Hospital Implementations at Two Systems: Benefits and Lessons Learned

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Outline

- Describe the process used in planning and implementing an HER in multi-hospital systems
- Some quality improvements enabled by this technology
- Lessons learned from these implementations

The Settings

- Allina Hospitals and Clinics
  - Big bang
  - Multiple hospitals
  - Fully implemented EHR with CPOE now entering optimization and maintenance phase
- HealthEast Care System
  - Gradual Roll out
  - Multiple hospitals
  - Nursing documentation and bar-code eMAR in some facilities with CPOE in planning stages.
  - Results and dictations available on line from current & previous encounters.
  - Early in the roll out process

Steps in a Successful Implementation: Getting Started

- Communicated every step of the process
- Defined our organizations priorities
- Defined how an EHR fit into our long range plans
- Planned for the financial impact
- Identified products that could meet these objectives
- Asked the vendors to describe their company vision and how they would help us meet our objectives

Steps in a Successful Implementation: Getting Started

- Identified all the stakeholders
- Asked them to build a wish list of functionality
- Asked the vendors to give detailed replies to each item on the wish list
- Had a select number of vendors do a live demonstration to the stakeholders
- Stakeholders rated them according to their wish list
- Vendor was selected

Steps in a Successful Implementation: Decision Rights

Stakeholder	Initiate One x: Process guide	Input All stakeholders	Decide One x	Approve As needed	Implement Defines accountability
Executive Leadership Team					
Clinical Leadership Team					
Project Management Team					
Physician Advisory Team					
Sites					

Steps in a Successful Implementation: The Readiness Assessment

Assessment Components	Definition
Leadership	Measures the organization's commitment to advanced clinical systems as demonstrated by the project as a strategic priority with approved funding, a clear set of objectives for advanced clinical systems and senior executive and physician accountability for and sponsorship of advanced clinical systems.
Organizational Structure and Process	Measures the presence and effectiveness of organizational structures, relationships, processes essential to successful implementation and maintenance of advanced clinical systems, i.e., use of multidisciplinary teams, project management, physician participation in clinical initiatives, presence of effective communication channels.
Organizational Culture	Evaluates the organization's ability to successfully implement a large change initiative that has significant impact on clinical practice.
Care Standardization	Measures the organization's ability to adopt or develop standard care processes, implement these processes across the organization, measure use and effectiveness of standard care processes, and improve practice based on its findings.
Order Management	Measures the services, disciplines and processes (including clinical decision support) that are involved from the time an order is initiated until the results of the order are communicated and treatment or equipment is received.
Clinician IT Experience	Evaluates clinician experience with use of advanced clinical systems including patient-specific clinical data, clinical documentation, and clinical decision support tools.

Steps in a Successful Implementation: The Build

- Design principles were established at the start of the project
- Build team was composed of clinical staff
- Discussed decision points with active staff
- Rapid design of a prototype
- Did a road show of the prototype early in the build process.
- Kept the big picture in mind (where we are coming from and where we are going)

Steps in a Successful Implementation: Design Principles

Physicians and clinicians will lead and drive the clinical vision.	➢Establish a comprehensive and clearly defined vision for the future state of clinical care ➢Maintain heavy clinician involvement throughout the project
The clinical vision will be aligned with organizational imperatives.	➢Clinical Excellence ➢Service Excellence ➢Operational Excellence
The clinical vision has embedded in it the continual improvement in outcomes of care	➢Design a strategy that provides reliable and valid Clinical, Functional, Satisfaction, Safety, and Cost outcomes data that is stored, retrieved, analyzed, and made available to caregivers in a timely manner.
The clinical vision includes a longitudinal view of patient information across the care continuum.	➢Ensure that patient information is not location-specific ➢Ensure there is integration of inpatient and ambulatory data ➢The future clinical processes include metro hospitals and hospital based clinics with capacity to integrate date from other delivery sites

Steps in a Successful Implementation: Order Sets

- Collected all the order sets in use at different facilities
- Did a gap analysis of existing order sets and compared them to the evidence to create system wide order sets.
- Built straw model order sets and included links to evidence where it existed
- Worked with the affected groups to gain approval
- Made them available system-wide for use prior to go-live.
- Early on, made it clear we would not create allow custom order sets unless:
  - Medications not available
  - Resources do not support the described service
  - Clinical expertise not available at the site
  - Equipment not available at the site

