



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

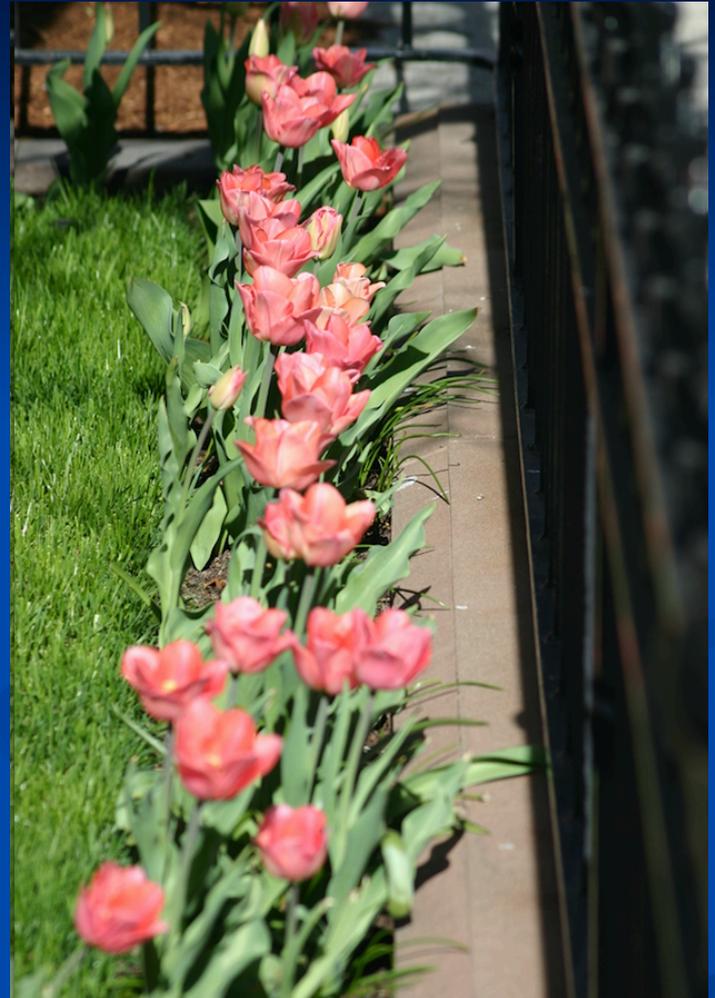
- Purpose /Objective

- 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



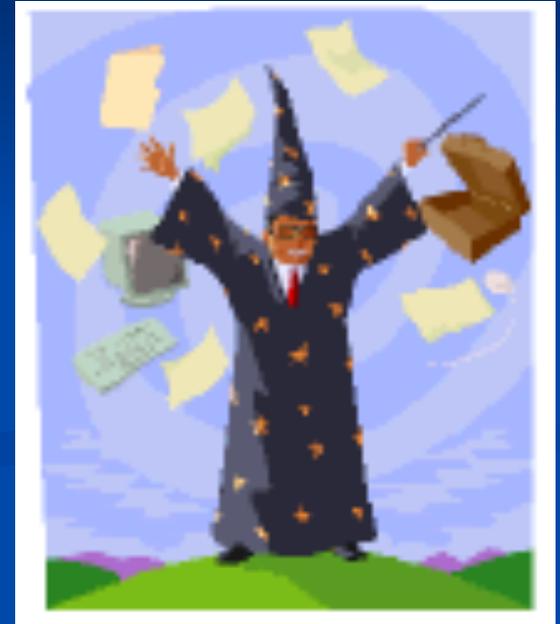
The CNIO Role

- “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



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

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

Transforming Patient Care

- “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?

