Welcome and Introductions

Share which hospital you are from and your role in preventing infections
Program objectives

• Hospital teams will evaluate their current facility HAI prevention program using the NHSN Targeted Assessment for Prevention (TAP) Tools
• Teams will identify top areas of HAI improvement to target within their organization
• Discuss different HAI prevention resources and evidence-based interventions
• Hospitals teams will develop a plan based on HAI prevention best practices to address their targeted improvement
Comprehensive Approach to Prevent Healthcare-associated Infections

- Central line
- Urinary catheter
- CDI
## Goal- driven actions

<table>
<thead>
<tr>
<th>Measure (and data source)</th>
<th>Progress made by 2016</th>
<th>2020 Target (from 2015 baseline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLABSI (NHSN)</td>
<td>10% reduction</td>
<td>50% reduction</td>
</tr>
<tr>
<td>CAUTI (NHSN)</td>
<td>6% relative reduction</td>
<td>25% reduction</td>
</tr>
<tr>
<td>Invasive MRSA (NHSN/EIP)</td>
<td>8% reduction</td>
<td>50% reduction</td>
</tr>
<tr>
<td>Hospital-onset MRSA (NHSN)</td>
<td>6% reduction</td>
<td>50% reduction</td>
</tr>
<tr>
<td>Hospital-onset CDI (NHSN)</td>
<td>7% reduction</td>
<td>30% reduction</td>
</tr>
<tr>
<td>SSI (NHSN)</td>
<td>Data to be released in 2018</td>
<td>30% reduction</td>
</tr>
<tr>
<td><em>Clostridium difficile</em> hospitalizations (HCUP)</td>
<td>Data pending release</td>
<td>30% reduction</td>
</tr>
</tbody>
</table>

1. NHSN: The National Healthcare Safety Network, of the Centers for Disease Control and Prevention (CDC), is the nation’s most widely used health care-associated infection tracking system. Since 2009, infection data has been reported to the NHSN to track the national progress of the reduction of HAIs.

2. EIP: CDC’s Healthcare-Associated Infections - Community Interface (HAIC), a component of the Emerging Infections Program, is an active population-based surveillance system for HAIs caused by pathogens such as MRSA. These EIP sites also use the NHSN to perform time-limited evaluations of HAIC data among NHSN facilities participating in the EIP NHSN network.

3. HCUP: AHRQ’s Healthcare Cost and Utilization Project is the nation’s most comprehensive source of hospital data. HCUP data is used to track hospitalizations due to *Clostridium difficile*.

HAI Prevalence Study

• In 2015, 3.2% of hospitalized patients experienced an HAI, a 16% decrease compared to the similarly derived estimate in 2011.

• The most common HAIIs were pneumonia and Clostridium difficile infections, with the biggest reductions in urinary tract and surgical site infections (SSIs).

• Of note, the percentages of patients with a urinary catheter or central line was significantly lower in 2015 than in 2011, reflecting adoption of unnecessary invasive device removal emphasized in HAI prevention bundle.

Targeted Assessment for Prevention

- **TAP Strategy** is a framework for quality improvement developed by the Centers for Disease Control and Prevention (CDC) to use data for action to prevent healthcare-associated infections.
  
  - **Target**
    - Collect and analyze data
    - Identify high and low performers
  
  - **Assess**
    - Determine gaps in practice
  
  - **Prevent**
    - Implement evidence-based practices
    - Conduct tests of change
    - Monitor and sustain improvement
TAP Tool Overview

• Overview of CDC’s Targeted Assessment for Prevention (TAP)
• Understanding the TAP report
• How to use the feedback reports from the TAP assessment tool
TAP Report Basics

• Can be run within NHSN for either a single organization or a group of organizations

• Useful tool to prioritize improvement efforts
TAP Report Basics

• 3 types of reports
  • CLABSİ
  • CAUTI
  • CDI LabID (facility-wide input, not unit level)

• Options to modify reports
  • By dates
  • By goal (HHS, custom value)
  • Variable labels
Excuse me Sir: The SIR, SUR, and CAD

• Standardized Infection Ratio (SIR) Risk-adjusted summary measure that compares the number of observed infections to the number of predicted infections

• Standardized Utilization Ratio (SUR) compare the number of observed device days to the number of predicted device days

• Cumulative Attributable Difference (CAD) which is the difference between the number of observed infections and the number of predicted infections, multiplied by the SIR goal. This is the number of infections that must be prevented to achieve a HAI reduction goal.

