Thomas Jefferson University
Jefferson College of Population Health

Current Informatics Climate and Future Trends

Denise Hammel, RN-BC, MSN, CPHIMS, CLSSBB

XcellenceFirst
Improving healthcare outcomes

Learning Objectives

- Describe Nursing Informatics as a key technology leader
- Explore opportunities to evolve the role and it's current functions
- Explain how nursing informatics could be more involved in driving technology direction inside and outside the hospital environment

Discover
Execute
Engineer
Identify
Collaborate
Conduct
Evaluate
Analyze
Guide
Test
Supervise
Redesign
Interpret
Select
Model
Implement
Educate
Innovate
Plan
Communicate
Design
Optimize
Operationalize
Develop

Industry Topics and Trends

What's most impactful to NI

Electronic Health Records (EHR, EMR)

EHR-related malpractice claims are rising, and risk-mitigation strategies more important than ever

System factors in the EHR itself – poor integration, suboptimal design and UX, failures of alerts and alarms – were up 8 percent since the last time The Doctors Company did a similar report.

By **Mike Miliard** | October 17, 2017 | 04:11 PM

SPEECHES & TESTIMONY

Pew Urges Agency to Improve Electronic Health Record Interoperability

Letter calls for prioritizing patient matching, data standardization

August 25, 2017 | Health Information Technology

SHARE

FierceHealthcare

HEALTHCARE IT PAYER

Regulatory

ONC prepares for its biggest challenge yet interoperability and usability

by *Evan Sweeney* | Jul 12, 2017 9:09am

Electronic Health Records (EHR, EMR)

Nurse informaticist: We face severe usability problems

Nancy Staggers, professor at the University of Utah, will lead a discussion at HIMSS16 about the need for better design into workflows, cognitive support, and a framework for rethinking the user experience.

By **Bill Siwicki** | February 24, 2016 | 08:20 PM

Key Technology Challenges Remain?

- Usability of EHR and other technology solutions still problematic
  - Human Factors Engineering principals absent in design
  - Technology doesn't support workflow
  - Focus still on INput and not OUTput
  - No overarching vision for technology use

Current State Observations and Challenges

- Nursing informatics exists as a function instead of a full fledge department and leadership role
  - Nursing informaticians are seen as nursing education, quality improvement and not fully appreciated as having a distinct and unique skill set
  - Either lack of Nursing informatics committees or committees are dispersed and discussion/feedback not centralized
  - There is an overall lack of leadership and structure for nursing informatics (i.e. Medical Informatics may be the only true informatics role)
- Training, implementation, and communication do not support the efficient use of the system
  - Training is strong for implementation but does not persist after the live event, especially for new hires
  - Physician communication and training is sporadic and does not address the unique needs of the clinical community
  - Continual observation, fact-finding, and improvements with current system use are lacking
  - A multitude of projects across the inpatient, ambulatory, research, and hospital-partner care settings creates a continuous flow of new initiatives for IT without clear priority setting or revisiting currently implemented technologies

Current State Observations and Challenges

- Despite technology lifespan, improvements and impact on care are limited
  - Lack of standardized data sets makes effective reporting difficult
  - Significant time spent at the computer and not engaged in direct patient care activities
  - Suggestions that EHR's have inhibited inter-professional communication
  - Ability to use technology as a patient-facing/interactive tool still behind current need

Recommendations

1. Drive significant improvements in ***Clinical IT Consensus and Communication*** by identifying champions, ensuring appropriate informatics forums exists with diverse representation.

2. Demonstrate ***impact of Informatics*** through metrics, reporting, and professional extra-circular activities.

3. 3. Initiate Operational Clinical System Optimization programs, by forcing clinical leadership in establishing ***data and workflow standards***, ***human factors engineering principals***, and ***leveraging design thinking.***

4. Establish standard processes for ***Clinical System Prioritization*** and ***Coordinated Acquisition*** across all Clinical organizations.

