Meaningful Contributions to the Patient’s Electronic Medical Record
Nancy Kallem MS, RN
Jessica M. Alexander RN, MSN

Objectives

• Examine the leadership opportunity for nursing in health information technology
• Recognize the role of the professional nurse related to the use of the electronic medical record
• Identify strategies in current workplace to engage nurses in the content and utilization of the electronic medical record

Who are we?

• Nancy Kallem MS, RN
  – Director, Clinical Informatics Department, OHSU

• Jessica M. Alexander RN, MSN
  – Nurse Informaticist, Clinical Informatics Department, OHSU

• 21 combined years of EMR experience
In 2009...

$147 billion was allocated to the American Recovery and Reinvestment Act and the Health Information Technology Act (HI TECH) provision to reform the health care industry.

Nursing Informatics

Nursing informatics (NI) is a specialty that integrates nursing science, computer science, and information science to manage and communicate data, information, knowledge, and wisdom in nursing practice.

Context: The patient is hypertensive, with a normal heart rate and temperature.

Meaning: 150/90, 74 bpm, 37.0 Celsius

Application: I can safely give an anti-hypertensive medication to this patient.

Raw: 150, 90, 74, 37

Meaning: 150/90, 74 bpm, 37.0 Celsius

Context: The patient is hypertensive, with a normal heart rate and temperature.

Nursing Informatics (NI)

• Nursing informatics (NI) is a specialty that integrates nursing science, computer science, and information science to manage and communicate data, information, knowledge, and wisdom in nursing practice.
Nursing Informatics

- NI supports consumers, patients, nurses, and other providers in their decision-making in all roles and settings. This support is accomplished through the use of information structures, information processes, and information technology (ANA, 2008).
- The NI’s goal is to improve the health of individuals and populations by improving information management (ANA, 2008).

Nursing Informatics

- First recognized as a specialty in 1992 – 132 years after Florence Nightingale began her work.
- There are currently more than 9,300 nurses working in informatics, but more than 3 million RNs in the U.S. (Sensmeier, 2010)
- < 1% of RNs are in nursing informatics, but 100% of RNs are effected by healthcare information technology and informatics.

The Nursing Process

Assessment

- Documented assessments and diagnoses allow information to be managed for nursing and other members of the interdisciplinary team.
- Processes can be re-designed to allow for better care. For example, uploading a picture of a wound instead of describing it through text.

Evaluation

Nursing Diagnosis

NI adds:
1. Standardized Documentation
2. Process Re-engineering
3. Information Management
4. Research and Evidence-Based Practice
Electronic Medical Record Concepts

- Types of Electronic Health Records (EHRs)
- Using EHRs to demonstrate your professional practice
- EHRs to provide Clinical Decision Support

Electronic Health Records/ Electronic Medical Records

- EHR: a generic term for any electronic patient care system that provides 8 essential components that promote patient safety (Institute of Medicine, 2003)
- EMR: a specific institution or health care system’s EHR

Electronic Medical Records

- Health Information & Data
- Results Management
- Order Entry Management
- Decision Support
- Electronic Communication & Connectivity
- Administrative Processes
- Reporting

Electronic Medical Records

- Empowering Healthcare
- Medication Management
- Patient Engagement
- Clinical Decision Support
- Secure Communication

Epic

- Patient-Centric
- Secure Information Sharing
- Clinical Decision Support
- Patient Engagement
- Clinical Collaboration
In the Portland Area (our neighborhood)

- Kaiser Sunnyside
- Kaiser Tualatin
- Legacy Emanuel
- Legacy Good Samaritan
- Providence Portland
- Providence St. Vincent’s
- OHSU and Doernbecher Children’s Hospital
- Salem Hospital
- Adventist Health – Ambulatory Clinics
- PeaceHealth SW (currently using McKesson, moving to Epic)
- Portland Veteran’s Hospital
- Adventist Health – inpatient setting
- Tuality Health

Interacting with the EMR

- Ownership of the EMR: integrate the EMR into your day-to-day practice
  – Another “tool in your toolbox”, not just something you must accept or survive through
- Your professional practice is demonstrated through charting. When you chart electronically, your professional practice is demonstrated through the EMR.

What can we tell from this?
Your professional practice proven through documentation

- Up-to-date, accurate information of each step of the nursing process is the power behind safe, high-quality patient-centered care (HIMSS, 2011).
- Interdisciplinary care means team members are reviewing the patient chart from anywhere, at any time. Do they have the most timely information to make a good decision?

Which is better?

