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

Christine R. Page, MSN, RN-BC
President-Elect, SCeNIC
System Director, Nursing Informatics
Spartanburg Regional Healthcare System
April 26, 2019
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

<table>
<thead>
<tr>
<th>Non-standardized workflow processes</th>
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<tbody>
<tr>
<td>Non-standardized supplies</td>
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<tr>
<td>Nursing work-arounds</td>
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<tr>
<td>Unnecessary Costs</td>
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<td>Inefficiencies</td>
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<td>Duplication of work</td>
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<td>Patient safety</td>
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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**
- 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 workarounds

- 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.
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.

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**ARMBAND, THERMAL ONETWEN**
MRN: 100116877 CSN: 100000075449
DOB: 8/14/1993 (25 yrs) Male

8/14/2018

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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
Results

- 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
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?