• \( CAD = \text{Observed number of infections} - (\text{Predicted number of infections} \times \text{SIR goal}) \)

• TAP reports use the SIR and CAD to help facilities identity opportunities for improvement

Source: NHSN Analysis Basics
TAP Report Basics

• Understanding the cumulative attributable difference (CAD) metric
  • In conjunction with the SIR, the CAD can be used to identify and prioritize locations for targeting HAI prevention efforts
  • The CAD translates a target SIR into a numeric HAI prevention goal, providing a concrete goal to drive action;
  • The CAD can identify units with excess HAI burden that might otherwise be overlooked
**Hospital TAP Report**

<table>
<thead>
<tr>
<th>Facility Org ID</th>
<th>Facility Name</th>
<th>Location Rank</th>
<th>CDC Location</th>
<th>Events</th>
<th>Urinary Catheter Days</th>
<th>DHUR %</th>
<th>CAD</th>
<th>SIR</th>
<th>Sir Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>DHQP Memorial</td>
<td>1</td>
<td>IN.ACUTE.ICU</td>
<td>5</td>
<td>502</td>
<td>81</td>
<td>2.31</td>
<td>3</td>
<td>(0.3, 1.0, 2.0)</td>
</tr>
<tr>
<td>3</td>
<td>NEURO</td>
<td>3</td>
<td>IN.ACUTE.ICU</td>
<td>3</td>
<td>257</td>
<td>77</td>
<td>1.68</td>
<td>1.60</td>
<td>(1.0, 2.0)</td>
</tr>
<tr>
<td>3</td>
<td>BURN</td>
<td>2</td>
<td>IN.ACUTE.ICU</td>
<td>2</td>
<td>162</td>
<td>61</td>
<td>1.10</td>
<td>1.67</td>
<td>(1.0, 0.0, 0.0)</td>
</tr>
<tr>
<td>4</td>
<td>REHAB</td>
<td>1</td>
<td>IN.ACUTE.WARD</td>
<td>1</td>
<td>76</td>
<td>11</td>
<td>0.16</td>
<td>0.91</td>
<td>(1.0, 0.0, 0.0)</td>
</tr>
<tr>
<td>5</td>
<td>2N</td>
<td>1</td>
<td>IN.ACUTE.WARD</td>
<td>1</td>
<td>239</td>
<td>20</td>
<td>-0.20</td>
<td>0.63</td>
<td>(1.0, 0.0, 0.0)</td>
</tr>
<tr>
<td>6</td>
<td>63</td>
<td>1</td>
<td>IN.ACUTE.WARD</td>
<td>1</td>
<td>261</td>
<td>20</td>
<td>-0.51</td>
<td>0.37</td>
<td>(1.0, 0.0, 0.0)</td>
</tr>
</tbody>
</table>

DHQP Memorial overall needed to prevent 4 infections (round up 5.7) to have met their SIR goal (0.75 for CAUTI) during this time period selected (Yr 2013). The SICU is the major contributor to the facility CAD, followed by the Neuro and Burn critical care units. DHQP Memorial should focus their CAUTI Prevention efforts on these units.

