

Welcome to SCeNIC Chapter Meeting Agenda

- ▶ Introductions
 - ▶ New Board Members
 - ▶ Chapter Membership
- ▶ Upcoming Events
 - ▶ Abstracts and posters are being accepted for Chicago Annual Conference in May 2020.
 - ▶ SC HIMSS Upstate Spring Mixer at Ink N Ivy Rooftop - May 15th 5:30-8:00pm.
 - ▶ SCeNIC is planning our next Chapter meeting as a social event in the Midlands in July.
 - ▶ Please send your suggestions for what you would like for our next Education meeting which is scheduled for October.

Arming Nursing for Safety: A journey to hardwire ▶ positive patient ID

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Clinical Setting

- ▶ 3 Acute Care Hospitals (→ 5 Acute Care Hospitals) in Upstate South Carolina
 - ▶ 828 Licensed Beds
 - ▶ 3 Emergency Centers → 5
 - ▶ >130,000 EC visits/year
- ▶ Long Term Acute Care
- ▶ Skilled Nursing Unit
- ▶ 2 Surgical Centers → 4 Now
 - ▶ >28,000 surgical procedures/year
- ▶ >2,700 babies delivered/year
- ▶ >650 physicians

Improvement Methodology



Systems Thinking



Lean/Six Sigma

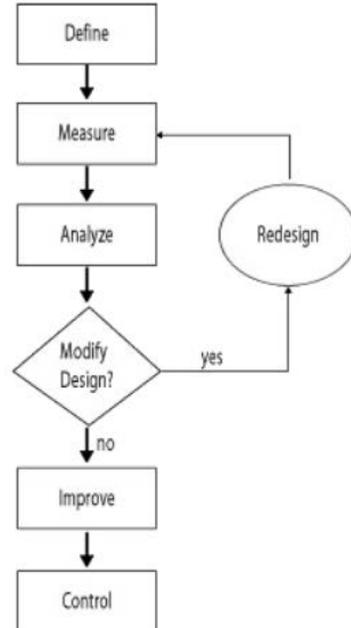


People, Process, Technology



Project Management

DMAIC: Lean/Six Sigma data-driven quality strategy used to improve processes.



DMAIC is an acronym that stands for

- Define
- Measure
- Analyze
- Improve
- Control.

It represents the five phases that make up the quality improvement process.

DMAIC: Define

In the Beginning...

- ▶ Chart labels with barcodes scanned into HIM solution
- ▶ Patient armbands with barcodes scanned at bedside for barcoded medication administration (BCMA)
- ▶ Historically high BCMA compliance
- ▶ Known work-arounds with use of chart labels to by-pass positive patient identification
- ▶ Nursing leadership skeptical about accuracy of compliance
- ▶ Desire for high reliable outcomes

Let there be
light...

- ▶ Enter Epic
 - ▶ Big Bang 2 Acute Care Hospitals/Long Term Care/SNF in 2016
 - ▶ 1 Acute Care in 2017
 - ▶ 2 Acute Care in 2019 (set for August)
 - ▶ Added Blood Administration
 - ▶ Broke ability to scan chart label barcodes into HIM solution
 - ▶ Manually enter MRNs/CSNs into HIM solution

Collaborative Cross Functional Team

- ▶ Executive Sponsors: CNO, CCIO
- ▶ Director, Nursing Informatics - Project Manager
- ▶ Nursing Operational (key facility/departmental specific leaders)
 - ▶ Emergency Center
 - ▶ Inpatient
 - ▶ Perioperative Services
 - ▶ LTC/SNF
- ▶ Respiratory Therapy
- ▶ IT Analysts/Managers
- ▶ Desktop Support
- ▶ Purchasing
- ▶ Patient Access

Project Goals

- ▶ Hardwire positive patient identification at the point of care using barcode scanning for BCMA, Blood, Point of Care Testing.
- ▶ Improve accuracy of positive patient identification compliance reporting to identify improvement areas
- ▶ Reduce variation
 - ▶ Standardize processes
 - ▶ Standardize supplies
- ▶ High reliability to ensure patient safety

DMAIC: Measure

Process mapping....more process mapping... and yet, much more process mapping



Process mapped
from point of entry
- arm banding
Emergency Center
Perioperative Services
Direct Admits
Facility Transfers



Process mapped
key processes - scanning
BCMA
Laboratory specimen collection
Point of care devices
Pathology specimens



Identified
supplies/equipment/people
Chart labels
Types of bracelets
• Identification bracelets
• Alert bracelets
Types of equipment
• Point of care devices
• Printers
Who does what?

Measure Phase

Baseline Compliance

- Patient identification
- Medications
- Blood

Baseline Override reasons

Implemented a Survey (Quantitative/Qualitative)

- Barriers to Scanning
- Perceptions
- Readability of armbands
- Skin issues

DMAIC: Analysis

Show me the
data

BCMA Compliance

- >98% Patient Identification
- >95% Medication
- >98% Blood Administration

Override Reasons

- #1 Barcode unreadable
- #2 Scanned broken/not available

Problems identified

Non-standardized workflow processes

Non-standardized supplies

Nursing work-arounds

Unnecessary Costs

Inefficiencies

Duplication of work

Patient safety

Broken Workflow Processes

EC

- Applies short stay ID armband (directly printed)
- Prints chart labels

OR

- Applies more durable armbands (chart label)
- Applies separate alert condition armbands
- Prints extra chart labels
- Scans chart labels for specimens

IP Acute

- Cuts off armband (EC or OR)
- Applies more durable armband
- Applies separate alert condition armbands

LTC

- Different armbands with snaps
- Applies long term bracelet
- Prints chart labels

Lab

- Removes chart label from specimen
- Applies lab label

HIM

- Manual process for inputting patient's record number for document scans.
- Barcode is not read by HIM solution.