5. Establish a ***Clinical Informatics Strategy***, establishing objectives, roles, and governance.

6. Create opportunities to ***leverage informatics expertise outside*** of the acute care setting

Define what Nursing Informatics Strategy

- *The BLANK HEALTH SYSTEM Clinical Informatics Governance Council serves as the primary enterprise forum to advise the Hospital on the selection, development, maintenance, integration and operation of all major campus-level clinical informatics applications. The need for this Council stems in large part from BLANK HEALTH SYSTEM's several large, complex clinical information systems that are vital to the patient care process, care decisions and related educational and research activities.*

Survey Says!!

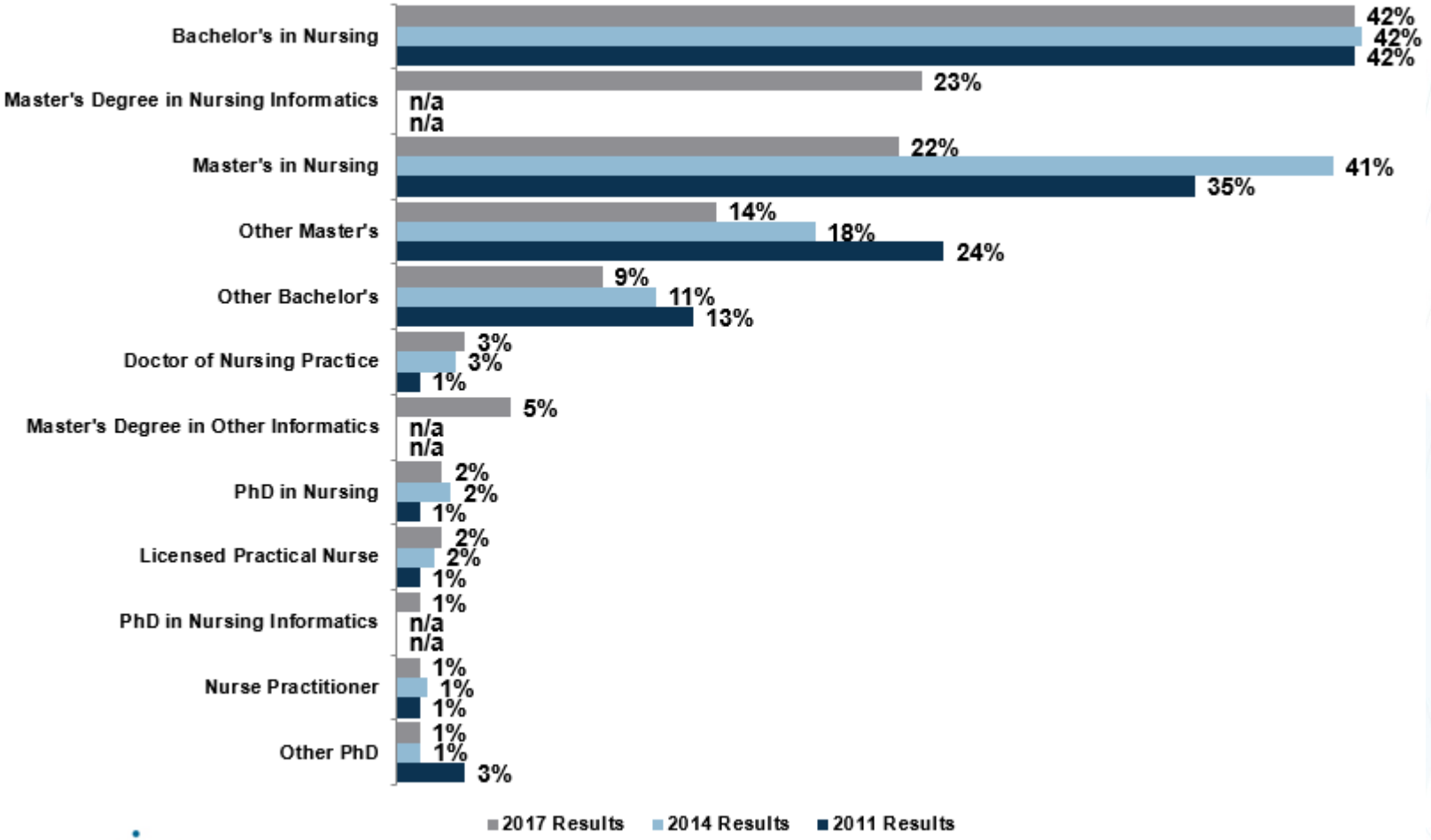
Results from the HIMSS 2017 Nurse Informatics Survey

