Reducing Healthcare Associated Infections (HAIs) Through the Development and Implementation of a Piedmont Promise Package

Infection Prevention Breakout

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Objectives

• Demonstrate understanding of a multidisciplinary teams comprised of nursing, physicians, infection prevention, and quality improvement with expertise in process improvement to develop and implement standard work.

• Define outcome and process metrics along with the reasoning of implementation of standard work.

• Assess the "Promise Package" structure and implementation methodology including performance tracking tools such as reports and dashboards.

• Share continuing performance improvement opportunities in HAI reduction including integration efforts and HAI Committee
Who is Piedmont Healthcare (PHC)?
What is our framework?
Quality, Safety, & Process Improvement
Why Develop Standard Work?

- Operational consistency
  - Reduce variation across the system
- Best practices
  - Expedites employee training
- Allows for continuous improvement by providing a baseline
  - Objectively evaluate efforts
- Sustain improvements over time
  - Assessment of trends
- Provide best quality of care to patients
  - High quality, patient-centered care
Multidisciplinary team
- Employees that are doing the work are key players in developing the process
- Team lead, Nursing Champion, Physician Champion, Bedside Staff, Clinical Education, Business Intelligence, Informatics Specialist, Subject Matter Experts (SME) – Infection Prevention, Infectious Disease

Evidence-based resources – APIC, CDC (HICPAC), SHEA, IDSA, AHRQ, Dicon

Checklist items
- High impact, low risk
- Cost effective
- Time efficient

Performance tracking resources
- Dashboards
- Reports

Goals
- Outcome metrics
- Process metrics
Prior State Background

• Catheter Associated Urinary Tract Infection (CAUTI) Prevention System Team was formed in 2015
  • Representation from physician and nursing leaders, Infection Prevention, Clinical Education, Information Technology, and Business Intelligence
  • Discovered lack of complying with defined practices, various resources

• In Fiscal Year (FY) 2016, the six Piedmont Legacy Hospitals had:
  • 42 CAUTI events with 64% of these occurring outside of the critical care units
  • System CAUTI Standardized Infection Ratio (SIR) was 1.072

• Team developed appropriate criteria for insertion and maintenance of Foleys that aligned with best practices

• Implementing these standards throughout the 6 facilities had not been successful
Contributing factors of CAUTI events at Piedmont Healthcare in FY2016

**Patient Related Factors**
- Female
- Palliative Care Patients
- CHF, Kidney Failure, Diabetes
- > 65 years old
- Immobile/Complex population
- Over-testing – lack of peer checking
- CRRT/HD patient with Foley – why?
- Hospice patients – why culturing?
- Order UA vs. culture vs. UA with reflex culture
- Providers

**Care Giver Related Factors**
- Lack of early identification
- Improper storage of bag
- Perineal hygiene not documented
- “PRN” order sets for re-insertion if patient does not void in 10 hours
- No consistent Foley report
- No documentation of indications by RN or MD
- Not utilizing bladder scanners
- Care Giver Related Factors

**Equipment**
- Not utilizing condom catheters
- Not utilizing bed scales
- Alternatives to Foleys
- Urology
- Providers

**Systems & Environment**
- Order sets – PRN if temp 101.5
- Catheters usage monitors I/O’s
- Elevated temp = culture
- Systems & Environment

**CAUTI Prevention & Resources**
- 385 CAUTI prevention elements/resources
- Foley Insert & Maint Bundles

**Urology**
- UA vs UA w/ reflex culture in order sets
CAUTI Prevention Project

• **Outcome Metric Goal**
  • System-wide CAUTI SIR – target set each year based on 25% below CMS

• **Process Metrics Goals**
  - Foley catheter utilization ≤ 17%
  - Insertion and Maintenance Bundle Compliance
    • Insertion: ≥ 95%
    • Maintenance: ≥ 95%

