

Nursing informatics: Designing the healthcare of the future

By Joyce E. Sensmeier, MS, RN-BC,
CPHIMS, FHIMSS

Nursing informatics is known today as the “specialty that integrates nursing science, computer science, and information science to manage and communicate data, information, knowledge, and wisdom in nursing practice.”¹ According to the most recent national sample survey of RNs released by the Health Resources and Services Administration (HRSA), more than 9,300 nurses work in this specialty, which is focused on optimizing information management and communication to improve the health of populations, communities, families, and individuals.² According to the HRSA report, the nursing informatics workforce is expanding, increasing by more than 6% between 2004 and 2008. Although this growth is significant, the need for informatics nurses in our current environment is outpacing their availability. According to healthcare recruiters, informatics nurses and their clinical informatics partners are in high demand. Healthcare organizations across the country are implementing large-scale, cross-organizational clinical information systems to be eligible for meaningful use incentives. These complex information systems will introduce new technologies and processes that may completely change the way clinicians work. Fortunately, nursing and clinical informaticists are at the frontline of this transformation, which, if successful, will ultimately improve patient safety and outcomes.

A special focus

Nurses play an important role in leveraging health information technology (IT) to improve patient safety, quality, and efficiency of care delivery. The nursing workflow is complex, which poses challenges to the adoption of technology.³ Informatics nurses have the right competencies and skills to drive these changes in the clinical setting, and their leadership is a necessary component for achieving success.

Nursing informatics is distinguished from other nursing specialties by its special focus on the methods and technology of information handling in nursing.¹ This focus is on the use of technology and informatics principles to address the ways nurses use data, information, and knowledge to make decisions and deliver care.

According to a recent study, the top three job responsibilities of informatics nurses are: (1) systems implementation/training, (2) systems development/design, and (3) working in a liaison role such as representing the information needs of nurses to other areas or departments.⁴

An important area of focus for applying the expertise of nursing informatics is workflow. For example, clinical and nursing informaticists at Children’s Hospital of Pittsburgh recently created an innovative dashboard for ICU intensivists and nurses.⁵ Although the nurses had years of experience deciphering the foldout paper-based flow sheets that provide key patient data in critical care settings, automating this tool caused confusion in the way data were presented. Key to the resolution were the insights that clinical and nursing informaticists provided by analyzing, uncovering, and working through the issues involved. The essential data elements are now easily visible on the dashboard, and although certain compromises had to be made, the clinicians are now satisfied that this new tool has improved their effectiveness.

Education and compensation

Numerous educational paths are available to prepare nurse informaticists. Options include formal educational programs at the baccalaureate and graduate levels in colleges and universities or informal educational options such as conferences, workshops, professional development certificate courses, distance learning modules, on-the-job training, and self-study.⁶

To be successful, nurse informaticists first have to be respected clinicians and have exceptional communication skills. Workflow-related projects may involve clinicians from multiple disciplines, and the project results will have a subsequent impact on patient care. Respondents of a recent survey believe that informatics nurses involved in system analysis, design, selection, implementation, and optimization of IT have the greatest impact on patient safety, workflow, and user/clinician acceptance.⁷

According to the 2008 Healthcare Information and Management Systems Society Compensation Survey, the median salary for a nurse informaticist was \$80,000, increasing to \$106,000 for a clinical

informatics director.⁸ However, the growing demand today for clinical informaticists is pushing up salaries. "For vice-presidents of clinical informatics, who usually have a nursing background, salaries have exploded recently, so that \$200,000 to \$250,000 is not out of range," says Betsy Hersher, president of Hersher Associates in Deerfield, Ill.⁹

The future now

As we look to the future, nurses can work with their informatics colleagues to leverage technology and transform the way we deliver care. In her remarks at the Institute of Medicine (IOM) Forum on the Future of Nursing, Dr. Pamela Cipriano, IOM nurse scholar in residence, made four specific suggestions regarding technology:

- Include nursing workflow as a focus of healthcare IT funding to ensure that systems and devices will enable nurses to be more efficient and produce safer care.
- Advocate for nurses to be included in technology design and evaluation to enhance rapid adoption.
- Ensure that nurses are seen as meaningful users of technology.
- Support nurses in moving high-technology care into the hospital setting of the future—the home and community.³

Regardless of the specific nursing focus or title, these recommendations provide guidance for our role in designing the healthcare of the future. There are exciting times ahead! **NM**

REFERENCES

1. American Nurses Association. *Nursing Informatics: Scope and Standards of Practice*. Silver Spring, MD; 2008.
2. U.S. Department of Health and Human Services. The registered nurse population: initial findings from the 2008

National Sample Survey of Registered Nurses. <http://bhpr.hrsa.gov/healthworkforce/rnsurvey/2008/>.


3. Institute of Medicine. *A Summary of the October 2009 Forum on the Future of Nursing: Acute Care*. Washington, DC: The National Academies Press; 2010.
4. Healthcare Information and Management Systems Society. *2007 Nursing Informatics Survey*. Chicago, IL: Healthcare Information and Management Systems Society; 2007.
5. Hagland M. First Place. Children's Hospital of Pittsburgh. Improving patient care through data availability in the ICU. *Healthc Inform*. 2010;27(3):20-21, 23, 26.
6. Skiba D, Connors HR, Honey M. Growth in nursing informatics educational programs to meet demands. In Weaver CA, Delaney CW, Weber P, Carr RL, eds. *Nursing and Informatics for the 21st Century: An International Look at*

Practice, Trends and the Future. 2nd ed. Chicago, IL: Healthcare Information and Management Systems Society; 2010.

7. Healthcare Information and Management Systems Society. *2009 Informatics Nurse Impact Survey*. Chicago, IL: Healthcare Information and Management Systems Society; 2009.
8. Healthcare Information and Management Systems Society. *2008 HIMSS Compensation Survey*. Chicago, IL: Healthcare Information and Management Systems Society; 2008.
9. Hagland M. Rowing together: clinical informaticists are in focus as never before. *Healthc Inform*. 2010;27(7):8-13.

Joyce E. Sensmeier is vice president, Informatics, Healthcare Information and Management Systems Society, Chicago, Ill.

DOI-10.1097/01.NUMA.0000390470.98162.a0



The
Science + Spirit
of Medical Excellence.

Springfield Regional Medical Center has wonderful opportunities for experienced leaders. Our commitment to excellence and patient care-focused staff make Community Mercy Health Partners a wonderful place to work.

Professional Opportunities Available:


- Director of Hospice
- Director Clinical Services – Women and Children
- Manager Patient Care – Surgery/Recovery
- Manager Patient Care – Mercy Memorial
- Coordinator of Quality/Infection Control – Mercy Memorial
- Nursing Supervisor

For information, contact:

April DeJesus
adejesus@health-partners.org

2615 E. High Street
Springfield, OH 45505
(937) 328-8992 • phone
(937) 328-8985 • fax

Community-Mercy.org



**SPRINGFIELD
REGIONAL
Medical Center**

An Affiliate of Community Mercy Health Partners