Advancing Nursing Informatics to Improve Healthcare Quality and Outcomes

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OBJECTIVES

• Describe the evolution and importance of nursing informatics practice for improving patient safety and health outcomes
• Discuss the value of nursing leadership and collaboration for advancing technology and innovation in healthcare
• Recognize the impact of data and standards on health information exchange
About HIMSS

HIMSS is a global, cause-based, not-for-profit organization focused on better health through information technology (IT). HIMSS leads efforts to optimize health engagements and care outcomes using information technology.

**Vision:** Better health through information technology.

**Mission:** Globally, lead endeavors optimizing health engagements and care outcomes through information technology.
Currently HIMSS Represents:

66,000+ Individual Members
60,000+ Chapter Members
23,000+ Volunteers

620+ Corporate Members
460+ Organizational Affiliate Clients
440+ Non-Profit Partner Members

510k+ engaged individuals
Nursing Informatics Community

- 6700+ HIMSS Nursing Members
- 120+ Nurse Executives
- Alliance for Nursing Informatics (ANI)
- HIMSS17 | 256 attendees Nursing Informatics Symposium
- HIMSS Nursing Informatics Working Groups:
  - CNO-CNIO Vendor Roundtable
  - Online Journal of Nursing Informatics (OJNI)
  - NI Education & Networking Task Force
  - Nursing Informatics Committee
A New Era in Health Care

Coordinated Care at Home and in Community

Improved Quality

Increased Access

Lower Costs

Better Population Health

Person- and Family-Centered Care
Who are Informatics Nurses?

Expert nurse clinicians in utilizing the nursing process

- Analytical & critical thinking skills
- Understand patient care delivery workflow & integration points for automated documentation

Have additional education & experience related to technology and information systems

- Are excellent project managers because of the similarity between the project management process & the nursing process
- May be board certified in Nursing Informatics through ANCC
Informatics nurses are bilingual. They can talk IT and can talk nursing.
Nursing informatics (NI) is the specialty that integrates nursing science with multiple information and analytical sciences’ to identify, define, manage, and communicate data, information, knowledge, and wisdom in nursing practice.

NI supports nurses, consumers, patients, the interprofessional healthcare team, and other stakeholders in their decision-making in all roles and settings to achieve desired outcomes.

This support is accomplished through the use of information structures, information processes, and information technology.

*Nursing Informatics: Scope and Standards of Practice, Second Edition, ANA 2015*
Expanding Scope of Practice

✓ Administration, Leadership, and Management
✓ Systems Analysis and Design
✓ Compliance and Integrity Management
✓ Consultation
✓ Coordination, Facilitation, and Integration
✓ Development of Systems, Products and Resources
✓ Education and Professional Development
✓ Genetics and Genomics
✓ Information Management and Operational Architecture
✓ Policy Development and Advocacy
✓ Quality and Performance Improvement
✓ Research and Evaluation
✓ Safety, Security, and Environmental Health

HIMSS Nursing Informatics Workforce Survey

• Since 2004, HIMSS has surveyed the nursing informatics community to gain an understanding of the roles and responsibilities of the informatics nurse professional.

• This survey captures current professional status and practice trends while identifying changes that have occurred over the last 13 years in the nursing informatics workforce.

A total of 1,279 valid responses were received and will be covered in the following analysis.
Job Responsibilities

- System Optimization/Utilization: n/a
Applications Currently Developing/Implementing/Optimizing

- Nursing Clinical Documentation
- EMR/EHR
- CPOE
- Non-Nursing Clinical Documentation
- Clinical Information Systems
- eMAR
- Bar Coded Medication Management
- Point-of-Care CDS
- Quality Improvement/Risk Management

2017 Results
2014 Results
2011 Results

HIMSS
transforming healthcare through IT
Top Barrier to Success as a Nurse Informaticist

Percent of respondents who rated option as the top/largest barrier.