Hospital completes comprehensive questionnaire

- Up to 250 applications
- Hardware support

Hospital Budget and Staffing Data are reviewed

- IS Department Budget and staffing
- Benchmarking done

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

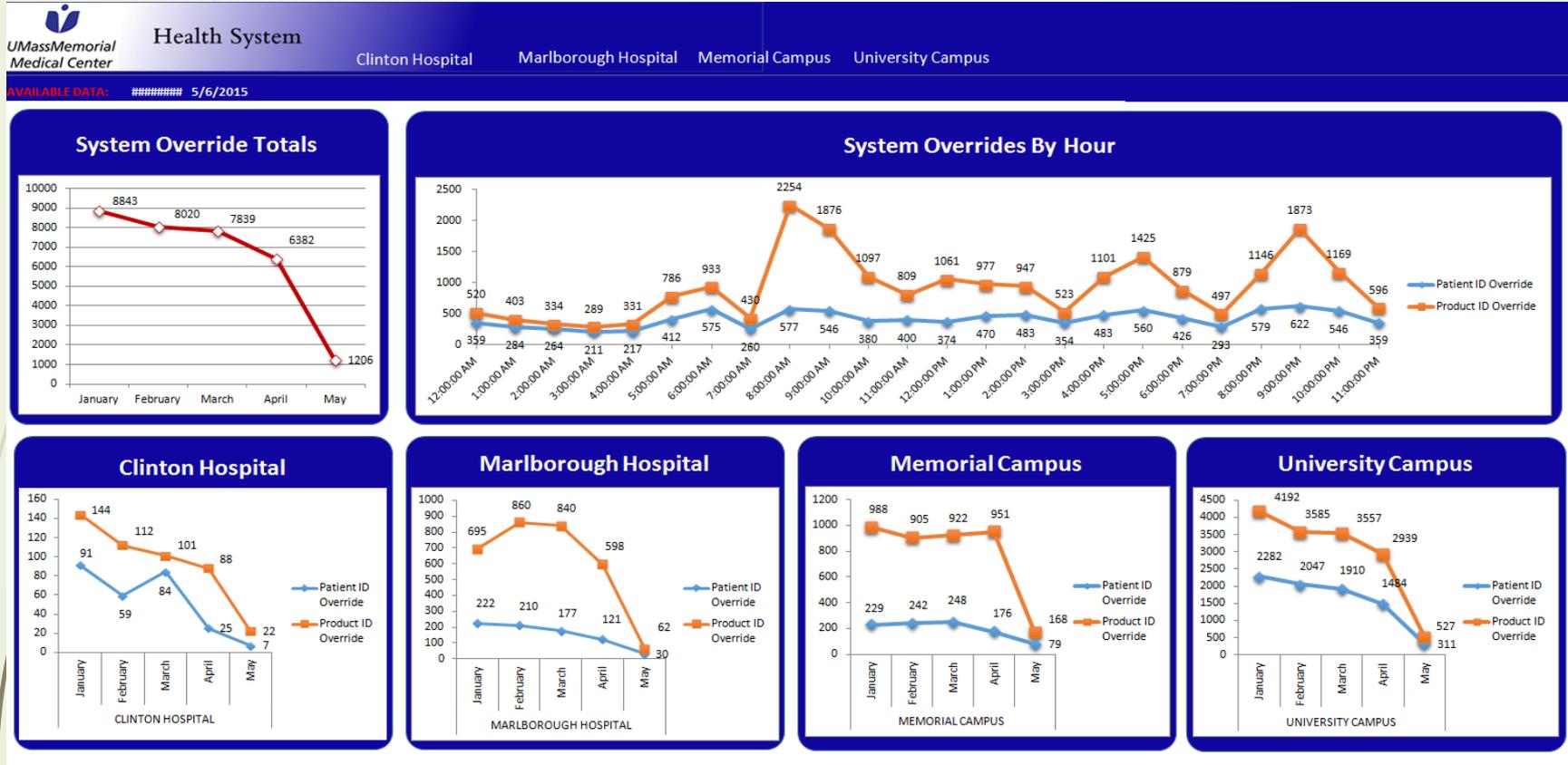
MD Allergy entry – Emergency Department

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



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

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!!!!

Geraldyn.Saunders@bmc.org

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TRANSFORMING
HEALTH THROUGH IT



