows integration of nursing care, technology, and administration so our organization can maximize the use of systems, and streamline work processes. Secondly, complete involvement of nurses in health-care technology under the leadership of an NI will yield quantifiable outcomes better patient care, better working process, data management, and employee satisfaction. Current evidence demonstrates that informatics-guided nursing interventions can decrease incidents of adverse events and resource wastage, which are part of the cost-avoidance and efficiency. Due to the coordination provided by an NI, interdisciplinary collaboration will see to it that technology becomes an enabler of care, as opposed to a hindrance, putting our organization in a position of guaranteeing quality, safety, regulatory readiness, and future-oriented innovation.

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