Administrative Support: 17% in 2017, 21% in 2014
Staffing Resources: 13% in 2017, 14% in 2014
Organizational Strategic Plan: 12% in 2017, 12% in 2014
Financial Resources: 11% in 2017, 12% in 2014
Infrastructure: 6% in 2017, 9% in 2014
User Acceptance: 7% in 2017, 7% in 2014
Integration/Interoperability: 10% in 2017
Time Management: 5% in 2017
Software Architecture/Design: 5% in 2017
Regulations e.g. Meaningful Use, HIPAA, MACRA: 3% in 2017, 2% in 2014
Technology: 1% in 2017, 1% in 2014
Job Satisfaction in Informatics Career Choice

Respondents asked to use a scale of one to seven, where one is not at all satisfied and seven is highly satisfied.
Post-Graduate Nursing Education
2007 Compared to 2017

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

Held

2017 Results

- None: 51%
- Other Nursing Specialty: 17%
- CPHIMS: 6%
- ANCC: 27%

Pursuing

2017 Results

- None: 49%
- CAHIMS: 4%
- Other Nursing Specialty: 3%
- PMP: 5%
- CPHIMS: 14%
- ANCC: 32%
Informatics Nursing Certification

INFORMATICS NURSING

Credential Awarded: RN-BC

The ANCC Informatics Nursing board certification examination is a competency based examination that provides a valid and reliable assessment of the entry-level clinical knowledge and skills of registered nurses in the informatics specialty after initial RN licensure. Once you complete eligibility requirements to take the certification examination and successfully pass the exam, you are awarded the credential: Registered Nurse-Board Certified (RN-BC).

This credential is valid for 5 years. You can continue to use this credential by maintaining your license to practice and meeting the renewal requirements in place at the time of your certification renewal. The National Commission for Certifying Agencies and the Accreditation Board for Specialty Nursing Certification accredits this ANCC certification.

http://nursecredentialing.org/InformaticsNursing
Download Survey Resources

- www.himss.org/ni
What is TIGER?
Technology Informatics Guiding Education Reform

• TIGER began as a grassroots initiative in 2006 within the nursing community with the goal of engaging and preparing the workforce in using technology and informatics to improve the delivery of patient care.

• 2012: TIGER International Committee was established

• 2014: TIGER transitioned to HIMSS under Clinical Informatics

• 2017: TIGER Community is led by the HIMSS TIGER Committee which is charged with providing domain expertise, leadership and guidance to activities, initiatives, and collaborations within the interprofessional community

http://www.himss.org/tiger
The Evolution of the TIGER Initiative

TIGER advances the integration of health informatics to transform education and practice by:

• Enabling the interprofessional clinical workforce to use informatics and technology to improve patient care
• Interweaving evidence and technology into seamless practice, education and research
• Fostering a learning health system

In 2015, the TIGER International Committee began comprehensive activities to compile recommended core international informatics competencies reflective of many countries, scientific societies and research projects.

• A Recommendation Framework is under development to summarize case studies and survey data.
Alliance for Nursing Informatics - ANI

• Comprises 25 member organizations that represent a unified voice for nursing informatics
  • Co-sponsored by AMIA and HIMSS

• Provides the synergy and structure needed to advance the efforts of nursing informatics professionals in improving the delivery of patient care

• Policy: Provides a forum to respond to public comment in areas that impact nursing and informatics including guidelines and standards, nursing informatics practice and education, public policy and workforce development

• Leadership: Sponsors the Emerging Leaders Program to develop future leaders in nursing informatics

www.allianceni.org
Information Systems in Healthcare

- Electronic Health Record System
- Pharmacy
- Pathology
- Radiology/PACS
- Cardiology
- Radiation Oncology
- Radiology/PACS
- Laboratory
- IT Infrastructure
- Emergency Department
- Patient Care Devices
- Eye Care
- Quality Research & Public Health
- Physical/Occupational Therapy
- Billing
- Patient Care Documentation

HIMSS
transforming healthcare through IT
There is a proliferation of digital devices that capture data and are (or will be) connected

Health Care devices as an extension of care!

How do they affect health outcomes?

Are they included in care and financing?

Who coordinates the information?
The Internet of Things

More than 5 million smart objects are connected each day.

Leveraging the benefits and mitigating the risks of the Internet of Things will enable nurse leaders to consider and embrace new models of care.
What is Interoperability?

- Interoperability means the ability of health information systems to work together within and across organizational boundaries in order to advance the health status of, and the effective delivery of healthcare for, individuals and communities.

HIMSS 2013 Definition of Interoperability
Integrating the Healthcare Enterprise (IHE) is the foundation of health information exchange in the U.S. and globally.

Millions of patient lives are impacted by IHE!
The Nationwide Interoperability Roadmap Goals & Timeline

• **2015-2017:** Send, receive, find and use priority data domains to improve health care quality and outcomes.

