Optimizing your EHR: A Report from your local CNIOs

NENIC Winter Program
3/7/2016
Disclosures

- Tonight’s Program
  - Optimizing your E.H.R. : A Report from you Local CNIO’s
- Purpose /Objective
  - To share the role of the CNIO within the healthcare institution and how EHR adoption has escalated to optimization by measurably improving or enhancing patient care within their institutions.
Disclosures

- In order to receive the contact hour(s), the participant must attend the entire program and complete the evaluation.

- No conflict of interest was declared by any planners, faculty, authors, or content reviewers in relation to this educational activity.

- There is no commercial support for this program.
WELCOME
CNIO Speakers

- Denise Goldsmith MS, MPH, RN
  - Brigham and Woman’s Hospital

- Marcie Brostoff MS, RN, NE-BC
  - The Boston Children’s Hospital

- Pamela Manor DNP, RN-BC
  - UMass Medical Center

- Geralyn Saunders MS, RMN
  - Boston Medical Center

- Mark Sugrue MSN, RN,-BC, FHIMSS, CPHIMS
  - Lahey Hospital and Medical Center
Optimizing your EHR:
A Report from your local CNIO

Denise Goldsmith MPH, MS, RN
CNIO, Brigham and Women’s Hospital
The CNIO Role

- “The CNIO creates the vision, influences IT decisions and leads nurses to where they need to be to meet the challenges of an increasingly technologic environment…

- As a transformational leader, the CNIO drives healthcare quality by advocating for and assisting in the development of metrics, quality tools, and infrastructure…

- ….ensures that technology is an enabler for nursing and clinical care, and that patient safety is incorporated into every aspect of clinical workflow."

Poe, The CNIO impact on EHR implementation, iHealth Connections, 2011
Emergence of the CNIO Role: Why now?

- Recognition that implementation of EMRs will greatly impact nursing practice, health care safety, and quality reform

- Multitude of federal mandates (data driven, value based model) that require focused informatics nursing leadership to address

- NI executive leaders have the vision, knowledge and skills to leverage information technology to meet this challenge

- Increasing acceptance and understanding of the role

Mitchell, MB Preparing for the Nurse Executive Role HIMSS Nursing Informatics
Pathway to a Position of CNIO

Strong Clinical Practice Foundation
- Travel the path from novice to expert clinical nurse
- Master the Practice of nursing art and science
- It’s all about the practice…you can’t be detached from the practice…the systems need to support the practice

Advanced Educational Foundation
- Advanced degree with theoretical foundation in the practice and educational foundation in the specialty of informatics
  - expands the knowledge, skills and vision required for the NI Executive leader of the future

Management Experience
- From clinical to midlevel to executive
- Experience managing people, processes, budgets, and systems
- Project management & Organizational behavior

Leadership Expertise
- Learning how to lead…understanding the difference
- Leading in a complex organization
- Influencing at the executive table
My Pathway to a Position of CNIO

1. **Clinical** (14 years)

2. **Mid level Management** (8 years)

3. **Education** (MSN, MPH, Informatics Fellowship at BIDMC & HMS)

4. **Informatics Leadership** (14 years)
   - Program Director, Nursing Informatics
     - Joint appointment with IS and Nursing
     - Learned to translate the practice to both nursing and IS
   - Director, Clinical Informatics, Chief Privacy Officer
     - Wrote grants, executed research
     - Development and implementation of clinical systems
   - Director, Nursing Informatics
     - Learned to navigate the politics of an academic HC organization
   - Executive Director, Nursing Informatics
     - Learned to sit and influence at an executive table
   - CNIO
     - Becoming strategic and visionary

5. **Local and National level participation!**
Reporting Relationships for the CNIO

NI Executive leader must have a direct reporting relationship to a member of the Executive team

- Ensures there are strategic alliances focusing on integrating clinical practice with safety, quality, reporting, and MU requirements

Chief Nursing Officer

- If a direct reporting relationship exists outside of nursing a matrix relationship to the CNO should be formulated for clinical transformation

- Chief Information Officer
- Combination CNO/CIO
- Chief Medical Information Officer
- Others: COO, CQO, CFO
Challenges Facing the CNIO

- **Strategic Direction…competing organizational initiatives**
  - Articulation of nursing workflow, practice and data needs
  - How to leverage what is available to support practice?
  - How to influence vendors to better support nurses with functionality they need?
  - How to stay informed on policy, standards, innovation?

