An Epic "Big Bang" Boston Medical Center's Experience

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Boston Medical Center

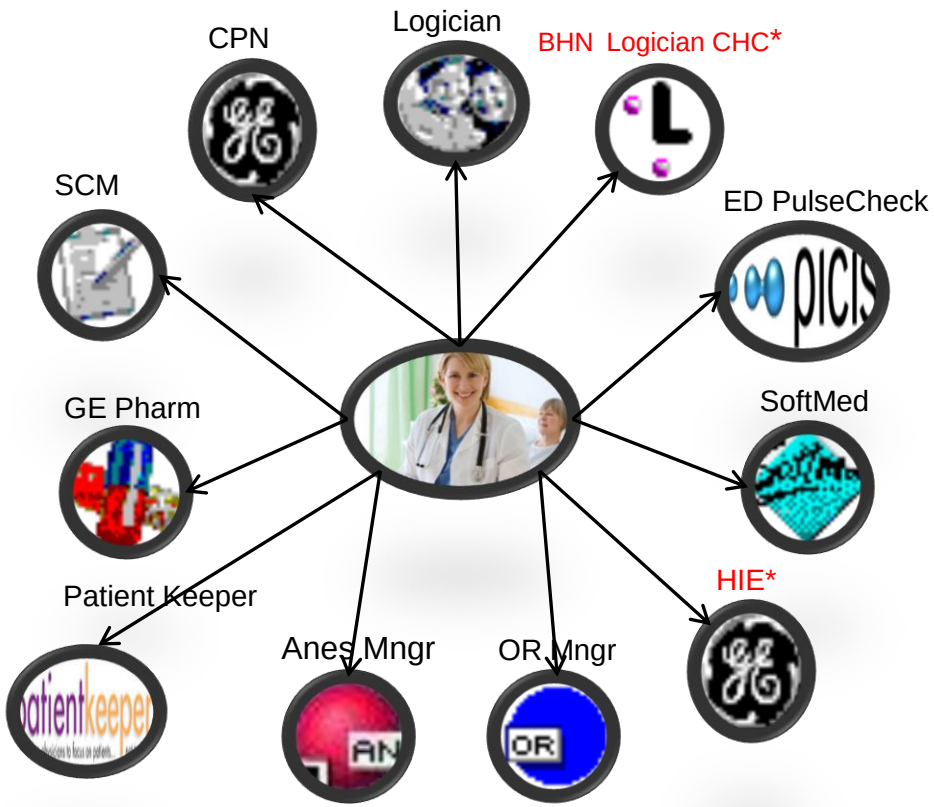
- 496-bed, Academic Medical Center - Affiliated with Boston University Medical School
- The largest safety net hospital in New England
- Mission: to provide consistently accessible health services to all
- Full spectrum of pediatric and adult care services, from primary care and family medicine to advanced specialty care.
- Largest and busiest provider of trauma and emergency services in New England and in 2013 the Emergency Department had approximately 130K visits.

Project Scope

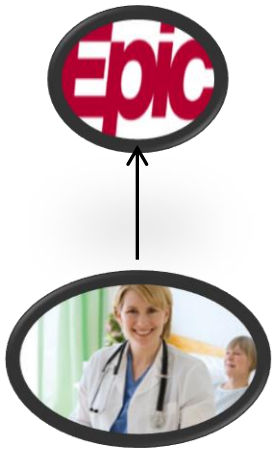
Legacy BMC System	Epic Replacement
Inpatient Clinicals: Sunrise Clinical Manager	EpicCare Inpatient
Inpatient Pharmacy: Centricity Pharmacy	Epic Willow
Inpatient OB: CPN (documentation only)	EpicCare Stork
Outpatient Clinicals: Logician	EpicCare Ambulatory
Emergency Department: PICIS (IBEX)	Epic ASAP
Operating Room: PICIS OR Manager	Epic OpTime
Operating Room: PICIS Anesthesia Manager	Epic OpTime
HIM: Softmed	Epic HIM
Bedboard	Epic Bedtime
Medilinks: Respiratory Care	EpicCare Inpatient/Ambulatory
Medilinks: Rehab Therapy	EpicCare Inpatient/Ambulatory