• **2018-2020:** Expand data sources and users in the interoperable health IT ecosystem to improve health and lower costs.

• **2021-2024:** Achieve nationwide interoperability to enable a learning health system, with the person at the center of a system that can continuously improve care, public health, and science through real-time data access.
HIMSS17 Interoperability Showcase™
2017 Interoperability Showcase Impact

• 19 Connected demonstrations: 117 systems representing 66 organizations
• 380 schedule demonstrations of standard-based interoperability
• 21 VIP or specialty tours, including the Dutch Minister of Health and the Nursing and Physician communities.
• 35 whitepapers and 8 blogs developed
• 22 education sessions with over 1,500 attendees
• 1.9M reached through social media
• Over 10,000 visitors
All individuals, their families and health care providers should be able to send, receive, find and use electronic health information in a manner that is appropriate, secure, timely and reliable to support the health and wellness of individuals through informed shared decision-making.

A **learning health system** is an ecosystem where all stakeholders can securely effectively and efficiently contribute, share and analyze data.
Guiding Principles for Big Data in Nursing

Using Big Data to Improve the Quality of Care and Outcomes

• Privacy and security of health information
  – Ensure appropriate data privacy and protection measures

• Data standards
  – Using different standards makes it impossible to compare data in a meaningful way

• Interoperability
  – Comparable, sharable, consistent & accurate data can be realized through interoperable systems

• Immutability
  – Recorded health data should not be altered or erased

Developed by HIMSS CNO-CNIO Vendor Roundtable
Download recommendations and full report findings at www.himss.org/big10
Harris Poll: More than 75% of Patients Want to Use Digital Health Services

- The majority of consumers say they are choosing their primary care provider, in part, based on how well they use technology to communicate with patients.
- 59 percent of all health-insured patients, and 70 percent of millennials, say they would choose a primary care doctor who offers a patient mobile app over one that does not.
- People primarily interact with their physicians through in-person visits, phone calls and emails, but are open to virtual care treatment options enabled through technology.
- 23 percent of respondents set up appointments in-person and 76 percent do so over the phone while only 9 percent use a portal, and 7 percent use email.
- More consumers are using portals to get test results (23 percent) and to get prescriptions and refills (11 percent).
- Almost a third of respondents (29 percent) report using a portal to look at their current health data.
- The majority of consumers (62 percent) are still relying on their doctor to keep track of their health records, and only 25 percent report having access to their health data through a single self-service portal provided by their healthcare provider and/or insurance provider.

OpenNotes Study

The Road Toward Fully Transparent Medical Records

• Patients accessed visit notes frequently
• Reported clinically relevant benefits and minimal concerns
• Wanted the practice to continue

“The OpenNotes creates partnerships toward better health and health care by giving everyone on the medical team, including the patient, access to the same information.”

- Tom Delbanco, MD, Beth Israel Deaconess Medical Center
OpenNotes Research Shows:

- By reading their notes, patients:
  - Better remember what is discussed during visits
  - Feel more in control of their care
  - Are more likely to take medications as prescribed
  - Can share notes with their caregivers, better equipping them to stay up to date with visit events and help enact the recommended treatment plan

- By sharing their notes, doctors and other clinicians:
  - Promote patient communication and education
  - Can help patients be better prepared for visits
  - Can help patients’ caregivers optimize care
  - Can meet patients’ overwhelming desire for access to their notes

http://www.opennotes.org/
Informatics Nurses Improve Health Care and Patient Outcomes

Technology Increasingly Key to Better Patient Outcomes

http://knowledge.wharton.upenn.edu/article/technology-increasingly-key-better-patient-outcomes/
Transforming Practice through Technology & Informatics will:

- Improve safety and efficiency
- Free clinicians from tasks
- Bring evidence for decisions to point of care
- Empower patients to be involved in care
- Enable nurses to:
  - Integrate data into health information
  - Consult in the home, LTC, Assisted living
  - Coordinate care across settings
Leading Change, Advancing Health

• Knowledge Management
  – Who, what, when, where, how

• Process Management
  – Scheduling and management of routine tasks
  – Process optimization

• Augmented Intelligence
  – Forecasting trends and future needs
  – Suggesting process solutions
  – Clinical decision support
  – Predictive analytics
Leading Change, Advancing Health... through Informatics

Together we can advance the national agenda to lead change and create value with innovation to ensure better quality healthcare in the U.S.
Thank You!

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