- **57%** of respondents have a **post-graduate degree**
- **41%** of respondents planned to **pursue additional informatics education** and training
- While lack of administrative support and a lack of staffing resources were the primary barriers faced over the last two surveys, there has been a **shift in the identified barriers to success as a nurse informaticist**. In 2004 and 2007, the lack of financial resources was the top barrier while in 2011 it was the lack of integration and interoperability.

Top Respondent Titles

HIMSS
transforming health through IT

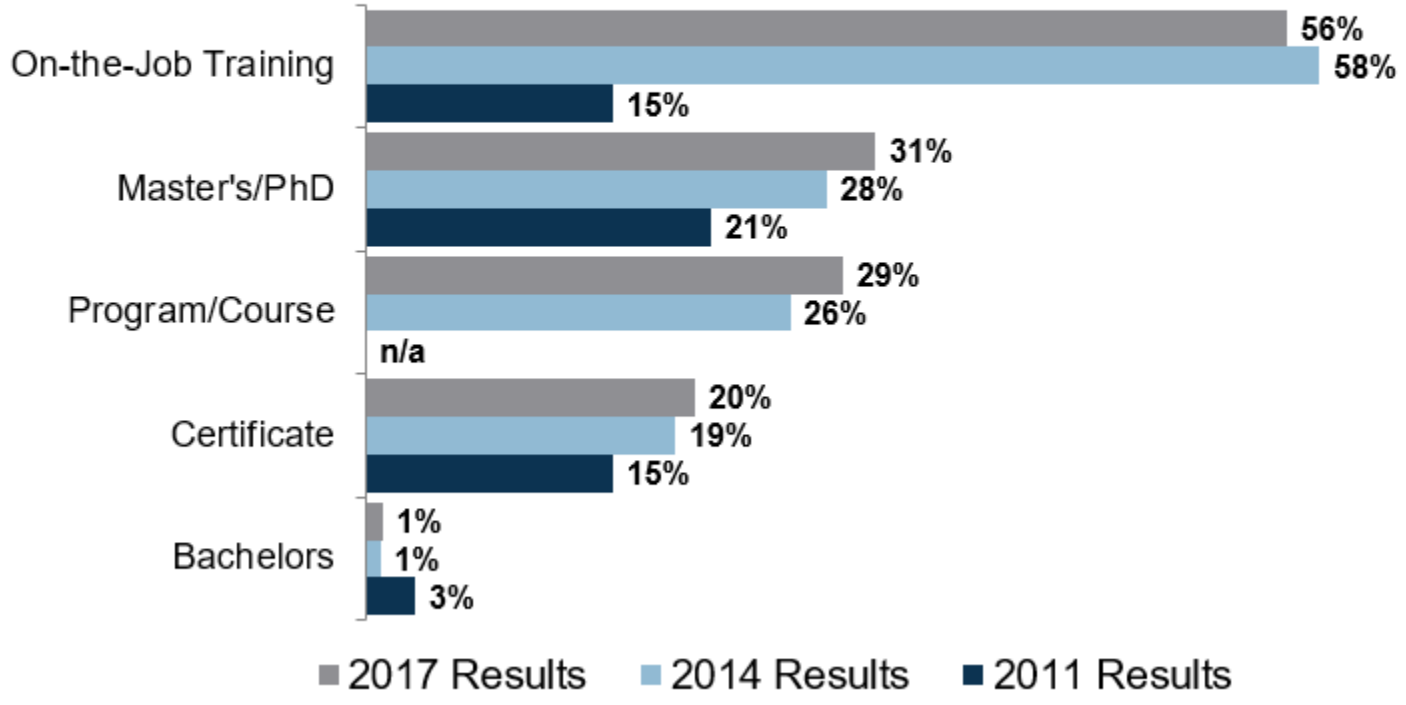
Nursing Education



HIMSS transforming health through IT

Selection options expanded for 2017 survey. Added Master's in Nursing Informatics, Master's in Other Informatics and PhD in Nursing Informatics

