Objectives

Goals today:

a. Understand Targeted Assessment for Prevention (TAP) process
b. Discuss how to run TAP reports and interpret the data
c. Review CAUTI TAP assessment
d. Share CAUTI TAP resources
e. Learn from hospitals’ perspectives about using the TAP strategy

NHSN Data for Action

NHSN data: over 4,800 hospitals currently reporting CAUTI, CLABSI, and CDI data

Target hospitals with high number of excess infections

Partner for prevention with quality improvement networks—quality improvement organizations, hospital engagement networks, health departments

Targeted Assessment for Prevention (TAP) Strategy

Target → Assess → Prevent

a. Target facilities/units with high burden/excess of HAIs
b. Assess gaps in infection prevention in targeted facilities/units
c. Prevent infections by implementing interventions to address the gaps
Benefits of TAP Strategy

- Focused approach to prevention
- Within targeted facilities, excess HAIs mapped to unit level
- Cumulative attributable difference (CAD) is a concrete prevention goal linked to the standardized infection ratio
- Specific gaps in infection prevention identified through a standardized assessment of targeted units
- Implementation strategies customized to address gaps

Cumulative Attributable Difference (CAD)

\[
\text{Cumulative Attributable Difference (CAD)} = \# \text{OBSERVED} \text{ infections} - (\# \text{PREDICTED} \text{ infections} \times \text{SIR}_{\text{goal}})
\]

Standardized infection ratio \( \text{SIR}_{\text{goal}} \) can be chosen based on goals of a group, state, organization, or national target

- Lower target SIR \( \rightarrow \) larger CAD ("excess" number of infections)
- NHSN uses HHS target SIRs with option to customize

CAD is the number of infections needed to prevent to reach the SIR_{goal}
Cumulative Attributable Difference (CAD)
SIR goal = 1.0

CAD = observed – predicted = 3.3

Standardized Infection Ratio (SIR)
a. The SIR is a measure that compares the number of HAIs reported to NHSN to the number of infections that would be predicted based on national baseline data:

\[ SIR = \frac{\text{Observed # of HAIs}}{\text{Predicted # of HAIs}} \]

b. SIR Interpretation:
   a. 1: same number of infections reported as would be predicted given the US baseline data
   b. >1: more infections reported than what would be predicted given the US baseline data
   c. <1: fewer infections reported than what would be predicted given the US baseline data

CAD vs. SIR

<table>
<thead>
<tr>
<th>Metric</th>
<th>Calculation</th>
<th>Purpose</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD</td>
<td>Observed – (Predicted*SIR goal)</td>
<td>Prioritization metric, identifies facilities and units with the highest burden of excess infections.</td>
<td>Influenced by exposure size (i.e., a larger hospital with many patient days will likely have a higher CAD than a small hospital).</td>
</tr>
<tr>
<td>SIR</td>
<td>Observed/Predicted</td>
<td>Comparative metric, summary measure used to track HAIs over time. Adjusts for differences among risk exposure categories.</td>
<td>SIRs not calculated in NHSN if &lt;1 predicted infections.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hospital Type</th>
<th>Catheter Days</th>
<th>Observed Events</th>
<th>Predicted Events</th>
<th>SIR goal</th>
<th>Predicted SIR</th>
<th>SIR CAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Teaching</td>
<td>9,000</td>
<td>36</td>
<td>12</td>
<td>0.5</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Rural Hospital</td>
<td>1,497</td>
<td>6</td>
<td>2</td>
<td>0.5</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>
Running TAP Reports

Choose TAP Report from CDC Defined Output from healthcare setting of interest

a. Run – Default TAP Report
b. Modify – Customized Report.
   a. Time period of Interest
   b. Cumulative Attributable Difference (CAD) Multiplier

Generate a report for a time period (the larger the better)
Running TAP Reports

CAD Multiplier

Default NHSN goals are based on HHS 5-year HAI Reduction targets

- CAUTI SIR goal: 0.75
- CDI SIR goal: 0.70
- CLABSI SIR goal: 0.50

HHS goals: http://health.gov/hcq/prevent-hai-measures.asp

Helpful Hints for Running TAP Reports

Default output format is HTML

a. If another format, (e.g., RTF) is selected, change the orientation to “Landscape”

Use of variable labels will provide more descriptive column headers

Select output format:

- Output Format:
  - HTML

Example TAP Report Outputs For Facility Users

Locations Ranked by CAD Within a Facility

National Healthcare Safety Network
TAP Report - CAUTI Data for Acute Care Hospitals
Locations Ranked By CAD Within a Facility

<table>
<thead>
<tr>
<th>Facility</th>
<th>CAD Rank</th>
<th>Location</th>
<th>Score</th>
<th>Year</th>
<th>CAD</th>
<th>Difference</th>
<th>CAD Rank (Ranking Score)</th>
<th>CAD Rank (CAD Rank)</th>
<th>CAD Rank (New CAD Rank)</th>
</tr>
</thead>
</table>
Interpreting TAP Report Results

The Facility CAD indicates how many infections this hospital would have had to prevent to reach its goal.

The CAD for each location indicates how many infections that particular unit would have had to prevent to reach its goal. Suggestion to round this number UP when explaining the data to others.

Communicating TAP Report Results: Example

VDH Communicating TAP Report Results: DRAFT
Polling Question

When you ran your 2015 CAUTI TAP report, were the results what you expected?

a. Yes
b. No; the report highlighted excess infections in units that I did not anticipate
c. I did not have the opportunity to run the TAP report

Hospital Perspective

Jill E. Holdsworth, MS, CIC, NREMT
Infection Control Practitioner,
Sentara Northern Virginia Medical Center

Targeted Assessment for Prevention (TAP) Strategy

Target → Assess → Prevent

a. TARGET
b. Assess gaps in infection prevention in targeted facilities/units
c. Prevent infections by implementing interventions to address the gaps
The CAUTI Initial Assessment

a. A large portion of the TAP strategy is to perform a baseline assessment of staff knowledge in hospital CAUTI prevention programs before instituting new protocols and education.
b. This assessment is designed to capture your hospital’s current state as it relates to CAUTI prevention.