Project Vision and Scope

Previous State



Current State



BMC's History of Health IT Implementation

- Early Adopter of EHR including CPOE
- Best of Breed: multiple interfaces
- Highly Customized: making upgrade difficult
- Struggled with Decision Making and Clinician Involvement
- Imperfect Governance Structure
- Poor Track Record with Optimization

BMC's Key Challenges

- Fast Track Implementation
  - 18 months from contract signing (Dec 2012) to inpatient go-live (May 2014)
  - Drivers: Meaningful Use, ICD-10, Quality Agenda
- Broad scope of implementation, particularly for inpatient go-live
- Needed front-line clinicians to embrace change and challenge the status-quo thinking
  - Needed to empower clinical leaders to steer this initiative to success.
- Quick decision making required with clear governance & escalation pathways
  - Needed efficient mechanism to gather clinical input to:
    - Narrow design options
    - Define pros and cons for options
    - Make clinician-driven decisions in the context of limited time and resources

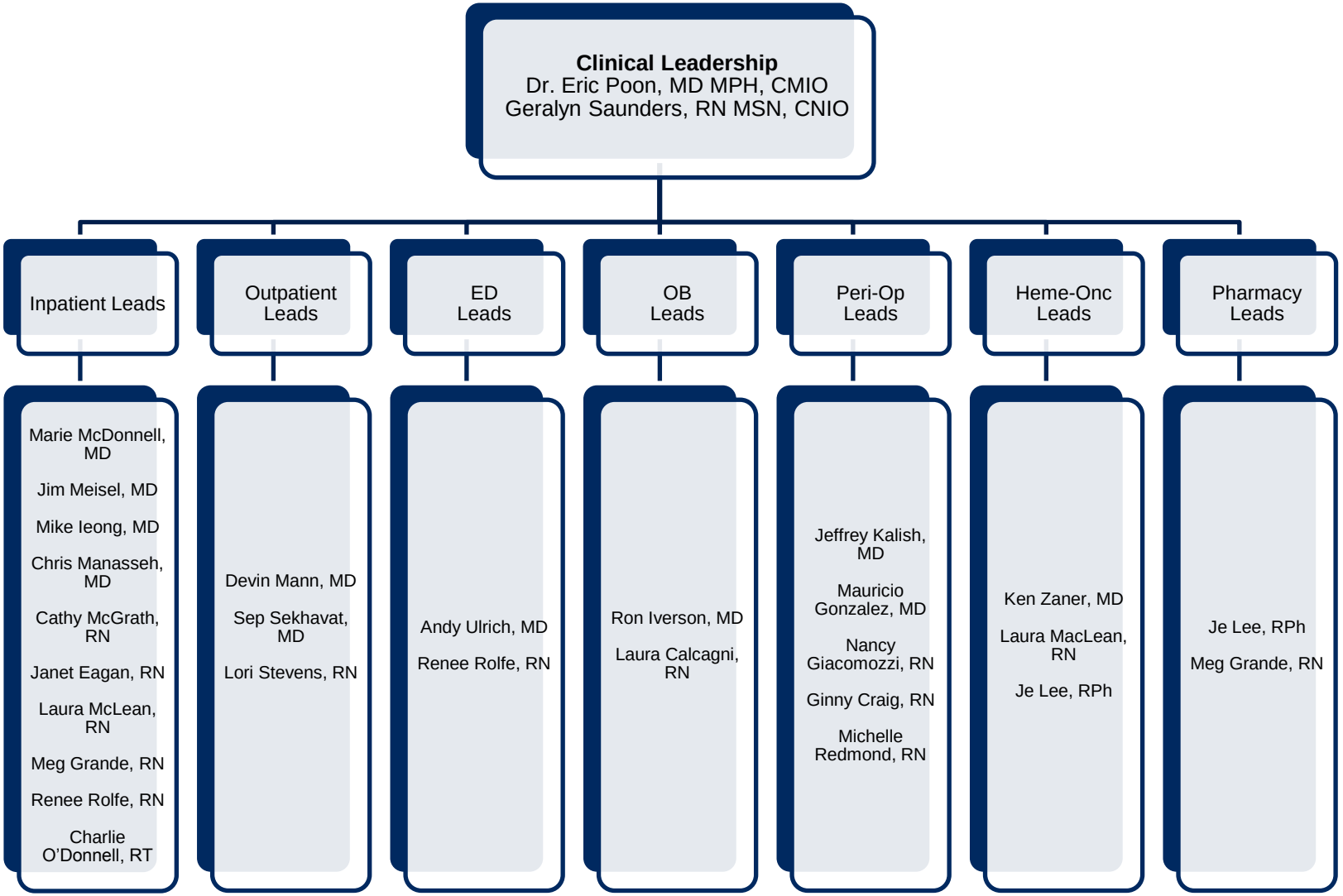
Initial Plan of Attack

- Established CNIO role
- Aggressive analyst hiring and initial training in WI
- Divided inpatient project into ‘workstreams’ to support concurrent design and build activities in different clinical areas
- Developed escalation paths for issue resolution
  - Clinical practice issues: MD & RN leadership councils
  - Project/Technical Issues: cascade of leadership forums from integrated project managers meeting to organizational steering committee
- Developed Clinical Lead Program to co-lead each workstream with IT Build team lead
  - Secured funding
  - Aggressive internal recruitment

Highlights of the Clinical Lead Role

- MD-RN dyad co-leading with ITS build team lead
  - Joint responsibility and accountability for scope, timeline and quality of deliverables
- Clinical leads empowered to make build and design decisions under the project guiding principles
  - Clinical leads brought their local workflow expertise and integrated them into the decision making process
- Escalated challenging clinical/workflow decisions to weekly clinical lead meetings
- Defined adoption, training, and communication strategy for each key module