- **Infrastructure to support**
  - Hardware, Device integration, Mobile devices
  - Evolving reporting requirements
  - Patients’ expectations of technology

- **Educational infrastructure to “keep up”**
  - Constant need for training and adoption

- **Resources**
  - Required to implement, maintain and enhance
EHR Optimization at BWHC

- Nine months out from a large scale integrated EHR implementation
  - Stabilization and patient safety are our primary goals
  - Optimization is a future goal…the “nice to haves”
- Transformation is well underway…
  - Nursing informatics leadership is engaged in transformational activities that bridge new care delivery and documentation models into clinical practice with the right technology solutions
Transformation at BWHC

- Standardization of nursing documentation across all inpatient units
  - Utilizing documentation “Best Practices” (I&O, LDAs, Pain Assessment, NDPs)
- Re Birth of the patient’s Plan of Care (POC)
- Moving from “synthesis” summary/progress nursing notes to problem based POC notes
- On a path to standardized shift handoff using a “built in” framework (IPASS)
- Leveraging EHR to build electronic support for NDP for indwelling catheter removal
- Combining a weight based Heparin administration nomogram with a NDP to manage patient’s PTT
- Implementing Positive Patient Identification (barcode scanning) for specimen collection and blood administration
The CNIO role will continue to mature and define itself as organizations continue to implement advanced technologies.

Thank You!

Denise Goldsmith
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Optimizing your EHR: A Report from your local CNIO

Marcie Brostoff MS, RN, NE-BC

CNIO – Boston Children’s Hospital
The CNIO Role

- **Pediatric Nurse**
  - Children’s Hospital of Philadelphia
  - Duke University
  - Boston Children’s Hospital

- **Faculty and Clinical Faculty**
  - Salem State College
  - Northeastern University
  - Boston College
  - University of Massachusetts

- **Case Management, Staff Development Specialist, School Nursing, Director Staff Development**

- **CNIO**

- **Associate Chief Nurse/VP Clinical Education/Practice/Quality and Informatics**
The CNIO Role

Stage of EHR Adoption: HIMSS 7

Current Clinical IT Environment:

- Inpatient & Emergency Department
  - Near-paperless environment
  - CPOE w/decision support
  - Nursing and physician documentation (both structured and unstructured)
  - Point of care documentation w/barcoding (medications, blood, labs, breastmilk)
  - Laboratory, Radiology, Pharmacy, Blood Bank
  - PACS (stand alone and integrated into EMR)
  - ePrescribing
  - Data warehousing all clinical data
  - Clinical & administrative data summary electronic exchange via regional collaboration (NEHEN)

- Ambulatory
  - Same as Inpatient, except no point of care documentation (yet!)

Cerner – clinical & ancillaries
Epic – ADT, registration, scheduling, billing, HIM
Fuji – PACS
In-house developed – PHR, chemotherapy order entry, cardiovascular apps, SSO, data warehouse, others
Vision

To provide strategic and operational clinical leadership in the selection, development, deployment, re-engineering, and evaluation of technology, education and professional development of clinical staff.

To improve the clinical quality, safety, and operational integrity of clinical information systems; and integrate quality improvement and regulatory standards and compliance.

*To demonstrate the inseparable relationship between informatics, education, quality and practice, there are currently 27 members of the department, dedicated to the ongoing support, education and growth of our systems*
The CNIO Role

Attributes:

- Orientation, Support and ongoing training of the interdisciplinary team
- Devoted relationship between clinical work and informatics
- Ensure alignment of clinical information system with patient care to provide decision support
- Liaison between the Clinicians and Information Systems in design, development, implementation, effective use, and ongoing evaluation
- Clinical Support during all downtime event and whenever Hospital Incident Command Center is activated
- Large Scale Implementation responsibilities for testing, training, support and maintenance
- Management of 4 remedy cues Patient Portal, Bed Management, CHAMPS Clinical, API
- 24/7 on call support

Keys to the success: parity with CMIO, at the executive table, bridging the gap

Common Challenges: Reporting Structure, Constant Availability

Report into Nursing/Patient Care Operations
“Optimization” at BCH is to provide a more comprehensive patient experience. By optimizing the use of the electronic health record, the Patient's Chart will become more comprehensive and standardized across all specialties, leading towards a better experience for the patient. New features and functionality of the EHR will make current operations and workflows more efficient and faster, saving time and money. It will enable us to exchange information electronically, driving meaningful use…..ultimately driving interoperability, care coordination and population health.

