Using Data in Nursing Practice

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2016 American Nurses Association Annual Conference
Connecting Quality, Safety and Staffing to Improve Outcomes

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Objectives

- Articulate the implications of data use in nursing practice
- Discuss the future of electronic healthcare data
- Identify the competencies for data use and reporting nurses will need for success in the coming years
The healthcare landscape and electronic data
It took Ralph six minutes to realize the balloon wasn't going to come back.
The Regulatory Landscape

• ACA: Payment reform (Reduce the cost of healthcare)
  --CMS Bundled Payment Pilots
  --Medicaid redesign by states
  --ACOs

• HITECH - Meaningful Use (2010)

• HIMSS Stage 7 (Healthcare Information and Management Systems Society – 1960’s)
Why are electronic health records good for patients and the public?

• The intent of “Meaningful Use”

• HIMSS stages - most advanced is a paperless record; all patient information shared digitally with the patient.

• Use of patient portals and applications (apps) that give patients access to their electronic record.

• Believed to promote patient engagement, which promotes better health for the individual.
The impact of regulations on nursing

• In hospitals, the majority of the EHR documentation is done by registered nurses.

• In ambulatory care, much of the documentation required for quality metrics is done by nursing staff (screening tests, tobacco use, vaccines, teaching).

• The quality of our nursing care and our nursing documentation informs the public and payers through publically-reported measures (hospitalcompare.gov).

• Nursing has to keep the patient front and center in everything we do.
Survey of patients’ experiences

HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) is a national survey that asks patients about their experiences during a recent hospital stay. Use the results shown here to compare hospitals based on 11 important hospital quality topics.

- Find out why these measures and the star ratings are important.
- Learn more about the data and star ratings.
- Get the current data collection period.
- Get tips for printing star images (Internet Explorer 8.9).
Care Delivery Integration
Technology Roadmap and EHR Integration

• One example of how a hospital system (inpatient and ambulatory) is using technology to:

  --Support patient care

  --Improve nursing workflow and practice

  --Collect data for population health
Then
Now
Data and Technology-The future is now

• Interoperability of EHR and devices – some examples
  --Cardiac monitors
  --Ventilators
  --Infusion pumps
  --Vital sign monitors
  --Wearable devices
  --RFID
  --"Middleware"
  --Panic call and nurse call
Nursing’s role in defining new workflows across care delivery sites
Integration with ventilator and EHR
Integration with new wearable vital sign monitor and EHR
Nurse call system has added functionality to call other services
Infusion pumps bi-directional integration with EHR
Mobile technology to support care and documentation at the bedside
Patient version of EHR

Good morning, Mother. Today is Tuesday, October 13
Bedside's discharge date isn't set yet.

Bedside is here for...
- Cellulitis
  and we're also treating...
- Mild persistent asthma with acute exacerb...

Bedside's medications
- Deltason
- Heparin (porcine)
- Heparin (porcine) in 5% dextrose
- Multivitamin
- Sodium chloride 0.9%
- And, if needed...
- Heparin (porcine) (for Other)

Blood Pressure: 100/70
Pulse: 90
Temperature: 99.3
Respirations: 20
Better system for supply management

Current
- Bin has label & each label is manually scanned for replenishment
- Supply availability must be visually inspected

Proposed
- Bin is on a scale which weighs the supplies automatically
- Supply availability reported in real time
Current State vs Proposed State – Supply Requisitioning

- **Current State:** 9 Manual steps, (2) of those steps repeated for each item in supply closet

- **Proposed State:** 1 Automated step

- Current state focuses on augmenting lack of real time visibility by performing two scans at the unit—first for the order from Distributor, second for supplemental replenishment from Central Distribution
- Proposed state is substantially cleaner and eliminates both of the manual scans in current state
<table>
<thead>
<tr>
<th>Nursing Productivity</th>
<th>Effort to Charge one Patient for Supply &amp; Replenish</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>With EHR</strong></td>
<td><strong>With New Supply System</strong></td>
</tr>
<tr>
<td>--3 minutes to charge patient</td>
<td>--42 seconds to charge patient</td>
</tr>
<tr>
<td>--10 clicks to charge patient</td>
<td>--4 steps to charge patient</td>
</tr>
<tr>
<td>--3 minutes to request replenishment</td>
<td>--0 minutes to request replenishment</td>
</tr>
<tr>
<td>--10 clicks to request replenishment</td>
<td>--0 clicks to request replenishment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SCM Productivity</th>
<th>Scanning a store room for daily replenishment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>With EHR</strong></td>
<td><strong>With New Supply System</strong></td>
</tr>
<tr>
<td>--Average of 60 minutes for daily replenishment per store room</td>
<td>--0 minutes scanning</td>
</tr>
<tr>
<td>--Average of 15 minutes for supplemental replenishment per store room</td>
<td>--More accurate &amp; productive replenishments</td>
</tr>
</tbody>
</table>
Importance of linking care sites

- Electronic records can follow a patient through the delivery system
- Seamless and safer care for patients
- Nurses are key because we deliver the care, and thus populate the EHR.
  - The quality (breadth and depth) of our documentation informs this
QSEN Competencies, Electronic Records, and Data: How do these relate?
What is QSEN?