Reference: TAP Strategy “How to Guide”
Let’s Think About TAP

Hospital XYZ has been working to reduce CLABSIs throughout their hospital units. The hospital’s CY 2018 CLABSI cumulative attributable difference (CAD) was 4.6. The surgical ICU’s CLABSI rate for 2018 was the highest in the hospital at 18 CLABSIs/device days. The unit with the highest Standardized Utilization Ratio (SUR) for central catheters is the neuro unit. The cardiac unit had the highest number of CLABSI events at 13 for the year. Where should the CLABSI prevention team focus their efforts?
Group Discussion

Teams review their TAP reports for CAUTI, CLABSI, and CDI

Share thoughts and insights.
Communicating TAP Results

Graphical representation of unit level TAP Report; Distribution of DHQP Memorial 2014 CAUTI counts total by unit (for units with at least 1 observed infection) and for units with a positive CAD based on an SIR goal of 0.75.

Total infection count by unit
- Units with a negative or zero CAD
- CADs per unit, among those with a positive CAD

To Facility Leadership:
“This pie chart displays the total number of CAUTIs per unit within DHQP Memorial for 2014. The colored sections indicate units with a positive CAD, or units that had more infections than predicted based on a goal SIR of 0.75. The CADs for each of these units are displayed in the pie chart on the right. Our facility should target CAUTI prevention efforts to these units for the greatest impact on the CAUTI SIR. Specifically, the SICU is the largest driver of the facility CAD and should be an area of focus for CAUTI prevention.”

Reference: TAP Strategy “How to Guide”
Communicating TAP Results

Graphical representation of unit level TAP Report; Distribution of Infection Counts and SIRs from units within DHQP Memorial that had excess CAUTIs (positive CADs) in 2014 based on an SIR goal of 0.75

To Facility Leadership:

“This bar chart displays the total infection counts among units with a positive CAD, or units that had more infections than predicted based on a goal SIR of 0.75. The CADs for each of these units are displayed in dark blue. The chart also indicates the SIR for each unit in relation to the CAD. DHQP Memorial should target CAUTI prevention efforts to these units for the greatest impact on CAUTI rates. Specifically, the SICU is the largest driver of the facility CAD and should be an area of focus for CAUTI prevention. In this case, the SICU also has the highest SIR compared to other units.”

During the conversation with DHQP Memorial, a staff member stated, “The Neuro unit has a higher CAD, so must be performing worse than the Burn unit.” An appropriate response would be, “While the Neuro unit does have a higher CAD, we must note the limitation that the CAD should not be used as a comparative metric. If we instead look at the SIR (which can be used to compare locations), we see that the Burn unit actually has a slightly higher SIR than the Neuro unit. The CAD is higher in the Neuro unit because it is influenced by risk exposure size, in this case catheter days. The Neuro unit has a greater number of catheter days and accounts for a higher burden of infections than the Burn unit, with fewer catheter days.”

Reference: TAP Strategy “How to Guide”
TAP Assessments

• More detailed than ICAR assessment
• Useful to assess awareness and perceptions of front line staff
• Helpful to drill down into further opportunities for improvement
• All TAP tools can be accessed here:
  https://www.cdc.gov/hai/prevent/tap.html
Breakdown of NJ HAI TAP Assessment

<table>
<thead>
<tr>
<th>CAUTI Assessment</th>
<th>CLABSI Assessment</th>
<th>CDI Assessment</th>
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<tbody>
<tr>
<td>8 Hospitals/individual units completed the assessment</td>
<td>4 Hospitals/individual units completed the assessment</td>
<td>6 Hospitals/individual units completed the assessment</td>
</tr>
<tr>
<td>441 total assessments completed by frontline staff</td>
<td>129 total assessments completed by frontline staff</td>
<td>430 total assessments completed by frontline staff</td>
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Overview of TAP Assessment Findings
TAP Tool- Learn All, Share All

• Teams report out findings
• Group discussion of best practices/barriers of the group
Area of Improvement Action Plan Report Out

• Groups share one area for improvement and next steps for action

<table>
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<tr>
<th>Area of Improvement (from TAP Assessment)</th>
<th>Possible Solution 1</th>
<th>Possible Solution 2</th>
<th>Possible Solution 3</th>
<th>Next Steps</th>
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</table>
Thank You!

• Questions
• Next Steps