Prior Informatics Education/Training

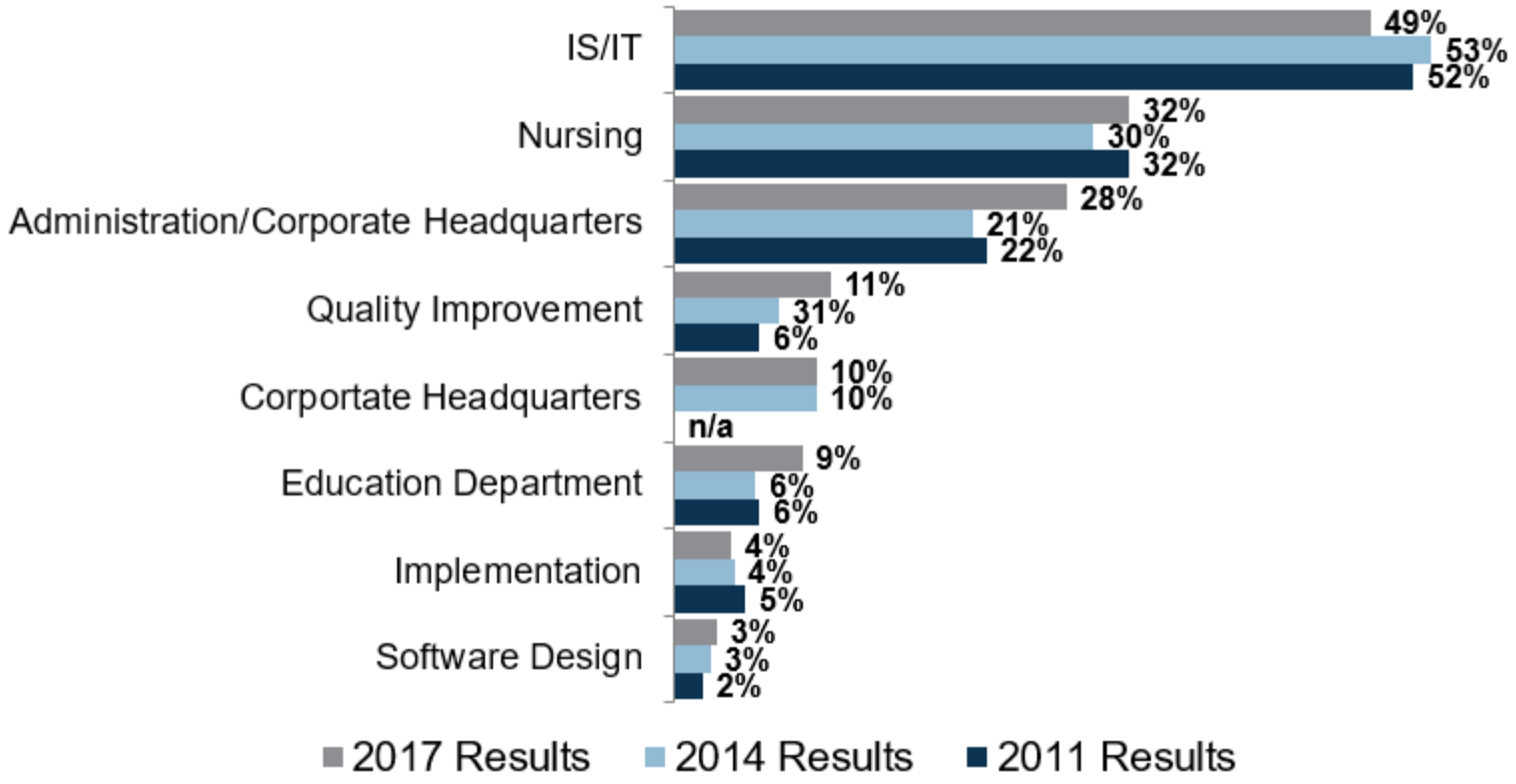


Perceived Value in Holding Certification

