Informatics Strategies & Tools to Link Nursing Care with Patient Outcomes in the Learning Health Care System

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Overview

• Best Care at Lower Cost: The Learning Health Care System (LHCS)
  – Meaningful Use
  – Informatics strategies to support the LHCS
    • Credentialing in nursing education and practice
    • Data harmonization
  – Advantages
    • Demonstration: NDNQI Dashboards

• Discussion/Conclusions
Best Care at Lower Cost

The Path to Continuously Learning Health Care in America

September 2012

iom.edu/bestcare
Why now?

Quality – *persistent shortfalls*

- **Patient harm** – One-fifth to one-third of hospital patients are harmed during their stay, largely preventable.

- **Recommended care** – Only about half of the recommended preventive, acute, and chronic care is actually received.

- **Outcome shortfalls** – If all states matched care quality in the highest-performing states, 75,000 fewer deaths would have occurred in 2005.

From *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America*, IOM, 2012
The Result?

The U.S. health care system today

From Best Care at Lower Cost: The Path to Continuously Learning Health Care in America, IOM, 2012
The Vision

Continuous Learning, Best Care, Lower Cost

Transition to the Learning Health System

From Best Care at Lower Cost: The Path to Continuously Learning Health Care in America, IOM, 2012
Meaningful Use

HITECH ACT

The 2009 Health Information Technology for Economic and Clinical Health (HITECH) Act:

• Provides $30 billion in Medicare and Medicaid incentive payments
• For the meaningful use of health information technology by clinicians and hospitals
• Estimated to yield savings of $93 billion between 2011 and 2019

A Remarkable Journey
Meaningful Use as a Building Block

Stage 2 MU

Privacy & security protections
Structured data utilized
Patient informed
Care coordination

Transform health care

Data utilized to improve delivery and outcomes
Evidenced based medicine
Registries for disease management
Privacy & security protections

Improved population health
Enhanced access and continuity
Patient self management
Patient engaged, community resources

Stage 3 MU

Privacy & security protections
Privacy & security protections
Privacy & security protections
Privacy & security protections

ACO's “Stage 3 MU”

Utilize technology

Access to information

Basic EHR functionality, structured data
Privacy & security protections

Registries to manage patient populations
Team based care, case management
Patient centered care coordination

Care coordination
Patient informed
EHR Adoption Has Reached a Tipping Point

Meaningful Use – Professionals and Hospitals Registered and Paid by Medicare or Medicaid

Source: CMS EHR Incentive Program Data as of 12/31/2013
Total EHR Incentive Payments to All Eligible Providers and Hospitals by Month

Source: CMS EHR Incentive Program Data as of 12/31/2013
<table>
<thead>
<tr>
<th>Stage</th>
<th>Cumulative Capabilities</th>
<th>2011 Q1</th>
<th>2013 Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 7</td>
<td>Complete EMR; CCD transactions to share data; Data warehousing; Data continuity with ED, ambulatory, OP</td>
<td>1.0%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Stage 6</td>
<td>Physician documentation (structured templates), full CDSS (variance &amp; compliance), full R-PACS</td>
<td>3.5%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Stage 5</td>
<td>Closed loop medication administration</td>
<td>5.9%</td>
<td>22.0%</td>
</tr>
<tr>
<td>Stage 4</td>
<td>CPOE, Clinical Decision Support (clinical protocols)</td>
<td>10.7%</td>
<td>15.5%</td>
</tr>
<tr>
<td>Stage 3</td>
<td>Nursing/clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology</td>
<td>48.4%</td>
<td>30.3%</td>
</tr>
<tr>
<td>Stage 2</td>
<td>CDR, Controlled Medical Vocabulary, CDS, may have Document Imaging; HIE capable</td>
<td>14.1%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Stage 1</td>
<td>Ancillaries - Lab, Rad, Pharmacy - All Installed</td>
<td>6.7%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Stage 0</td>
<td>All Three Ancillaries Not Installed</td>
<td>9.6%</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

Data from HIMSS Analytics® Database ©2012, 2014  N = 5,275   N = 5,458
Health Information Technology
Informatics Competency

Critical for nursing:

• Largest number of health care providers in the US.
• 19.6% of all healthcare workers or over 3 million nurses.

Courtesy of Clancy, T. (2013). Nursing Organization Alliance Fall Summit
Quality and Safety Education for Nurses (QSEN) Project*

Based on IOM competencies

Proposes knowledge, skill, and attitude targets to be developed in nursing programs

Goal: To prepare student nurses with knowledge, skills and attitudes needed to continuously improve the quality and safety of healthcare systems

 Defines quality, safety, informatics competencies for nursing

Available as guides to curricular development, certification, and continuing education

*http://qsen.org/competencies
2012 Survey of 35 nursing schools, 70.8% did not provide content on how to monitor and analyze data on nurse sensitive quality indicators through electronic dashboards and other tools.

Tom Clancy RN, PhD, University of Minnesota
Using Electronic Documentation to Measure Clinical Competence

**Clinical Competencies**

- Are nurses documenting accurately?
- Is documentation in a structured, coded format?
- Does the data have integrity?
- Can nurses pull out data needed to engage in clinical decision-making?
- What are the right things that nurses need to do? Did they do them?
- Does a nurses’ documentation and their patients’ corresponding outcomes suggest that he/she is practicing at height of their license?
- Does the documentation of each individual nurse support building linkages between nursing care and patient outcomes?
‘Continuing Competence’ and the Learning Health Care System

• Current state of clinical documentation is a barrier to nurses demonstrating meaningful use.

• Strategies are needed to link nursing documentation to patient safety and quality measures, to nurse competency, and to organizational competency.

‘Continuing Competence’ and the Learning Health Care System

• Integration of QSEN competencies into practice settings:
  – Ensures that “all health professionals engage effectively in a process of lifelong learning aimed squarely at improving patient care and population health” (IOM, 2009).
  – Supports data integrity so that data entered for clinical documentation is available for secondary use and for building evidence from practice.

Advantages: Data Integrity

- Improved data quality for building evidence from practice and secondary use:
  - Clinical decision support
  - Populate quality/safety dashboards
  - Populate quality measures
  - Research

- Nurses are responsible for defining their practice through what is documented for their patients and by analyzing the impact of their practice on patient outcomes.

- Provides a means to visualize the linkage between nursing care provided, how that care is documented and patient outcomes.

- Structured coded data will be available across organizations benchmarking.
Demo

NDNQI Quality Dashboards
Summary

• Adoption and meaningful use of health IT are foundational to the learning healthcare system.
• Competencies to ensure data integrity and harmonization are also needed.
• The QSEN quality, safety, and informatics competencies can address the skills needed by practicing nurses to build a digital infrastructure, but they are not used yet in practice settings.
• Use of quality, safety, and informatics competencies across healthcare settings will ensure that data entered once can be reused for decision support, performance improvement, benchmarking, and research.

Meaningful use of health IT and integration of quality, safety, and informatics competencies into educational AND practice settings would support evidence based practice and build the foundation for a learning health care system.
AMIA NIWG

AMIA Nursing Informatics Working Group (NIWG)

Patricia Dykes, PhD, RN, FAAN, FACMI
Chair

Laura Heerman Langford, RN, PhD
Chair-Elect

www.amia.org/NIWG

AMIA’s 450 nurse informaticians work as developers of communication and information technologies, educators, researchers, chief nursing officers, chief information officers, software engineers, implementation consultants, policy developers, and business owners, to advance healthcare.