- IOM defined competencies for health professions in 2003 with an eye towards improving quality and providing safer care.

- Communication and collaboration were key themes

- Advisory group and nursing faculty defined the quality and safety competencies and proposed targets for the knowledge, skills, and attitudes to be developed in nursing pre-licensure programs for each competency

- Graduate nursing competencies (for APRNs) were later developed

http://qsen.org/
Quality and Safety Education for Nursing

- Patient-Centered Care
- Teamwork & Collaboration
- Evidence Based Practice
- Quality Improvement
- Safety
- Informatics
Patient-Centered Care

**Definition:** Recognize the patient or designee as the source of control and full partner in providing compassionate and coordinated care based on respect for the patient’s preferences, values and needs

**Knowledge**
Integrate understanding of multiple dimensions of patient centered care:
- Patient/family/community preferences values
- Coordination and integration of care
- Information, communication, and education
- Physical comfort and emotional support
- Involvement of family and friends
- Transition and continuity

Describe how diverse cultural, ethnic and social backgrounds function as sources of patient, family, and community values

**Skills**
Elicit patient values, preferences and expressed needs as part of clinical interview, implementation of care plan and evaluation of care

Communicate patient values, preferences and expressed needs to other members of the health care team

Provide patient centered care with sensitivity and respect to the diversity of human

**Attitudes**
Value seeing health care situations “through patients’ eyes”

Respect and encourage individual expression of patient values, preferences and expressed needs

Value the patient’s expertise with own health and symptoms

Seek learning opportunities with patients who represent all aspects of human diversity

Recognize personally held attitudes about working with patients from different ethnic, cultural and social backgrounds

Willingly support patient-centered care for individuals and groups whose values differ from our own
Nursing Informatics - Prelicensure

**Definition:** Use information and technology to communicate, manage knowledge, mitigate error, and support decision making.

**Knowledge**
- Explain why information and technology skills are essential for safe patient care.
- Identify essential information that must be available in a common database to support patient care.
- Contrast benefits and limitations of different communication technologies and their impact on quality and safety.
- Describe examples of how technology and information management are related to the quality and safety of patient care.
- Recognize the time, effort and skill required for computers, databases and other technologies to become reliable and effective tools for patient care.

**Skills**
- Seek education about how information is managed in care settings before providing care.
- Apply technology and information management tools to support safe processes of care.
- Navigate the electronic health record.
- Employ communication technologies to coordinate care for patients.
- Respond appropriately to clinical decision-making supports and alerts.
- Use information management tools to monitor outcomes of care processes.
- Use high quality electronic sources of healthcare information.

**Attitudes**
- Appreciate the necessity for all health professionals to seek lifelong, continuous learning of information technology skills.
- Value technologies that support clinical decision making, error prevention, and care coordination.
- Protect confidentiality of protected health information in electronic health records.
- Value nurses improvement in design, selection implementation, and evaluation of information technologies to support patient care.
**Nursing Informatics - Graduate**

**Definition:** Use information and technology to communicate, manage knowledge, mitigate error, and support decision making.

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Attitudes</th>
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</thead>
<tbody>
<tr>
<td>Contrast benefits and limitations of common Information technology strategies used in the delivery of patient care. Evaluate the strengths and weaknesses of information systems used in patient care.</td>
<td>Participate in the selection, design, implementation and evaluation of information systems. Communicate the integral role of information technology in nurses work. Model behaviors that support implementation and appropriate use of electronic health care records. Assist team members to adopt information technology by piloting and evaluating proposed technology.</td>
<td>Appreciate the need for consensus and collaboration in developing systems to manage information for patient care. Value the confidentiality and security of all patient records.</td>
</tr>
<tr>
<td>Formulate essential information that must be available in a common database to support patient care in the practice specialty. Evaluate benefits and limitations of different communication technologies and their impact on safety and quality.</td>
<td>Promote access to patient care information for all professionals who provide care to a patient. Serve as a resource for how to document nursing care at basic and advanced levels. Develop safeguards for protected health information. Champion communication technologies that support clinical decision making, error prevention, care coordination, and protection of patient privacy.</td>
<td>Value the importance of standardized terminologies in conducting searches for patient information. Appreciate the contribution of technological alert systems.</td>
</tr>
<tr>
<td>Describe and critique taxonomic and terminology systems used in national efforts to enhance interoperability of information systems and knowledge management systems.</td>
<td>Access and evaluate high quality electronic sources of healthcare information. Participate in the design of clinical decision-making supports and alerts. Search, retrieve, and manage data to make decisions using information and knowledge management systems. Anticipate unintended consequences of new technology.</td>
<td>Value the time, effort, and skill required for computers, databases, and other technologies to become reliable and effective tools for patient care.</td>
</tr>
</tbody>
</table>
How do we leverage EHRs to make them work for us?