HIMSS
transforming health through IT

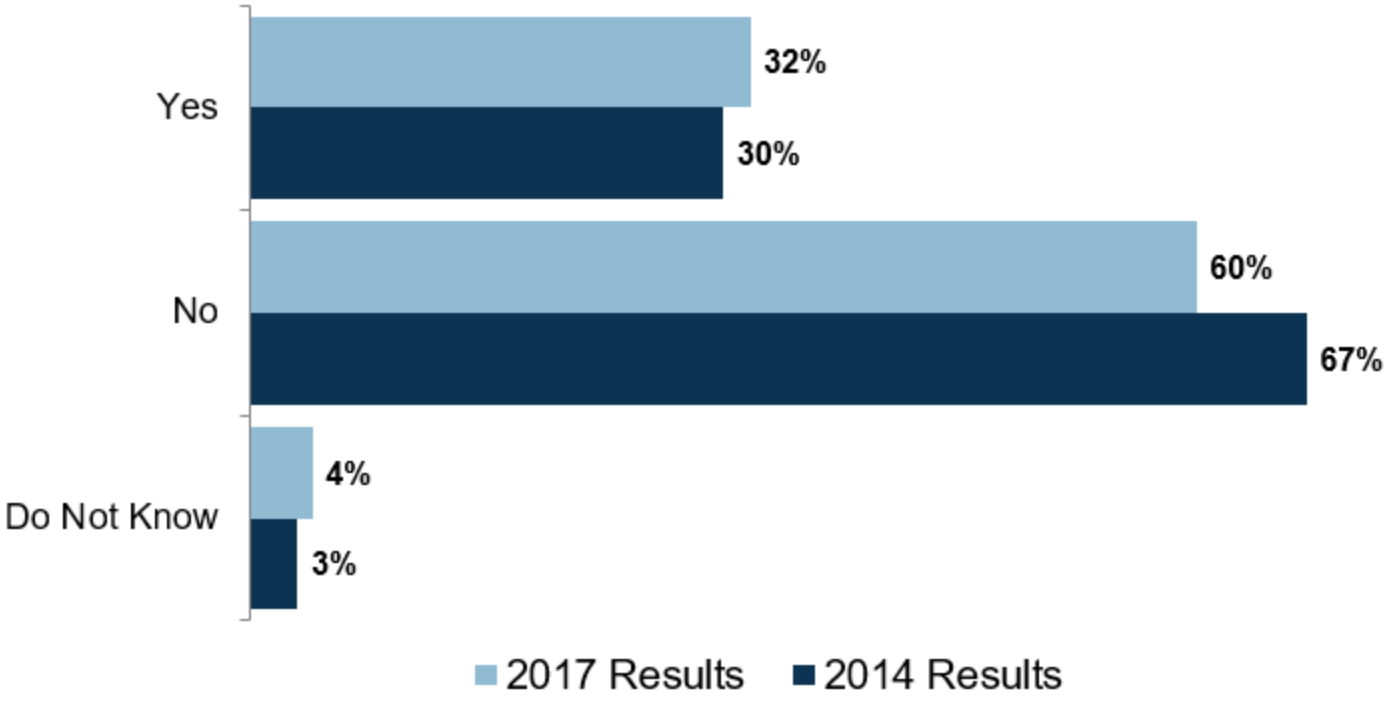
Percentage of respondents with certification

