An emerging giant Nursing
Just over a decade ago, the term nursing informatics might have drawn blank stares. Since then, this burgeoning field has become an essential element of healthcare delivery. In the last decade alone, there’s been a significant increase in the demand for nurses whose knowledge of nursing and specialization in informatics contributes to nursing practice, leadership, education, and research throughout the United States and other countries.

What, then, is nursing informatics? The definition adopted by the International Medical Informatics Association’s Interest Group on Nursing Informatics is “the integration of nursing, its information, and information management with information processing and communication technology, to support the health of people worldwide.”

Knowledge explosion

The introduction of robust and sophisticated clinical information systems has prompted significant transformation in healthcare, along with increased attention to patient safety and outcomes. In addition, there’s been increasing pressure for healthcare systems to improve efficiency while standardizing and streamlining organizational processes and maintaining care quality. This “knowledge explosion” strains clinicians to learn and integrate information systems into their already demanding daily practice.

There are many reasons why this transformation is taking place. Catalysts include federal initiatives that encourage nationwide adoption of electronic health records (EHRs) and reports such as the Institute of Medicine’s that claim clinical information systems improve processes and ultimately save patient lives.

One estimate is that nurses spend as little as 15% of their time on direct patient care, but 50% on documentation. A welcome outcome expected of the many information technology (IT) initiatives is revitalization and redefinition of the role of nurses and nursing practice.

The movement toward evidence-based practice drives home the need for nurses to have the necessary information for decision making at the point of care.

Evidence-based clinical practice involves integrating the best available evidence with clinical judgment, client values, and consideration of available resources. An expertly designed clinical information system can serve as the integrator that supports clinical judgment and client values with proven outcomes and up-to-date evidence-based practice.

When evidence-based practice is coded to an appropriate taxonomy system, computerized nursing documentation allows nurses to realign and track the care process, focusing on improving outcomes by implementing appropriate nursing care for identified problems. The result? Improved patient safety and care delivery through decision support. Another measurable outcome from evidence-based care is the ability to demonstrate the value of nursing to the overall health and well-being of patients and families.

Interest in implementing clinical information systems seems to have escalated since President Bush, in 2004, called for the widespread use of EHRs within 10 years. In response to the President’s mandate, the Office of the National Coordinator for Health Information Technology was created. Experts cite numerous benefits of EHR usage, but the driving force appears to be improved care quality and greater efficiency.
Specific roles
Nursing has been carving out a specialty over the years, and nurses have been informally practicing as informaticists since the early 1960s. Many nursing informatics (NI) specialists unofficially adopted the role when they were selected to be the nurse member of a hospital information system team. Often these nurses were already seen as the “techy” or “go-to” nurses—and were in the right place as a system was being implemented. They had a knack for making the system work for their unit or area. After the system was implemented, the nurse remained in the role.

Information technology departments, as well as nursing departments, have learned the value of the involvement and project management skills provided by a clinically knowledgeable nurse. In their everyday clinical practice, nurses work with patients and families to coordinate multiple services and impact patient care. These skills translate well into implementing complex systems to patient care: Nurses make great project managers.

In acute care and long-term-care organizations, as well as industry or vendor companies, nurse informaticists have held such diverse titles as NI specialist, clinical analyst, clinical project manager, and NI manager. Some of these roles “live” in the IT department; others report to the chief nurse officer and have a close working relationship with the IT department and the education staff. Nursing informatics positions are also seen in practice as senior managers holding titles such as clinical IT directors, chief information officers, and chief nurse officers. The Nursing Informatics Working Group of the American Medical Informatics Association maintains a repository of NI role descriptions at http://www.amia.org/mbrcenter/wg/ni/roles.asp.

The job responsibilities can be varied and encompass project management, health information system management, writing requests for proposals or returns on investments, developing educational programs, evaluating work process flows, writing policies, aiding in the design and content of an organization’s intranet, and making recommendations to chief nurse officers/chief executive officers on a preferred clinical system for nursing.