Mark Sugrue, MSN, RN, FHIMSS, CPHIMS

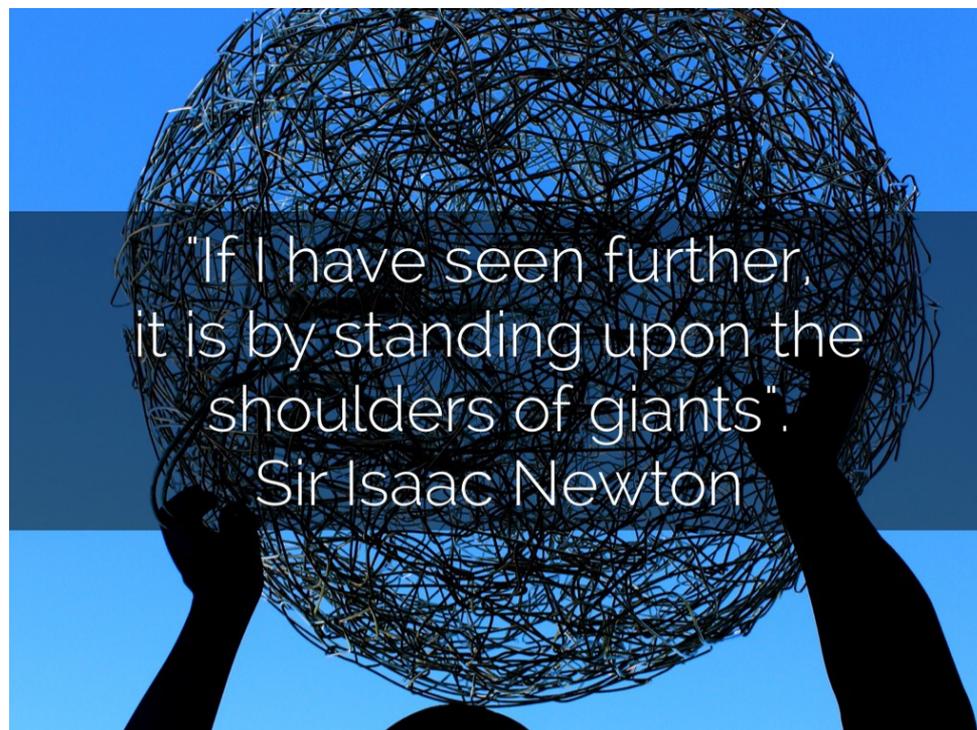
Chief Nursing Informatics Officer, Lahey Hospital and
Medical Center

DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.

 #HIMSS16

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My Informatics Journey.....