<table>
<thead>
<tr>
<th>Entering data into discrete fields</th>
<th>Writing a note</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Pain Quality</th>
<th>Pain Intensity</th>
<th>Pain Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meredith</td>
<td>7/10</td>
<td>7/10</td>
<td>5/10</td>
</tr>
<tr>
<td></td>
<td>7/10</td>
<td>7/10</td>
<td>5/10</td>
</tr>
<tr>
<td></td>
<td>7/10</td>
<td>7/10</td>
<td>5/10</td>
</tr>
<tr>
<td></td>
<td>7/10</td>
<td>7/10</td>
<td>5/10</td>
</tr>
<tr>
<td></td>
<td>7/10</td>
<td>7/10</td>
<td>5/10</td>
</tr>
</tbody>
</table>
Data into discrete fields | Writing a note
---|---
### Advantages
- Viewable in many workflows, such as physician rounds
- Able to be pulled into reports for managers, committees, projects and regulatory bodies
- Data can be trended
- System can trigger reminders based on data charted
- The patient story is more complete
- Details that are unique to the patient or hard to decide where to “put” in other charting fit well in a note.

### Disadvantages
- The ‘caring’ aspect of nursing may be lost
- Often unread or missed
- Cannot be searched, reported on or trended

The challenge as a bedside nurse is to balance the patient’s story, the requirement to prove your clinical judgment through documentation and the need the organization has for data, all while taking care of your patient(s).

---

**Reporting, Quality and Audits**

- When data is entered in discrete fields, it can be used for trending, research and quality improvements
  - We can answer questions such as:
    - How many days do central lines stay in a patient, on average?
    - What percent of the time do CHF patients receive education about their condition?
  - And then implement a change
    - Since the change, have our numbers improved?

---

**Clinical Decision Support Systems**

- EMRs are designed to help clinicians make better decisions, faster through clinical decision support systems (CDSS)
- They aid clinical judgment, but never replace it
- Some CDSS appear in your workflow to alert you to possibly abnormal values
Clinical Decision Support Systems

- Some CDSS inform you of patient information that could be dangerous if missed or forgotten
- Some CDSS can help identify charting that needs to be completed

Clinical Decision Support Systems

- Links to references, such as drug guides or hospital policies and procedures are also considered CDSS

From the outside, looking in

- Besides a clinician entering data into the EMR, how else does data get in?
  - Device integration
    - Vital signs monitors, pumps, telemetry leads, ventilator data can all auto-populate into the EMR
    - Licensed professionals validate data prior to it becoming part of the permanent medical record
From the outside, looking in

- Integration with the community (Healthcare Information Exchange)
  - Other hospitals on similar systems can share patient information to improve continuity of care
  - Pharmacy records can be queried and populated into the EMR so prior-to-admission medications automatically appear
- Oregon Office of Health Information Technology
  - Creating a secure emailing system for all hospitals in Oregon to share patient information via email to facilitate communication between health care providers (Giegerich, 2012)

If the EHR is so functional, what do you need me for?

- E-iatrogenesis
  - “Patient harm caused at least in part by the application of health information technology” (Weiner, Kuri, Chan & Fowles, 2007)
  - Some are electronic versions of errors that occurred before technology. The idea is to record in the world because the wrong button was clicked (instead of handwriting being misinterpreted)
  - Some events are new with health information technology, such as a CDSS leading a clinician down an incorrect path, leading to extra tests and diagnoses, or not doing anything.

If the EHR is so functional, what do you need me for?

- As a nurse, allow these systems to help you, but remember the system only has the data
- You possess the information, the knowledge and the wisdom to act

Wisdom

Knowledge

Information

Data
Creating a structure of engagement

- How OHSU evolved its staff nurse involvement in the design of the EMR over time
  - Super User model
  - Interdisciplinary Advisory Council (IdAC)
    - Expansion over time
    - Shared governance impact

Where are we now?

- Ambulatory Clinics up and running for roughly 6 years
  - Inpatient fully up and running for exactly 4 years
    - Add on modules since go-live
      - Stork – obstetrics (Winter 2009)
      - Beacon – oncology (Oct. 2010)
      - Barcoded Medications (Oct. 2011 – April 2012)
      - Optime – peri-operative management (Jan. 2012)
      - Beaker – lab information system (Oct. 2012 go-live)
      - Phoenix – Transplant management (Winter 2013)
Super users at OHSU

- Super users were:
  - Early training for early adopters
  - Elbow support for go-live
  - “Go-to” people on their units

- But, there was no formal ongoing education or role after that point

Interdisciplinary Documentation Advisory Council (IDAC)