Clinical Informatics Governance Model

Transformative Projects:
- Barcoding (Meds, Labs, Blood, Breastmilk)
- Time and Attendance link to Staffing and Patient Care
- Open Notes
- Care Management
- Capacity Management
- Infusion Management

Measuring all aspects of care
- internal benchmarking
- external benchmarking
CNIO Role and UMASS
Pamela Manor, DNP, RN-BC
Chief Nursing Information Officer and Associate Chief Nursing Officer
UMASS Memorial Medical Center
Role Development

- **1997 to 2006**
  - Worked as a Clinical Analyst in Information Technology supporting multiple clinical applications building documentation screens, report writing, and other build and training tasks, on call for hardware and application support.

- **2006 to current**
  - Began developing leadership roles shared between Information Technology and Nursing.
    - Wrote job description for a role with dual reporting to Nursing and Information Technology focused on leading clinical initiatives related to information management, technology, and engaging Shared Leadership in Information Technology solutions.
    - Directly reported to CIO and dotted line to CNO until 2015.
  - Benefit: Learned how to work in Information Technology Department.
    - Documentation of projects and build.
    - Support infrastructure and devices.
    - Knowledge of other systems: Imaging, Telephony, Infrastructure, Help Desk.
UMASS Memorial

- Medical Center, Clinton and Marlborough all on the same instance of a “Best of Breed” approach to electronic health records
  - 12 + Electronic Health Records
    - eCare Manager – Critical Care
    - Pulse check – Emergency Services
    - QMI - Obstetrics
    - Salar – Provider documentation
    - Sorian (Siemens sold to Cerner in 2015) – Nursing documentation and Pharmacy
    - QS – PICU
    - Mediware – Peri-Op
    - Allscripts - Ambulatory
Best of Breed Outcome

- HIMSS Stage 3
  - CPOE in 2 departments only (ED and ICU)
  - Ancillary documentation on paper
  - Antiquated methods of processing charges; paper
  - Challenges with ICD-10 documentation (paper) and Meaningful Use
  - Staff must use multiple systems in daily work; inefficient
  - Challenges with Legal Medical Record
  - Care Plans are not utilized in every clinical area
HIMSS Analytics
Electronic Medical Record Adoption Model (EMRAM)

- Incorporates a methodology and algorithms to automatically score the more than 5,400 U.S. and approximately 650 Canadian hospitals in the HIMSS Analytics database relative to their EMR capabilities.

- Ranging from limited ancillary department systems through a paperless EMR environment, EMRAM scores provide peer comparisons for hospital organizations as they strategize their path to implementing a paperless system.
How are EMRAM scores calculated?

1. **Hospital completes comprehensive questionnaire**
   - Up to 250 applications
   - Hardware support

2. **Hospital Budget and Staffing Data are reviewed**
   - IS Department Budget and staffing
   - Benchmarking done

3. **HIMSS Analytic Software analyzes the data**
   - Assigns a score of 0 – 7
   - Each stage has criteria that must be met to earn that stage
HIMSS Stage 3

- Nursing/clinical documentation (e.g. vital signs, flow sheets, nursing notes, eMAR is required and is implemented and integrated with the CDR for at least one inpatient service in the hospital
  - Care plan charting is scored with extra points.

- The Electronic Medication Administration Record application (EMAR) is implemented.
  - The first level of clinical decision support is implemented to conduct error checking with order entry (i.e., drug/drug, drug/food, drug/lab conflict checking normally found in the pharmacy information system).