BMC eMERGE Clinical Leads Program



eMERGE Clinical Lead Team

Eric Poon, MD MPH - CMIO

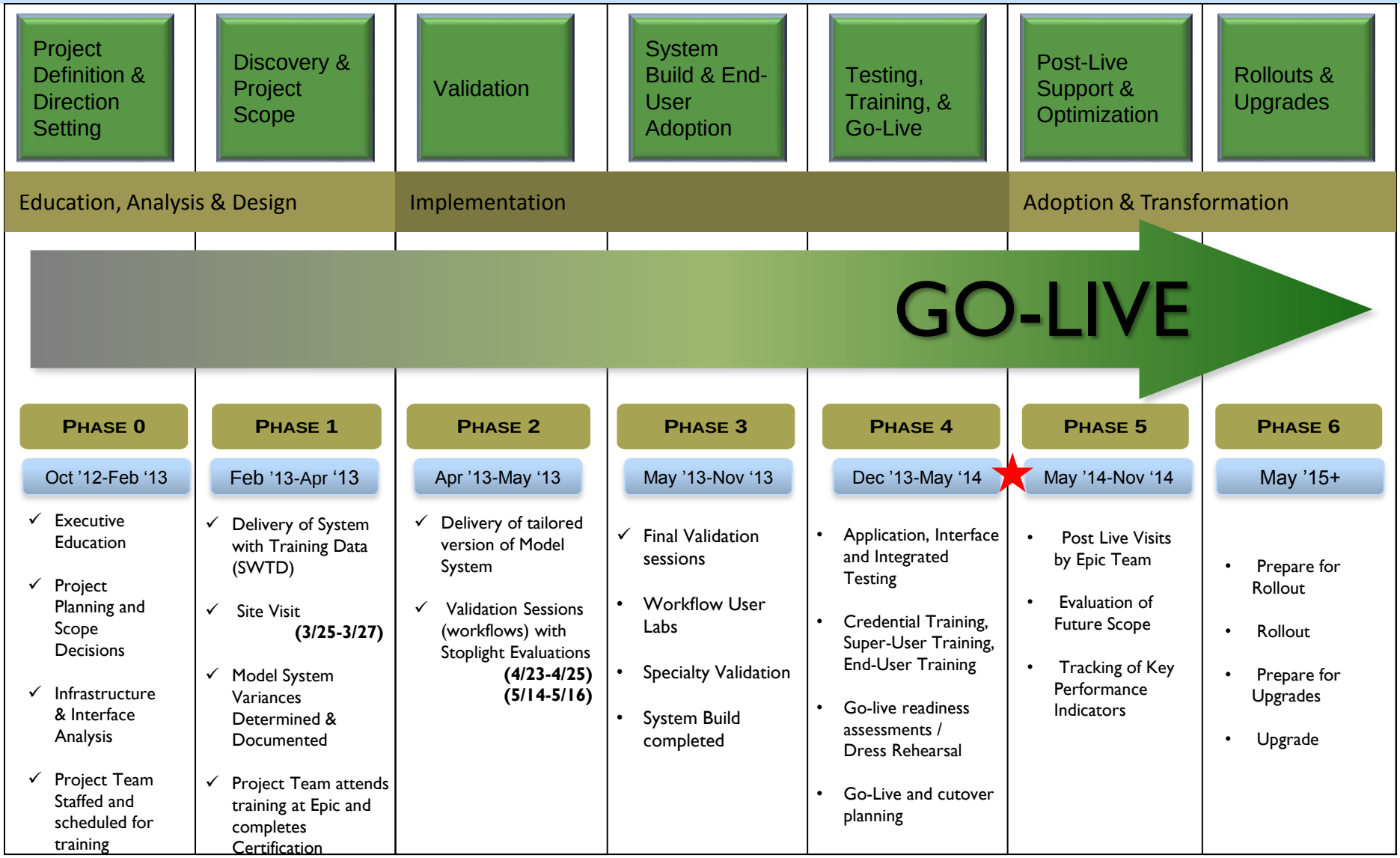
- Inpatient Leads
  - Marie McDonnell, MD (Endocrine)
  - Jim Meisel, MD (Hospitalist)
  - Mike Ieong, MD (MICU)
  - Chris Manasseh, MD (Fam Med)
- ED Lead – Andy Ulrich, MD
- OB Lead – Ron Iverson, MD
- PeriOp Lead –
  - Jeffrey Kalish, MD (Vascular Surgery)
- Heme-Onc Lead –Ken Zaner MD
- Quality Lead – James Moses MD
- Outpatient Leads
  - Devin Mann, MD (GIM)
  - Sep Sekhavat (Pediatric Cardiology)
- Practice Mgt – Lori Stevens, RN

Geralyn Saunders, RN MSN, CNIO

- Nursing
  - Cathy McGrath, RN (Med/Surg)
  - Meg Grande, RN (Med/Surg)
  - Janet Eagan, RN (ICU)
  - Robert Elloyan, RN (ICU & Devices)
  - Laura Calcagni, RN (OB)
  - Nancy Giacomozzi, RN (OR)
  - Virginia Craig, RN (OR)
  - Michelle Redmond, RN (OR)
  - Renee Rolfe, RN (ED)
  - Laura Maclean, RN (Oncology & Pedi)
- Pharmacy
  - Je Le, RPh
- Ancillary
  - Charlie O'Donnell, RT

Plus department-based subject matter experts to support Clinical Content Build Out and Ad hoc workgroups

Implementation Overview – Inpatient Timeline



Introduction

Cathy McDonough-McGrath, MSN, RN

- Clinical documentation
  - Nursing: M/S, ICU, Pediatrics
  - Ancillary(secondary lead)
    - Respiratory, Physical, Occupational, Speech Therapy, Social Work & Case Managers
- Bed Time
- HIM
- Reporting

Renee Rolfe, MSN, RN, CNL

- ASAP
  - Triage, Adult Acute, Pedi Acute, Trauma, Urgent Care, Observation Unit, Behavioral Health Unit, Project Assert
- Care Everywhere/ MyChart
- Participant in Clin Doc & CPOE

Workstream Structure

Members

- Analysts and EHR team lead
- Clinical leads (nursing, providers, ancillary)
- Instructional designers
- EPIC AM / AC
- Content experts & clinical leads from other work streams as needed