Survey Insights

- ▶ 42% Patient ID armbands are **always** easy to successfully scan
 - ▶ Curvature of the armband/finger placement
 - ▶ Emergency situations
 - ▶ Easier to scan chart labels
- ▶ 79% **Always** scan prior to medication administration
- ▶ 49% **Always** changed armbands that won't scan
- ▶ 1.6% Patient armbands often cause skin issues
- ▶ 88% Agreed that armbands were easy to apply
- ▶ 88% Agreed armband easy to read

DMAIC: Improve

Positive Patient ID Best Practices



Leadership support for high-reliability outcomes.



Include patient armband scanning prior to medication scanning in nursing workflows.



Add a check digit at the beginning of the barcode to guarantee that only approved patient ID scanners can read the wristband.



Post unit scan rates and individual scan rates.



Regular review of data.



Learning from low performers.

Remove work- arounds

- ▶ Disable capability of proxy armbands/labels to be printed and/or scanned.
- ▶ Add a check digit at the beginning of the barcode to guarantee that only approved patient ID scanners can read the wristband.
- ▶ Resolve HIM scanning issues.

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Adm Date
5/5/2017

Apply patient armband, leave on for the duration of the patient's stay.

- ▶ Re-engineered workflows: one armband applied at point of entry
 - ▶ Eliminate duplication
 - ▶ Increase efficiency
 - ▶ Reduce errors
 - ▶ One source of truth
- ▶ Durability
 - ▶ Length of Stay
 - ▶ Environmental conditions
 - ▶ Patient conditions
- ▶ Ensure cost is not negatively impacted
 - ▶ Cost decreases as variability decreases
 - ▶ More buying power in volume
- ▶ Meet special needs
 - ▶ SNF
 - ▶ Long-term acute care
 - ▶ Perioperative

Ensure all barcodes scan

- ▶ Armbands/Printers
 - ▶ Always choose thermal printers for longer durability/legibility and better barcode scanning.
 - ▶ Eliminate chart labels used for armbands
- ▶ Barcodes
 - ▶ Use 2D barcodes.
 - ▶ Repeat 2D barcodes across the length of the wristband (see below example)
 - ▶ Use two (2) Code 128 linear barcodes (for glucometers) evenly spaced (see below example).
 - ▶ Print barcodes in vertical or ladder orientation rather than horizontal, picket fence orientation (see below example).
 - ▶ Add a check digit at the beginning of the barcode to guarantee that only approved patient ID scanners can read the wristband.



- ▶ 2 pronged approach: Populations
 - ▶ Long term care
 - ▶ Acute Care
- ▶ Lessons learned
 - ▶ Not all patients had appropriate risk alerts in place vs. documented
 - ▶ Nurses are savvy hoarders
 - ▶ Need network drop for printers (\$)
 - ▶ Printer configuration settings default with power cycling
 - ▶ Customized alert labels with long lead times
 - ▶ Vendor account representative changes
 - ▶ Bringing in additional stakeholders as needed
 - ▶ Efficiency is difficult to measure
 - ▶ Limited resources

The Trial....and Tribulations

- ▶ Slight dip in positive patient ID scanning just following initiation of trial - leveled out within 1 week
- ▶ Standardization
 - ▶ Processes
 - ▶ Training
 - ▶ Support
- ▶ Decreased costs
- ▶ Decreased re-work
- ▶ Increased automation (HIM staff)
- ▶ More accurate data to base future improvements

Results

Next steps...

- ▶ Post trial survey
 - ▶ Comparison to baseline
- ▶ Phased roll-out across the organization

DMAIC: Control

Regular review of data

- ▶ Nursing Scorecard
 - ▶ BCMA metrics
 - ▶ Blood Administration metrics
 - ▶ Unit rates
 - ▶ Individual rates
- ▶ Re-printing audit reports
- ▶ Continuous learning from low performers
- ▶ Medication Safety Committee
 - ▶ Identify medication barcodes that do not scan
 - ▶ Ensure medication barcodes are scannable upstream before point of care



▶ Questions?

References

- ▶ Hayden, A. C., Lanoue, E. T., & Still, C. J. (2011). Design for High Reliability: Barcoded Medication Administration. PSQH e-Newsletter.
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- ▶ Lanoue, E. T. & Still, C. J. (2008). Patient Identification: Producing a Better Barcoded Wristband. PSQH e-Newsletter.
- ▶ Snyder, M. L., Carter, A., Jenkins, K., & Fantz, C. R. (2010). Patient misidentification caused by errors in standard barcode technology. *Clinical Chemistry*, 56(10), 1-7.