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

Highly Coordinated Delivery System



Lahey Hospital & Medical Center

H Lahey Hospital & Medical Center, Burlington and Lahey Medical Center, Peabody

OC Lahey Outpatient Center, Lexington

● Lahey Health

H Addison G. and Bever

OC Lahey Outpatient Danvers

● Lahey Health Outpatient PHO Prim

H Winchest

OC Winchest Outpatient

● Winchest Highland Primary C

H BayRidge

● Lahey Health Behavioral

● Lahey Health Continuin

Haverhill



\$160M Electronic Health Record Investment 2013



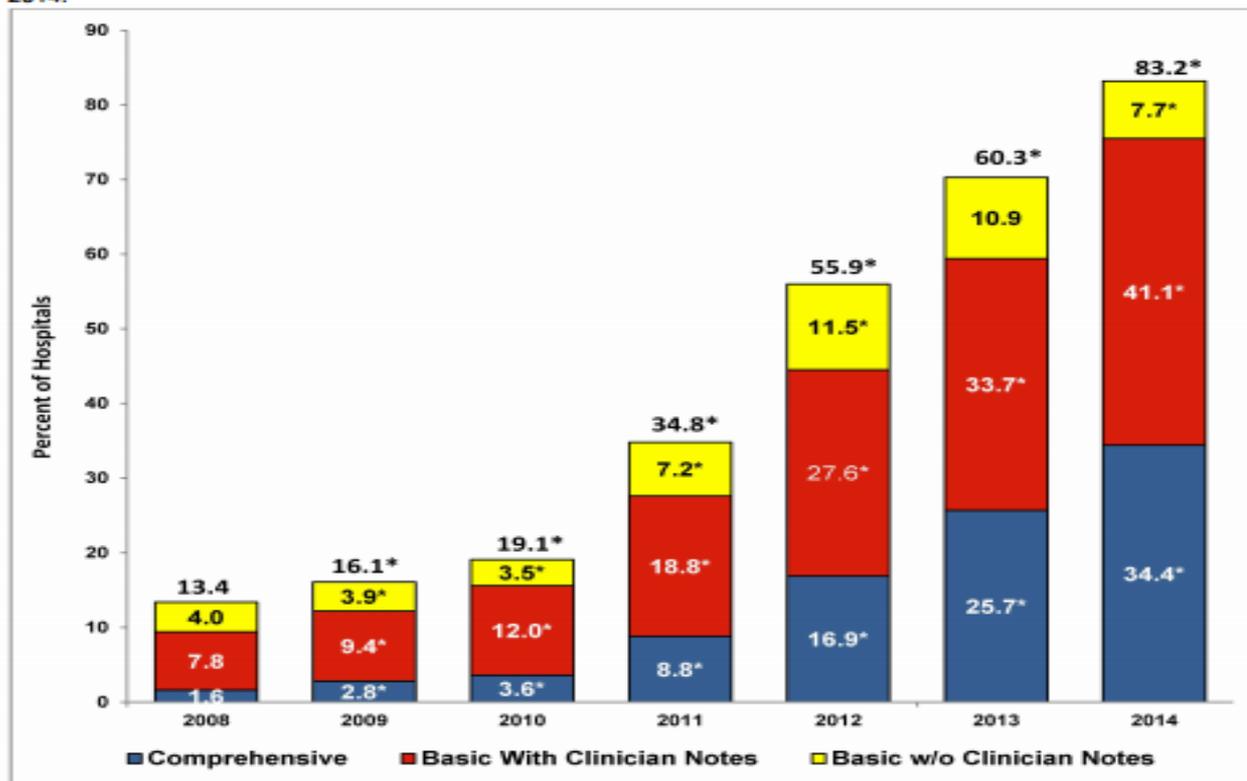
Reporting and Value

- S Report measuring patient and employee satisfaction
- T Predictive
- E Secure data
- P Patient and population analytics
- S Bundled payment, cost reduction



Trends in EHR adoption show increasing use of advanced functionality.

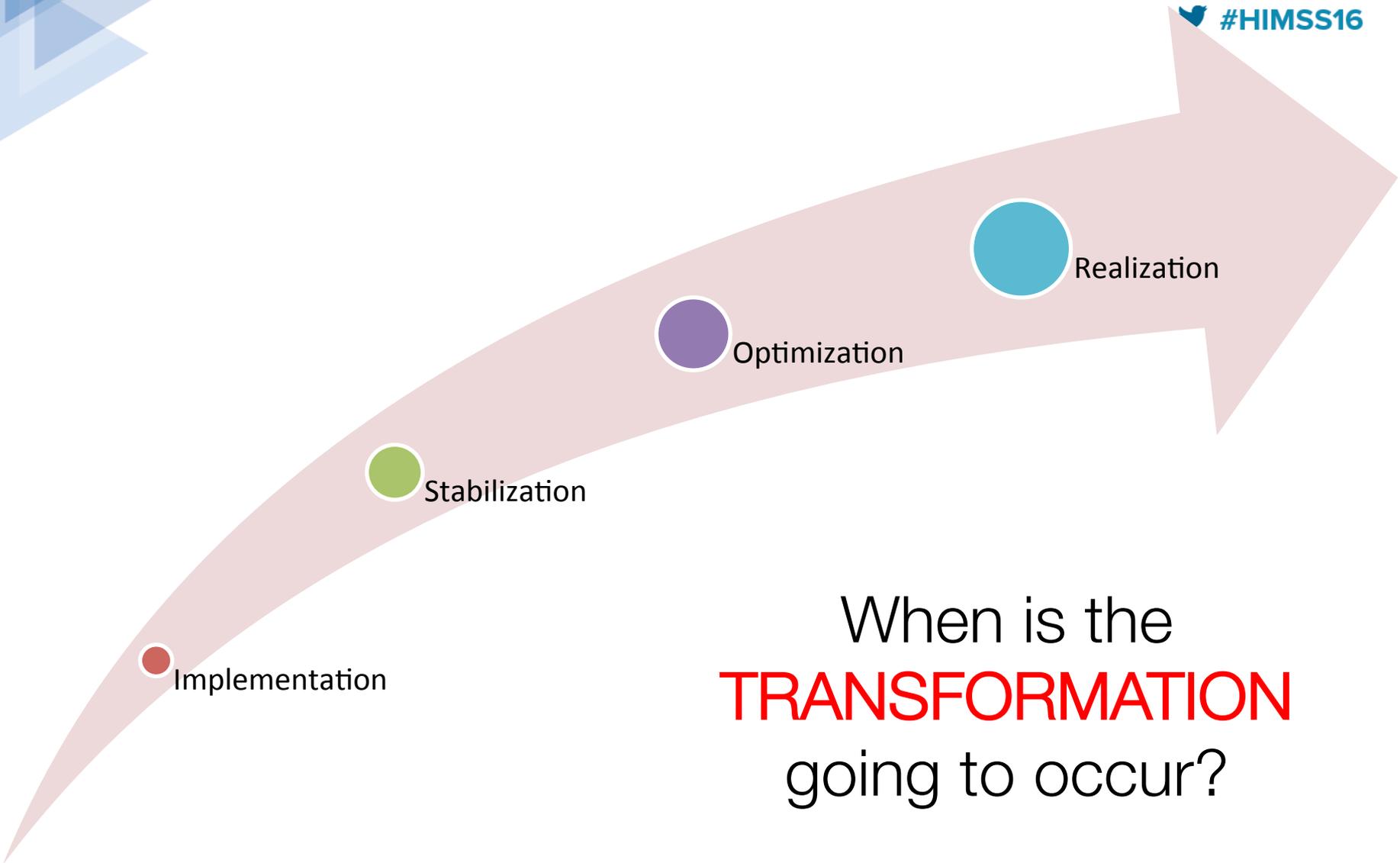
Figure 3: Percent of non-federal acute care hospitals with adoption of EHR systems by level of functionality: 2008-2014.