Steps in a Successful Implementation: Workflow Analysis

- Critical step for a successful implementation
- Observed the current work flow
- Built to enhance current processes or
- Created new process enabled by the technology which provide benefit
  - "Don't just pave the cow path!"
- Build it and they will come does not work in a hectic healthcare environment

Steps in a Successful Implementation: Testing

- Testing is a part of every build
  - Testing each component in the build
  - Integrated testing to make sure they work together
- Usability testing was not as thorough as we thought:
  - Pharmacy orders in order sets were built on dispensibles instead or orderables
  - New work flows that made sense in isolation failed in the live environment

Steps in a Successful Implementation: Rules and Alerts

- We were very judicious
- Tested first
- Piloted on a willing group
- Reviewed the outcomes
- If successful, opened wide
- Reviewed the impact – monitored for problems
- Were ready to pull if it failed

Steps in a Successful Implementation: Roll-out

- Leadership was intimately involved
- Physician who were respected by their peers served as champions and were intimately involved
- Provided a lot of at-the-elbow support
- Provided remote access

Incremental vs. Big Bang Approach[1]

Big Bang:

- Shortens painful "parallel paper/EMR" operation period
- Achieves ROI more quickly
- Less likely to get "stuck" partway to the goal
- Higher risk of 'blow up'
- Significant productivity hit at go-live and some time afterward
- Staff or physicians unable to cope with change may rebel

Incremental:

- Reduces "shock" to staff and physicians
- Spreads out costs of software and implementation over longer period
- Project less likely to 'blow up'
- Total training, implementation costs may be higher
- ROI is not achieved as quickly
- Risk getting 'stuck' at midpoint

1 Adapted from the presentation *EHR in the Small Practice*, Mark Leavitt, MD, PhD, October 14, 2004

Allina's Benefits[1]

- Improvement in time from ED to inpatient bed of 2% - 100% depending on the site.
- Improvement in ED wait time by 91 minutes
- Dictation time reduced by 17%
- Improved nursing documentation
  - Nutrition screening improved by 28%
  - Documentation of response to pain intervention improved by 26%
  - Discharge screening completion improved by 17%
- Improvement in radiology report turnaround time of 6%

1 Adapted from the presentation *Allina Hospitals & Clinics - Driving For Benefits: The Lessons Learned* , Kim Pederson and Sharon Henry, May 31 2007

Allina's Benefits[1]

- Reduction in HUC staff of 20%
- ADEs trending down at live sites
- LOS trending downward 2-4 years out
- Core measure data collected through electronic reporting and use of order set questions to complete e-collection
- Decreased costs for pneumonia and septicemia

1 Adapted from the presentation *Allina Hospitals & Clinics - Driving For Benefits: The Lessons Learned* , Kim Pederson and Sharon Henry, May 31 2007

HealthEast's Benefits

- Improved identification of diabetic patients in need of intervention
- Evidence based order sets introduced in the system
- More rapid performance measure turn-around
- Less complex medication reconciliation
- Aligning informatics action plans with the system's key performance improvement projects

Allina's Lessons Learned: 4 Years Later[1]

- Leadership (operations and physician) cannot be delegated.
- Sites must own their implementation and be accountable for change management.
- Functionality is important, but workflow rules.
- Integration is the good news and the bad news.
- Scope creep is inevitable.
- Don't budget for benefits to hit the bottom line too early.
- Language is VERY important!
- Organizations must be focused and stay focused.
- Don't underestimate the size and complexity of the transformation effort.

1 Adapted from the presentation *Allina Hospitals & Clinics - Driving For Benefits: The Lessons Learned* , Kim Pederson and Sharon Henry, May 31 2007

Allina's Lessons Learned: 4 Years Later[1]

- Leadership, culture and structures must support the change efforts.
- Clear, consistent and frequent communication is key.
- Project management skills are necessary for success.
- Pushback grows as budgets & go-lives loom.
- It's going to take longer than you realize to drive the benefits to the bottom line.
- Don't expect concrete results too early after implementation.
- Mandated CPOE for all physicians is the only strategy that works for adoption and benefit realization.
- Two concurrent systems is a barrier to benefit realization.

1 Adapted from the presentation *Allina Hospitals & Clinics - Driving For Benefits: The Lessons Learned* , Kim Pederson and Sharon Henry, May 31 2007

Questions