Purpose

- In accordance with the Epic Project, this council has a responsibility to provide and lead:
  - Facilitate planning, implementation and evaluation processes
  - Coordinate transition from paper to EMR
  - Foster institutional understanding and acceptance of shared scope of practice

IDAC - Membership

- Nursing
  - Adult Acute
  - Adult Critical
  - Pediatric Acute
  - Pediatric Critical
  - Neonatal Critical
  - Women’s Health
  - Psych
  - Peri-operative

- Respiratory Therapy
- Rehab (PT, OT, SLP)
- Nutrition
- Social Work
- Case Management
- Pharmacy
- Quality
- Health Information Services
**IDAC – Major accomplishments**

- Forms Reconciliation
- Subgroup creation
  - Content Validation
  - Dissemination of information
- Educators

**Changes to IDAC**

- Became IdAC – Interdisciplinary Advisory Council
- Creation of Expanded IdAC – a member from every unit recruited to disseminate information
- Quarterly meetings began April 2009

**Time for change**

- New CNO, new department - CID
- Epic identified as one of the top three dissatisfiers by the nurses’ union
- Communication – information not being disseminated to end users consistently
- No uniform mechanism for change requests (so people felt their ideas were not heard)
- Call for action: expand nursing input into decision-making in daily use of EMR
Leadership support

- Beef up existing expanded IdAC group of representatives
- Dedicate time to meeting and for unit level dissemination of information
- Empower super users to “be more super”
- Appointed nursing co-chairs for IdAC
- Socialized changes to organization – took our show on the road
- Tracked attendance to monitor representation from all nursing units

Expanded IdAC

- Expanded IdAC meeting every 2 months now
- Learning Assessment Survey developed and sent to all members for baseline data on comfort/familiarity with:
  - Nursing workflows – admission, discharge, transfer
  - Epic documentation workflows – orders, medication administration, flowsheets
  - Training and information sharing
- Targeted education provided to superusers based on survey results

Making super users more super

- Conducted needs assessment about use of Epic in daily workflows and also best practices in transferring information to their peers (with the help of our Learning & Change Management colleagues)
Making super users more super

• Reviewed results and targeted education at subsequent meetings
• Created Brown Bag sessions to review topics of common interest

Expectations of Super-users

• Attend Expanded IdAC meetings:
  – Learn about upcoming Epic changes
  – Actively participate in discussions about proposed changes
  – Represent fellow staff members in decision-making
• Schedule time on unit outside of normal clinical care to communicate changes to staff
  – 16 hours per unit per month for both meeting attendance and knowledge transfer
• Read email and solicit staff feedback prior to meetings
• Bring issues identified by staff forward to IdAC for further discussion and resolution
• Be a positive role model for Epic on the units
• Be super!

Partnering with staff educators & PPLs

• Super-users work with staff educators and Professional Practice Leaders (PPLs) to:
  – share what changes are occurring
  – create an issue-specific communication plan
  – ensure all staff receive one consistent message
• Super-users communicate changes and provide support to their co-workers
• Staff educators and PPLs share the plans for communication with all staff with managers
IdAC purpose today

- Promote standardization of documentation
  - reflective of interdisciplinary practice
  - consistent with quality and regulatory standards.
- Serve in an advisory capacity by way of analysis and prioritization of integrated health record (IHR)-related
  - clinical change requests
  - optimizations
  - upgrade opportunities

IdAC purpose today

- Effective, standardized bidirectional communication between IdAC and Dept. of Clinical Informatics in order to optimize the IHR, including ongoing status updates of change request completion
- Consistent communication of IdAC decisions to appropriate stakeholders, including nursing, shared governance councils, and clinical professional services
Involvement Strategies

• Slightly interested?
  – Learn your organization’s EMR and how changes are made
  – Make suggestions for changes and improvements as appropriate

• Moderately interested?
  – Consider becoming a “Super User” for a certain workflow or project
    • You learn more about the project and then assist your peers
  – Be a subject matter expert
    • Offer your knowledge about your particular type of nursing or kind of patient to those who are building or optimizing the system

• Really interested?
  – ANIA-Caring (formerly the American Nursing Informatics Association and the Capital Area Roundtable on Informatics in Nursing) or other organizations related to informatics
  – CIN – Computer, Informatics, Nursing journal
  – Master in Science in Nursing Informatics
    • When you are ready!

Questions?

• For more information contact:
  • Nancy Kallem – kallem@ohsu.edu
  • Jessica Alexander – alexanje@ohsu.edu
References