• **Interventions included:**
  - Urinary Catheter Management Policy and Procedures Updates
  - Urinary Catheter Management Dashboard Design
  - Catheter Days (Foley) Patient List Reports
  - Standardized Educational Resources
  - Product and Supplies List (i.e. Purewick, Statlock, straight catheter kits)
  - Subject Matter Expert (SME) Teams
Development and Implementation of a Piedmont Promise Package

Future State: Promise Package = One-Stop Shop
CAUTI Prevention Pilot:

- Study the effectiveness of performance tracking tools or other interventions released as part of Promise Package
- Incorporate feedback into the reporting tools and other Promise Package interventions
### Process Metrics: Insertion

<table>
<thead>
<tr>
<th>Title of Process</th>
<th>Insertion</th>
<th>Review</th>
<th>Feedback</th>
<th>Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td></td>
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<tr>
<td>Objective</td>
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<tr>
<td>Key Metrics</td>
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<tr>
<td>Improvement Goals</td>
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<tr>
<td>Standard Deviation</td>
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<tr>
<td>Quality Indices</td>
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<tr>
<td>Efficiency</td>
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<tr>
<td>Cost</td>
<td></td>
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</tbody>
</table>

**Notes:**
- Additional notes or comments regarding the process and its metrics.
- Any special considerations or caveats to be noted.
## Process Metrics: Maintenance

<table>
<thead>
<tr>
<th>Process</th>
<th>Key Performance Indicators</th>
<th>Performance Criteria</th>
<th>Performance Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance</td>
<td>Availability</td>
<td>% of time system was available</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Repair Time</td>
<td>Average time to repair</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Cost Efficiency</td>
<td>Cost of maintenance divided by total system cost</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Employee Satisfaction</td>
<td>% of employees satisfied with maintenance services</td>
<td>D</td>
</tr>
</tbody>
</table>

*Note: This table is an example of how process metrics can be structured to evaluate maintenance performance.*
Implementation: Sep 2016

Bip-Live:
The 7-day period in which a quality initiative is rolled out at the facility level
Knowledge regarding Indwelling Urinary Catheter Management Policy and Procedures Pre- and Post-Promise Package Implementation

<table>
<thead>
<tr>
<th>Component</th>
<th>% Correct Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algorithm for urinary retention</td>
<td>52 PRE 94 POST</td>
</tr>
<tr>
<td>Components of maintenance bundle</td>
<td>31 PRE 70 POST</td>
</tr>
<tr>
<td>Alternatives to Foley use</td>
<td>31 PRE 51 POST</td>
</tr>
<tr>
<td>Steps of specimen collection with order for UA with reflex culture</td>
<td>31 PRE 51 POST</td>
</tr>
<tr>
<td>Indications for UA with reflex culture</td>
<td>50 PRE 68 POST</td>
</tr>
<tr>
<td>When appropriate to remove a Foley for Foley removal</td>
<td>51 PRE 86 POST</td>
</tr>
<tr>
<td>No order required for Foley removal</td>
<td>52 PRE 87 POST</td>
</tr>
<tr>
<td>Accessing UCM Policy</td>
<td>30 PRE 87 POST</td>
</tr>
</tbody>
</table>

% Correct Answers

PRE  POST
Post Implementation Improvement: Process Metrics
FY 16-18
Post Implementation Improvement: Process Metrics
FY 16-18
Post Implementation Improvement: Outcome Metrics FY16-18

Piedmont CAUTI Infection Reduction FY16 to FY18 Progress

- SIR FY16: 1.072
- SIR FY17: 0.603
- SIR FY18: 0.303

52% Reduction
55% Reduction
Measuring Standard Work

• Tableau dashboards were built to easily communicate compliance to the process metrics

• All users have access to the dashboards and can view it anytime

• It drills down to the patient level detail to show which days were compliant and which were not
Where is the Promise Package located?