Work

- Weekly meetings
- Review workflows
- Weekly timeline check ins (Clinical Content Build Out timeline and “week by week”)
- High Risk processes
- Complex work flows
- Highly integrated areas

Content Decisions & Validation

Prep Work

- Review of current state and Epic foundation system
- Review of literature, evidenced based practice
- Created workflow and build recommendation documents
- Workflow and build demonstrations

Decision Makers

- Nursing Clinical Educators and Subject Matter Experts
  - Weekly meetings
  - Content decisions and validation
  - Reviewed eMerge build
  - Collected feed back from end users

Clinical Lead Meetings

Nursing and Ancillary

- Weekly roll call
- Facilitated decisions that crossed workstreams
- Example: suicide assessment, Abuse screening, Scoring tools, Nursing notes (DARP format), Student nurses documentation & security

Combined meetings (Nursing, Ancillary, Providers)

- Made decisions that impacted multiple disciplines
- Nurses & Providers partnered to investigate current state & EPIC foundation system
- Made recommendations to the group
- Example: Med Rec, Documentation of patient history, treatment teams, Shared documentation, Time out, Weight/Height display (Metric vs. English)

High Level Policy/Procedure and Workflow Decisions

Prep Work

- Gap analysis of policy & procedures; current vs. future state
- Review of regulatory mandates
- Review of literature, evidenced based practice
- Created workflow and build recommendation documents
- Workflow and build demonstrations

Decision Makers

- Clinical Leads
- Nursing leadership
- Physician and departmental leadership
- Administrative and Business owners
  - Patient access, coders, revenue integrity, medical records, legal, compliance

Complex, Integrated Workflow Decisions

- I&O documentation
- LDA's (lines, drains, airways)
- Epidurals
- Phases of care
- MAR hold
- Patient movement (ADT)
- Code and Trauma Narrator
- Care plans
- Order sets
- Preference card clean up
- Medication barcode scanning

Clinical Lead Role in Configuration & Build

Build Timeline

- Clinical content build out (CCBO)
- “Week by Week”

Clinical Lead Role

- Project management to meet deadlines, maintain momentum and gain consensus
- At the elbow build
- First reviewers and test users
- Stork certified clinical leads participated in building flowsheets
- Participated in build nights

ASAP: Configuration and Build

Monday	Tuesday	Wednesday	Thursday / Friday
Weekly ASAP workstream call	4 hour MD content review and validation	4 hour RN content review and validation	At the elbow RN clinical lead and analyst build Build night (Thurs)

Special Considerations

- Observation Unit
- Behavioral Health Unit
- Social Worker and Case Management
- Project Assert
- Residents
- Students

Clinical Lead Role in Testing

- Outcomes were twofold: identified build issues and served as a learning tool for end users
- Centralized testing location facilitated collaboration of all workstreams and ITS support
- Leads were responsible for initial and ongoing review and sign off of test scripts
- Participated in unit to full integration testing following scripts, with analyst support
- Rigor of the testing schedule proved difficult for consistent clinical lead and SME involvement during integrated testing

ASAP: Workstream Testing

- Ongoing ASAP analyst and Clinical Lead testing
- ASAP team shadow charting (similar to Optime)
- SME/ super user / RN educator shadow charting
- Pilot testing for major workflow changes

Training

MD	RN	UC	CNA	Ancillary training
8 hours	16 hours	4 hours	4 hours	4- 8 hours

Special Considerations

- Research assistants
- Administrative, business owners, nursing leadership
- Coders/ revenue integrity staff
- Patient Access
- ED Greeters
- ED Social Workers and Case Managers
- View only access and training

Clinical Lead Role in Training

- Clinical leads instrumental in “training the trainer” about BMC workflows
- Partner with ID in lesson plan review, quick start guides, tip sheets approval and sign off
- Super users were crossed trained to other roles , 70+ hours / 2 weeks in the classroom
- Super users, Clinical Leads, Clinical Educators were used as “teaching assistants” in classroom
- RN educators & CTs offered additional simulation sessions for ED code and trauma narrator training