• How nursing practice informs data and how data inform practice

• Electronic record documentation feeds “dashboards” and “report cards” which in turn are viewed by clinical nurses at bedside, chairside and tableside.

• NPSG and Core Measures:
  --Vaccine documentation
  --Pain medication documentation, with pain score, triggers assessment based on policy (30-60 minutes)
  --Admission assessment documentation completion
Dashboard, Patient Care - Nursing

Hospital Acquired Pressure Ulcers (HAPU) Incidence ascertained using diagnosis code

Hospital Acquired Pressure Ulcers (HAPU) Prevalence ascertained through periodic survey

Patient Falls

Patient Injury Falls
### 2016 American Nurses Association Annual Conference

Connecting **Quality**, **Safety** and **Staffing** to Improve Outcomes

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#### Immunization Reports - By Dept

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients without Flu Screening</td>
<td>429</td>
</tr>
<tr>
<td>Positive Flu Vac Screen without Flu Order</td>
<td>177</td>
</tr>
<tr>
<td>Positive Flu Vac Screen with DC Order &amp; Vac Not Given</td>
<td>0</td>
</tr>
<tr>
<td>Patients without Pneumo Screening</td>
<td>429</td>
</tr>
<tr>
<td>Positive Pneumo Vac Screen without Pneumo Order</td>
<td>0</td>
</tr>
<tr>
<td>Positive Pneumo Vac Screen with DC Order and Vac Not Given</td>
<td>0</td>
</tr>
</tbody>
</table>

Dashboard refreshes hourly from 7am to midnight.

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#### Surveillance Reports - By Dept

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with Verbal Orders</td>
<td>1309</td>
</tr>
<tr>
<td>Admission Documentation Not Completed</td>
<td>229</td>
</tr>
<tr>
<td>Admission Documentation Upcoming</td>
<td>329</td>
</tr>
<tr>
<td>Admission Documentation Overdue</td>
<td>209</td>
</tr>
<tr>
<td>Patients without Tobacco Cessation Education</td>
<td>029</td>
</tr>
<tr>
<td>Patients without a Code Status Order</td>
<td>209</td>
</tr>
<tr>
<td>Patients without Advance Directives</td>
<td>27/28</td>
</tr>
<tr>
<td>Plan Assessment / Reassessment</td>
<td>29/29</td>
</tr>
</tbody>
</table>

Dashboard refreshes hourly from 7am to midnight.

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*Report completed: Fri 12/16 04:48 PM*
### Nursing Sensitive Indicator Reports

#### Dashboard refreshes hourly from 7am to midnight.

- Patients at Risk for Falls: 400/679
- Patients without Documented Falls Risk Score (12 Hrs): 156/679
- Falls Risk without a Careplan: 13/398
- Patients with Braden Score <= 18: 113/582
- Patients with Braden Q Score <= 16: 0/45
- Patients with Neonatal Skin Condition Score >=4: 1/52
- Patients without Documented Braden Score (24 Hrs): 116/582
- Patients without Documented Braden Q Score (24 Hrs): 9/45
- Patients without Documented NSCS Score (24 Hrs): 4/52
- Pressure Ulcer Risk without a Careplan: 11/121
- Restraints Non-Violent Flowsheet (72 Hrs): 1/679
- Restraints Violent Flowsheet (72 Hrs): 0/679

Report completed: Fri 12/18 04:48 PM

### Immunization Reports

#### Dashboard refreshes hourly from 7am to midnight.

- Patients without Flu Screening: 135/607
- Positive Flu Vac Screen without Flu Order: 12/50

Report completed: Fri 12/18 04:48 PM
IOM Report on the Future of Nursing

- Nurses should practice to the full extent of their education and training

- Nurses should achieve higher levels of education and training through an improved education system that promotes seamless academic progression

- Nurses should be full partners, with physicians and other health care professionals, in redesigning health care in the United States

- Effective workforce planning and policy making require better data collection and information infrastructure

References