- Empowered Intranet
Monitoring & Continuous Improvement

**Post Implementation Support**
- Collaborate with nursing/clinicians to continue providing elbow to elbow support to leaders post go-live
- Incorporate dashboards into front line leaders’ daily workflow to monitor compliance to standard work
- Perform internal audits from time to time to assess improvements/status of staff knowledge
- Engage operational leaders in addressing gaps and opportunities for improvement

**Leadership Accountability**
- Include quality metrics in organizational scorecards
- Hold operational leaders accountable to not only outcome but process metrics
- Acquire final sign-off from stakeholders on standard work implemented and transition from project team to operations
- Establish a governance structure to continue to monitor trends and protect the integrity of Promise Package

**Knowledge Assessments**

**Operational Hand-Off**
Leadership Monitoring & Accountability

Monthly Operating Report Scorecard

• Ensures accountability and progress towards achieving and maintaining goals
Leadership Engagement

CAUTI Event ➔ Apparent Cause Analysis (ACA)
- Ensures a review of cases to identify opportunities for improvement and is captured in safety reporting tool
Continuous Performance Improvement

Patient Safety Check

- Enhancing the Electronic Medical Record (EMR) to support clinical work in real-time

Staff Nurse: Required Documentation

Charge Nurse, Unit Manager: Patient List

Unit Manager, Nursing Director, CNO: Radar Dashboard
CAUTI Prevention Process Metrics FY21-24
CAUTI Event Outcomes FY16 - FY24

Piedmont Healthcare CAUTI Events
(FY 2016- FY 2024 YTD)

*Data taken from Hospital Infection Dashboard and NHSN
*% Reductions compared to 2016
HAI Prevention Promise Packages

- CAUTI Prevention
- CLABSI Prevention
- Clean 4 You (MRSA)
- SSI Colon Prevention
- SSI Prevention
- C. Diff Prevention
- Patient Safety Check
PHC HAI Data FY16 to FY23

Percent change compares FY16 data with FY23 YTD data
Data source: NHSN and Hospital Infection Dashboard, retrieved on 7/24/23
Promise Package Integration Approach

**Current State Collection**

Conduct Gemba interviews at hospitals to collect current state of HAI prevention practices

**Gap Assessment**

Compare and prioritize legacy standard work to integrating hospital processes to identify variation in practices

**Compliance Tracking & Monitoring**

Dashboard integration to allow for process and outcome measure tracking and monitoring

**Promise Package Roll-out**

Phased roll-out of promise package/HAI prevention standard work components
HAI Prevention
Promise Package
Integration
Roadmap
Integration Milestone Timeline
Subject Matter Expert (SME) Teams

Advisory Team
The goal of the HAI Prevention SME Advisory Team is to uphold the standard work of Piedmont’s Promise Packages by:

- Communicating and being an advocate of standard work to peers
- Reviewing change requests (EMR, policy, standard work, dashboard, etc.)
- Acting as a governing body to deny or approve change requests
- Staying up-to-date on evidence-based best practices to determine if changes to the standard work are needed
- Responsible for policy revisions when they are due
- Representing Piedmont Healthcare at both the local and system level as operational leaders and system thinkers

Taskforce
The goal of the HAI Prevention SME Taskforce is to ensure prevention and reduction strategies are appropriate and in alignment with PHC’s strategic goals. This may be done by:

- Standardization of clinical practices and protocols following current evidence-based guidelines
- Reviewing change requests to standard work that require further design
- Responsible for policy revisions when they are due
- Representing Piedmont Healthcare at both the local and system level as operational leaders and system thinkers
Dissolution Guidelines for SME Teams

HAI Advisory Team to Taskforce

✓ A change request requires further design
✓ Outcome metric control chart shows a statistically significant increase
✓ Standard Work Index shows a statistically significant change in the relationship between process and outcome metrics

Taskforce to Advisory

✓ A change request requiring further design has been completed or determined to be unnecessary or not needed
✓ Outcome metric control charts show no statistically significant increase
✓ Standard Work Index shows no statistically significant change in the relationship between process and outcome metrics
✓ It is determined that no new standard work or processes are indicated
Questions?

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