Operational Readiness

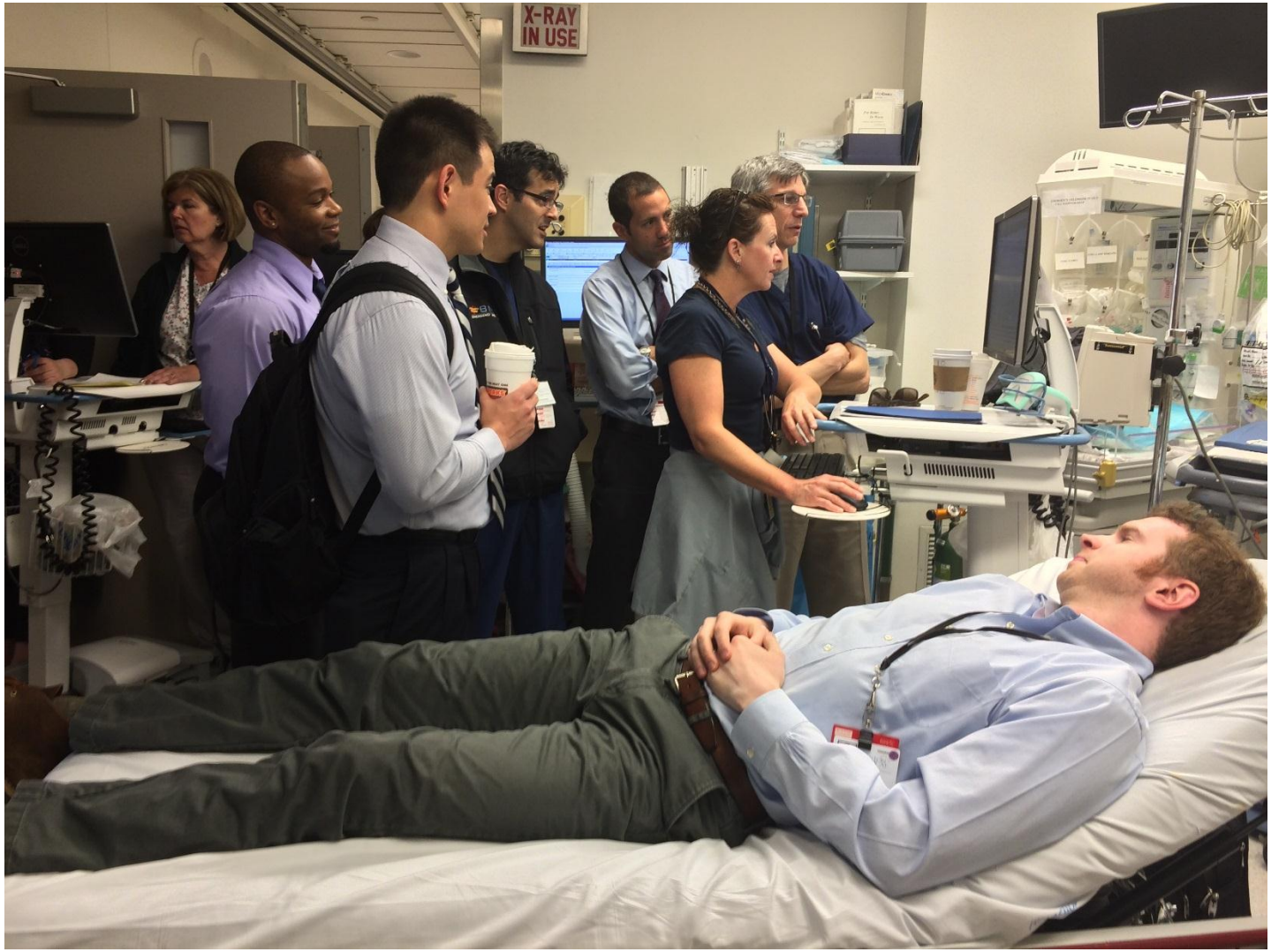
Purpose

- 3 months pre- go live
- Major workflow changes
- Timeline updates
- Review of current state vs. future state
- Device and equipment check in
- Activation readiness and support check in