Department to Which You Report



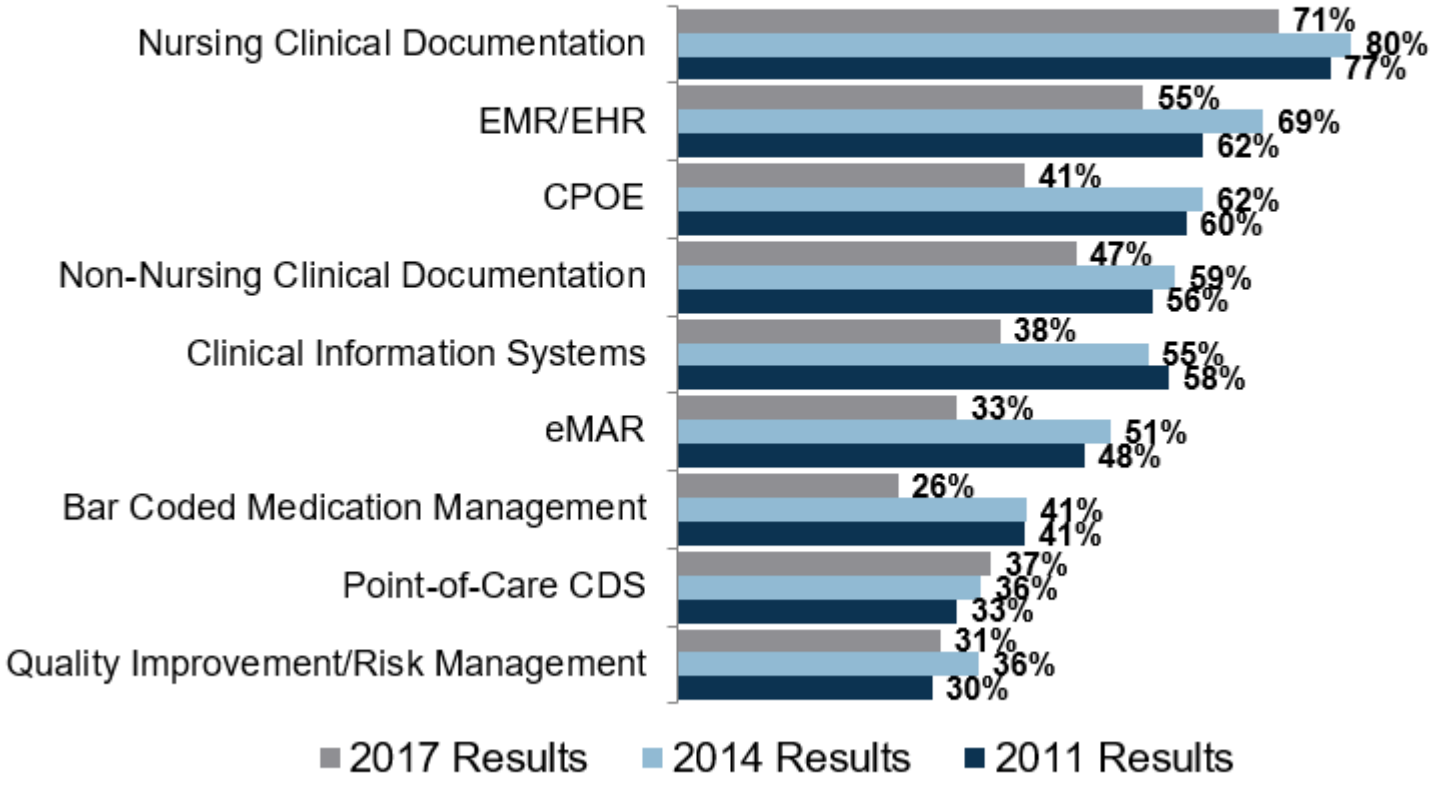
HIMSS
transforming health through IT

Senior Nursing Informatics Executive (CNIO) at Organization



HIMSS
transforming health through IT

Applications Currently Developing/Implementing/Optimizing



HIMSS
transforming health through IT

Essential

- Collaboration and consensus building
- Knowledge of nursing informatics
- Problem solving and conflict resolution
- Emotional intelligence
- People management
- Team development

Very Important

- Vision and creativity
- IT system implementation
- Business and finance

Important

- Nursing
- Process improvement (Six Sigma)
- Change management certification/expertise
- EHR

WittKiefer Survey 2016

Why Advanced Preparation?