NOTES: Definitions of Basic EHR and Comprehensive EHR systems are reported in Table A1.

*Significantly different from previous year (p < 0.05).

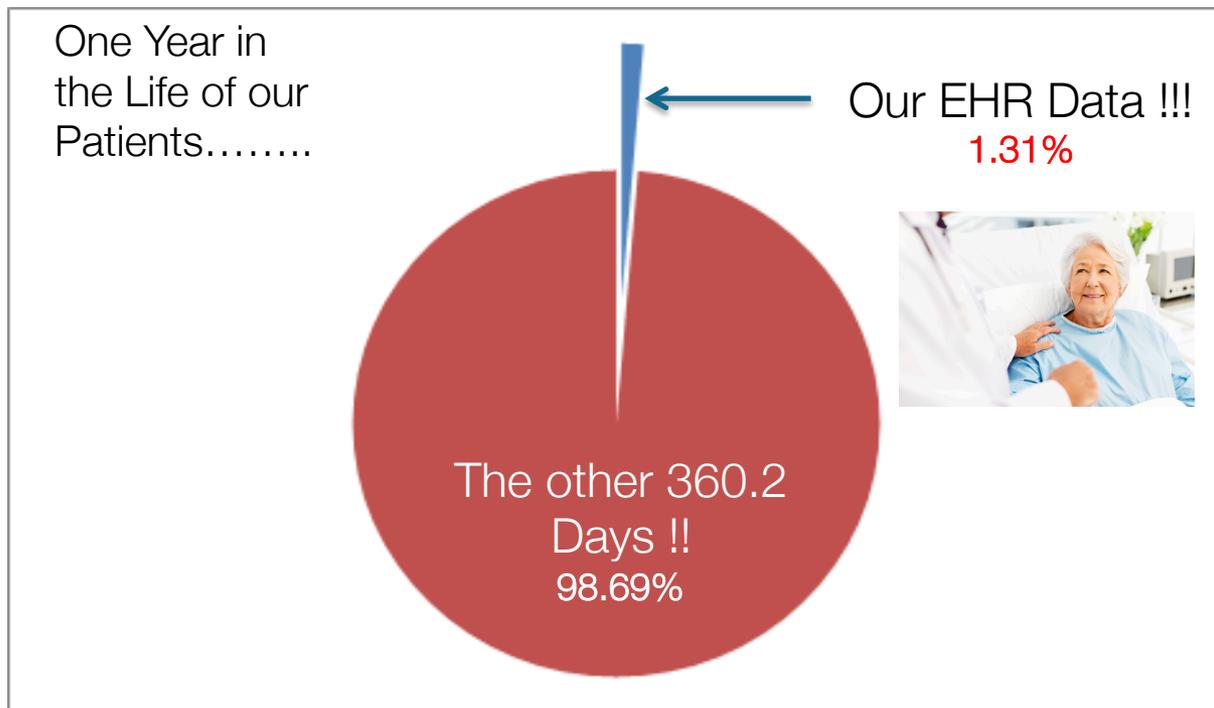
SOURCE: ONCA/AHA, AHA Annual Survey Information Technology Supplement.