- Medical image access from picture archive and communication systems (PACS) is available for access by physicians outside the Radiology department via the organization’s intranet.
UMASS Goal for 2017
Patient Centered Record
One patient – One record

- New IT Leadership including new CNIO and CMIO
- Selection process 2015
- Evaluate Cerner and Epic
- Operational involvement

- Goal: Big Bang go live with Epic in 2017
  - achieve HIMSS Stage 6
HIMSS Stage 6

- Full physician documentation with structured templates and discrete data is implemented for at least one inpatient care service area
  - for progress notes, consult notes, discharge summaries or problem list & diagnosis list maintenance.

- Level three of clinical decision support provides guidance for all clinician activities related to protocols and outcomes in the form of variance and compliance alerts.

- A full complement of radiology PACS systems provides medical images to physicians via an intranet and displaces all film-based images.
  - Cardiology PACS and document imaging are scored with extra points.

- Transfusion Administration Bar Code Scanning – to be added to Stage 6
Current Quality Projects

- Allergy dictionary – pick list
- Bar code medication overrides – improved compliance
- MD Allergy entry – Emergency Department
- Insulin VSM – decreased errors
- Downtime Project – Provided website for downtime forms
- Indwelling Urinary Catheters – decreased errors in reportable Catheter Days
Bar Code Medication Scan Overrides
Report from Boston Medical Center

Geralyn Saunders RN MSN CNIO
March 7, 2016
New England Nursing Informatics Consortium
Boston Medical Center

• 496-bed, Academic Medical Center - Affiliated with Boston University Medical School
• Large safety net hospital in New England
• Inpatient Epic go-live: May 2014
  Included Med/Surg, Pediatrics, Critical Care, ED, Perinatal, Perioperative, Pharmacy, Bedtime, Outpatient Oncology and HIM
• Ambulatory Epic go-live: May 2015
• OCHIN installs in CHC started fall 2015 through summer 2016
CNIO Role @ Boston Medical Center

Nursing Informatics History
   Personal story
   ITS & Nursing reporting
   CMIO colleagues

Current Responsibilities
   Clinical Lead team
      - 4 full time nursing leads
      - 4 part time nursing leads
      - 1 full time pharmacy lead

   Epic Training team
      - Manager
      - 9 Instructional Designers (Principle Trainers)
      - 6 Credentialed Trainer
Governance: at Boston Medical Center

Changing (again)
Request source: user/user group, capital projects and strategic/regulatory priorities

User group driven
Ambulatory (2), Inpatient (3), ED, Perioperative & Pharmacy
Prioritize requests
First level of triage

Process
Three month bucket with milestones
Collaborative
Clinical, business and ITS stakeholders

CNIO role
Balance clinical, quality and ITS priorities
Drive nursing agenda
Significant Nursing Projects & Initiatives

Nursing Informatics Council
- Formed: November 2015
- Membership: staff nurse (25) shared governance council
- Focus: Usability and Enhancement of Epic
- Hot Topics: Flu initiative, restraint changes, blood transfusion & upgrade plans
- Projects: IPASS, Care Plans, Worklist & Wound Tips & Tricks

Flu Vaccine initiative
- Struggled last year
- CNO goal 2015: 90%
- Actual results: 98%

Patient Acuity (ICUs)
- Address DPH mandate
- Orders & documentation
- Collaborative process – required 12 months
Thank you!!!!

Geralyn.Saunders@bmc.org
My Informatics Journey……..

"If I have seen further, it is by standing upon the shoulders of giants".
Sir Isaac Newton
Reporting and Value

- Report measuring patient and employee satisfaction
- Predictive
- Secure data
- Patient and population analytics
- Bundled payment, cost reduction
Trends in EHR adoption show increasing use of advanced functionality.

Figure 3: Percent of non-federal acute care hospitals with adoption of EHR systems by level of functionality: 2008-2014.

NOTES: Definitions of Basic EHR and Comprehensive EHR systems are reported in Table A1. *Significantly different from previous year (p < 0.05).

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When is the **TRANSFORMATION** going to occur?
Big Data?.... I Don’t Think So !!

- So if the average length of stay in a hospital is 4.8 Days.....

One Year in the Life of our Patients........

The other 360.2 Days !!
98.69%

Our EHR Data !!!
1.31%
By the time Florence left the Crimea in 1856, the conditions of the hospitals in Crimea improved drastically, with death rates dropping from 42% to 2%.

Florence Nightingale, 1856
QUESTIONS