Players

- Clinical Leads
- Business owners and administrative partners
- Nursing Leadership
- Nurse Educators
- Departmental Chairs and Administrative Attendings
- BMC application analysts
- Epic counterparts
- Instructional Designers

Clinical Dress Rehearsal Day



Cutover Preparation

Round Table Technical Dress Rehearsal

- Two rehearsals
- Ran through entire timeline of cutover calling out associated owners, roles and responsibilities

Documentation Cut Over Dress Rehearsal

- Two rehearsals
- Nursing and Pharmacy Clinical leads
- Super users
- Practiced process of data entry from legacy systems into eMerge

Clinical Lead Role in Cutover

Cut Over Activities

- Friday at 6am day before to 3am
- Nursing & Pharmacy: Ht/Wt/Allergies, enter & verify orders
- Highly organized, massive group of super users doing the inputting of information
- Ongoing reports run at intervals to catch new and changing orders

Clinical Lead Role

- Clinical support in room
- Investigating difficult orders
- Discontinuing orders
- Troubleshoot issue

Clinical Lead Role in Activation

Command Center

- Representatives from all areas of ITS and clinical leadership that impacted eMerge
- Centralized design allowed for quick issue resolution
- 5 rooms: training, help desk, nerve center, 2 application rooms

Clinical Lead Assignment

- Primary lead assigned to command center
- Other leads split between units & command center

Duties

- Testing and approving emergent build items
- Resource to analyst , leadership, super users & end users
- Ad hoc meetings with end users to troubleshoot emergent issues
- Review and approval of emergent tip sheets
- Attended huddles to facilitate communication between command center and end users

Activation Support

BMC Super Users

- Participated early on in build to act as content experts
- Valuable resource for clinical leads to understand workflows and documentation needs
- Acted as a classroom teaching assistant during end user training
- Transitioned to at the elbow support during go live

"Purple People"

- Consulting group specialized in Epic implementation support
- On units at 3am for cut over
- Participated in daily huddles
- Ability to provide informed proposals for issue resolution
- Willing to take direction from nurse managers, educators & clinical leads on where to focus their efforts

Activation Tip and Tricks

- Decrease end user anxiety!
- Huddle! Huddle! Huddle! Communication is key!
- White board with At the Elbow Support assignments
- Designated times that Clinical Leads were in department for end user support
- Clear pathway of issue escalation

ASAP: At the Elbow Support

Evolution of the Post Go Live User Group

Pre go live

- Operational Readiness
- *Are we ready?*

Go live

- Daily Huddle
- *What do we have to fix?*

Post go live

- Weekly User Group
- *Where are we going?*

Post Go Live Focus

Optimization

- End user requests
- Suggestions from EPIC – 2014 upgrade
- User group top ten prioritization

Re-training

- MD and RN efficiency training
- Nursing competency day
- Biweekly eMerge newsletter
- Tip sheet and quick start guide revisions

Quality Improvement Initiatives

- Transitions of care and clinician hand off's
- Reporting and data collection
- Barcode scanning compliance
- Monitoring Meaningful Use and other critical compliance items
- Trauma documentation and trauma registry reporting

Lessons Learned

- Involve administrative and business owners early on
- Operational readiness workgroups should be formed earlier rather than later
- Involve clinicians in technical dress rehearsal
- Good note keeping and logging of decisions is vital to organization
- Clear documentation of assigned tasks and follow ups with due dates will reduce the “swirl”
- Application build cant be done in a vacuum! Need clinical buy in and approval from all workstreams

Lessons Learned

- Consistent involvement from SMEs and super users is the key to success at go live
- Small incremental changes should be applied pre- go live when possible
- Centralized Command Center key to smooth transition
- Think globally; consider the bigger hospital impact
- Positivity is contagious!
- Implementation is a marathon not a sprint !
- Be pre-pared for the post go live “let down”

Value of the Clinical Lead Role

- Bridge the gap between the end user and application analysts
- Clinical expertise was foundation for the build; reassured clinicians the system would be usable
- Cheerleaders!
- “Walk a mile in my shoes!”

Questions

Thank you!

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