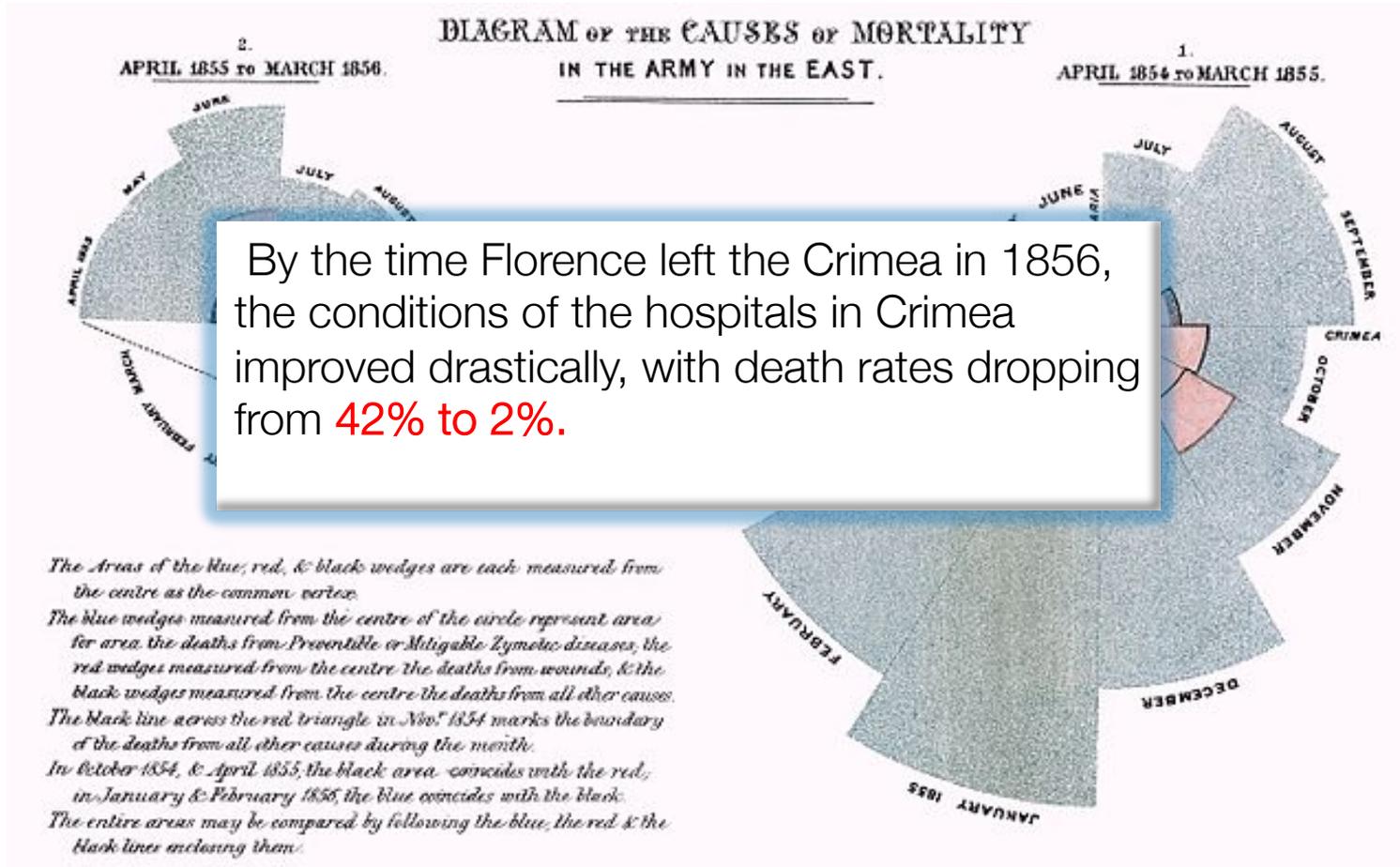
When is the
TRANSFORMATION
going to occur?

Big Data?... I Don't Think So !!

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



Reporting and Analytics Pioneers



QUESTIONS