- Responsible for strategic and operational nursing leadership
- Working with the CMIO and CIO, provides a liaison role between nursing and information systems leadership
- Provides visionary clinical nursing leadership to advance the utilization of the clinical information systems
- Serves as a liaison for hospital senior leadership at the national and local levels
- Develop clinical systems strategy

Respect and Understanding

Is the role of the CNIO understood and respected within your organization?

Additional Thoughts, 2016

"Often the role is associated with the Electronic Health Record only when there are many other areas of opportunity, such as nurse call systems, phones, beds, smart pumps, etc."

Some organizations think the CMIO suffices, but there are many clinicians outside the medical world."

"Technology is not the solution, it is a tool. If you don't have a good workflow and do have compliance challenges, they will still be there post-implementation. CNIOs can make it easier to do the right thing, but they cannot force anyone to do it."

"This emerging role, if managed correctly, can go a long way to providing tools and processes that would enhance patient safety; boost nursing, patient, and physician satisfaction; and improve nursing retention."

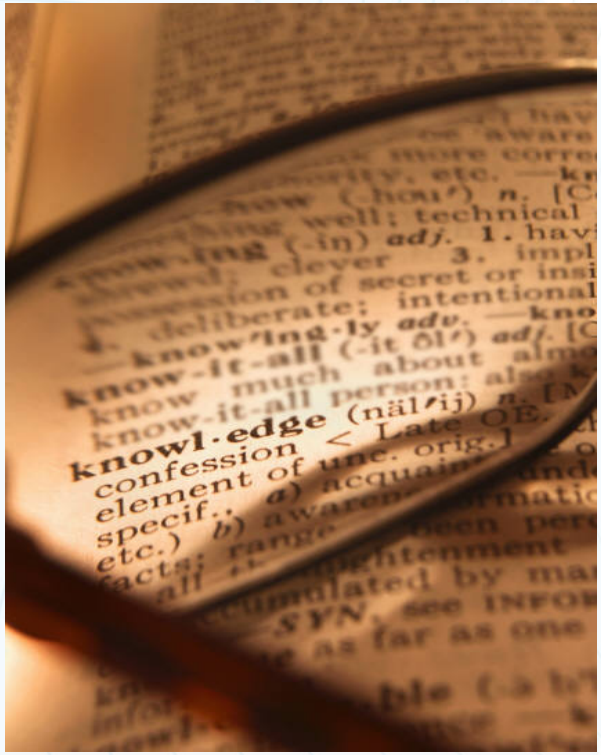
"It is an essential role to ensure that the driver of technology is the context of care and not the technology itself."

"This is a new role for us in the past two years. It's turning out to be very important as nursing practice gets more and more complex."

Future Directions

We are drowning in information but starved for knowledge.

John Naisbitt



Informatics Advancing Knowledge

- The keystone of informatics is to use applications to gather data which is transformed into information and with applied experience/relevance becomes knowledge:
  - The time between gathering evidence-based findings to putting this knowledge in the hands of providers is about 17 years.
  - Despite the advancing clinical technology within healthcare settings there is often no clear direction within the organization on how to extract, model and apply data to practice real-time.
  - The departments of quality and IS are frequently not aligned and working with common purpose –
    - The resulting impact becomes clinical applications that provide inherent safety benefits but no ability to quantitatively demonstrate value.

Where's Data & Analytics?