Nurse informaticists ensure that nursing is represented in decisions that impact clinical systems in the practice setting. As the largest group of healthcare professionals, nurses are the largest group of clinical users. Nurse informaticists ensure that any system meets the needs and fits the work flow of nurses. Their ability to liaison between nursing and IT allows them to prevent many costly errors:

• in system selection (choosing a system that doesn’t fit with the nurse’s work flow)
• in design (ensuring that the design of screens works for nurses and meets documentation standards)
• in education (confirming that education addresses what nurses need to know to use a system)
• during implementation (selecting a suitable work flow for nurses)
• postimplementation (focusing on system maintenance, optimization—with input from clinical nurse users—research and data information, and knowledge management).

Outside hospitals and nursing homes, the roles for NI positions also offer a wide array of opportunities. Nurses can work for vendors doing clinical system design, implementation, customer training, testing, and sales. Or they can target education, research, and professional standard development, working to standardize nursing languages and representation to the national and international informatics committees.

Educational programs
In 1992, the American Nurses Association (ANA) officially established the role of the informatics nurse specialist, shortly after which they began offering the first credentialing exam in 1995. Although this recognition of NI is fairly new among the nursing specialty practices, skilled information management has always been a cornerstone of successful nursing practice.

Nurses spend a significant portion of their time collecting and translating data for consumption by other providers, patients, and families. As computers increasingly become a tool for repositing healthcare information, it’s imperative that all nurses have computer competencies, just as they would with any other healthcare instrument.

The ANA’s Scope and Standards of Nursing Informatics Practice (2001) identifies three progressive levels of NI competencies: the beginning nurse, experienced nurse, and informatics nurse specialist. As the specialty of NI has become more defined, nurses have sought out more learning opportunities and have benefited from the emergence of more formal NI education programs. Until the last decade, there were few formal NI programs. It’s even more recent that informatics theories and competencies have...
started being incorporated into basic nursing associate degree and baccalaureate curriculums. Not surprisingly, many practicing nurse informaticists received their “formal” training on the job, typically as a necessity of their institution’s systems implementation.

As we transform the healthcare industry to this IT-enabled age, it’s vital to incorporate basic computer skills and NI competencies into all levels of professional nursing education programs. For a comprehensive list of programs for nursing, medical, and health informatics, visit http://www.amia.org/informatics/acad&training/.

Certification for NI
The American Nursing Credentialing Center (ANCC) began administering an informatics nurse certification exam in November 1995. The exam topics cover areas of basic IT, information and knowledge management, system development, human factors and NI models, theories, and professional practice. The ANCC Web site details the nursing candidate’s qualifications for the informatics nurse certification exam as:

♦ a baccalaureate or higher
♦ an active RN license, with at least 2 years of professional practice
♦ practice of at least 2,000 hours of NI within the last 3 years

or
♦ 12 hours of graduate work and 1,000 hours of NI practice

or
♦ completion of a graduate program in NI that included at least 200 hours of clinical practicum
♦ completion of 30 continuing-education contact hours in specialty area within the last 3 years for those who haven’t completed a graduate informatics program.

Those RNs, with a baccalaureate or higher degree in the field of nursing, who successfully pass the certification exam are recognized as “board certified” with the initials “RN,BC.” For RNs with baccalaureate or higher degree in a nonnursing field, their certification is recognized as “certified” with an “RN,C.”

Enhancing practice
As the healthcare industry continues to move toward utilization of IT tools to shape healthcare decisions and delivery, it’s essential that knowledgeable nurse informaticists work with other nursing specialties to ensure the discipline of nursing is enhanced by new technologies. The goal of nursing is to have these...
technologies enable and enhance nursing to care for patients and families. In this pursuit, nurses need to be prepared to interface with other healthcare professionals using health IT, while also assisting their patients to use IT for wellness and disease management.

REFERENCES

ABOUT THE AUTHORS
The HIMSS Nursing Informatics Awareness Task Force works to support the practice and discipline of nursing by increasing awareness of informatics in nursing communities.