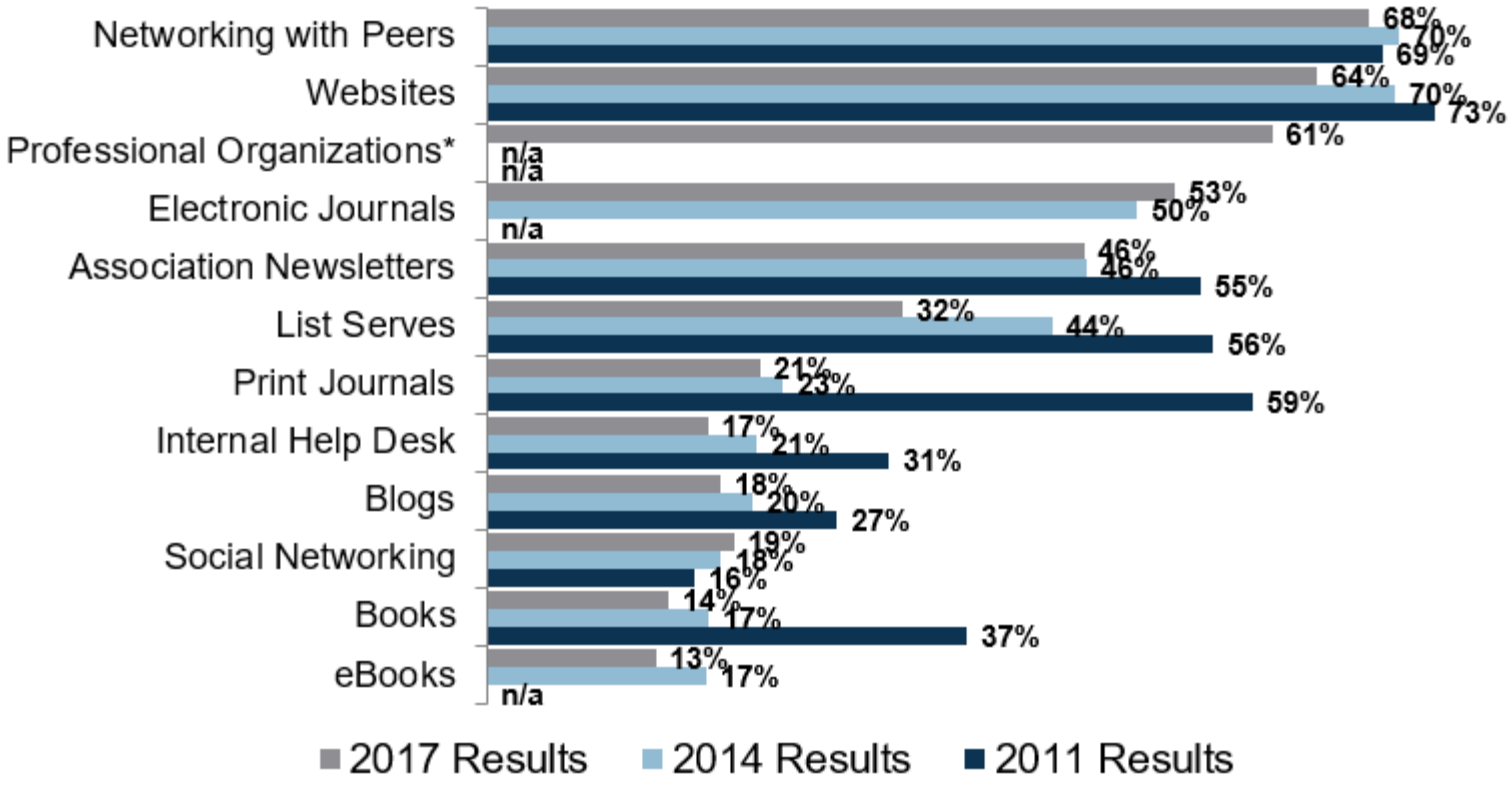
How about Psychology/Human Behavior?

What happened to Population Health and Transitions of Care?

Burgeoning Informatics Fields

- Retail Informatics
- Population Health Informatics
- AI/Machine Learning
- Applied Informatics in post-acute settings
- Analytics – particular large data sets
- Patient Engagement
- Technology and Human Behavior

Sources of Information for Day-to-Day Activities



HIMSS
transforming health through IT

* New selection option for 2017 survey

Informatics Organizations

- Health Information Management Systems Society (HIMSS)
- American Nursing Informatics Association (ANIA)
- American Medical Informatics Association (AMIA)
- Computers in Nursing (CIN)
- CARING, Connecting, Sharing, & Advancing Health Informatics
- Alliance for Nursing Informatics
- ……And more

What's Your Journey?

- Self-Assessment
- Establish Goals
- 2, 5, 10 year plan
- Key Milestones to Achieve Plan
- Create a network

XcellenceFirst
Improving healthcare outcomes