The CAUTI Initial Assessment

a. This initial assessment tool may be used to determine potential gaps in infection prevention in facilities with excess numbers of CAUTIs (positive CAD).
b. This tool may also be used to validate effectiveness of new education and/or practice.
c. Sustain the gain!

The CAUTI Initial Assessment

a. This assessment can be administered hospital-wide to gain knowledge of all areas and staff.
b. Perform assessment on a single unit if you have an outlying unit with high CAD.
c. Use assessment after participating in a program such as CUSP to validate effectiveness of the program.
All staff levels needed for accurate results
a. Physicians
b. Leadership
c. Staff nurses, and unit managers
d. Nursing assistants
e. And others, that have access to patients with indwelling urinary catheters
f. Include staff from ALL shifts

Options for distributing the assessment
a. SURVEY MONKEY (most popular)
b. Electronically: The PDF is set up to be emailed to VHQC once the submit button has been selected. (Check Firewall)
c. Hard copy (paper): The designated project Point of Contact (POC) can print the assessment, and hand it out to staff who will return it to the hospital POC. (VHQC will pick up or provide postage for surveys)
Survey Monkey Assessment

Instructions for Staff

a. Your hospital CCN #
b. The survey will take about 15 minutes to complete and must be completed in its entirety at one sitting. If it’s necessary to stop while doing the survey, start over at a later time.
c. Your answers should be in response to current practices and reflect the first thought(s) that come to mind.
d. If you do not know the answer, mark it as unknown – do not look it up!
e. Responses are anonymous.

Assessment Completion

a. Once the completed assessment tools are collected, VHQC will aggregate the responses and provide a feedback report to your hospital leaders and teams.
b. The feedback report will identify knowledge and practice gaps by staff level.
c. Targeted education and process improvement actions can then be planned and implemented.
d. If you have recently experienced decrease in CAUTI events and a lower SIR; the tool can be used to validate successful education and for process improvement efforts.
Preparing Feedback Report

Assessment results are entered into an Excel database and summarized to get an overall score and identify domains and areas for improvement.

Results: Summary Scores

Section 1: General Infrastructure, Capacity, and Processes
a. Dichotomous yes/no questions
b. Possible Score of 25 (1 point for each yes)

Questions 1 – 25
a. Engagement of Leadership, Champions, and Staff
b. Staff Training and Competency Assessments
c. Routine Audits: Insertion protocol, nurse driven protocol
d. Feedback

Results: Summary Scores

Section 2: Appropriate Indications for Indwelling Urinary Catheter Insertion
Score 10

Section 3: Aseptic Insertion of Indwelling Urinary Catheter
Score 4

Section 4: Proper Indwelling Urinary Catheter Maintenance
Score 3

Section 5: Timely Removal of Indwelling Catheter
Score 11

Section 6: Preventing Candiduria and Detecting Asymptomatic Bacteriuria
Score 4
Results: Summary Scores

a. Section 2 – 6 possible score of 32

b. Combined for a sub score scaled to 1 point
   a. 1 point for Always
   b. 0.75 for Often
   c. 0.5 for Sometimes
   d. 0.25 for Rarely
   e. 0 for Never

Implementation Example

- Section 1: General Infrastructure
- Only 15% responded that the facility has a physician champion
- Use the CDC CAUTI Toolkit for links to physician engagement.

Targeted Assessment for Prevention (TAP) Strategy

Target → Assess → Prevent

a. TARGET
b. ASSESS
c. Prevent infections by implementing interventions to address the gaps
The CAUTI Toolkit Implementation Guide

http://www.cdc.gov/hai/prevent/tap/resources.html

Implementation Resources

Downloaded at www.catheterout.org

CAUTI Prevention Action Plan

<table>
<thead>
<tr>
<th>Area of Focus</th>
<th>Action Steps</th>
<th>Person(s) Responsible</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency Assessment for use of Bladder Scans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ordering providers use indwelling urinary catheters for appropriate indications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indwelling catheters removed in PACU</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Resources

TAP Implementation Toolkit:  
http://www.cdc.gov/hai/prevent/tap/resources.html

FAQs: http://www.cdc.gov/hai/prevent/tap.htm

TAP Report Quick Reference Guide for Facilities:  
http://www.cdc.gov/nhsn/PDFs/TAP/TAPReports_Facilities.pdf

Provider Experience with TAP

Denise Marsh, BSN, RN, CIC
Infection Prevention and Control Coordinator
Western Maryland Health System

CAUTI TAP Assessment
WMHS January 2016
Onboarding call with VHQC
- December 2, 2015
  - Nursing Directors
  - Nurse Managers
  - Charge nurses
  - CAUTI Team Members (includes RN, LPN and Nursing assistants)
  - Infection Prevention and Control
  - PI
  - Education

When to roll out tool
- Decided to wait until after the holidays
- Survey 1/4/16 -1/15/16
- December 31st
  - Sent the link to Survey monkey and instructions via email to the NM of all of the inpatient units along with the ED NM sent this info to their respective staff

Survey Period
- Reminder emails sent throughout the 2 week period this included the instructions and survey link
- IP contacted hospitalist group –they filled out on paper and slid under our office doors
- IP contacted urology group-they entered into survey monkey
Follow up Survey Results

- Site Visit with VHQC consultant 2/24/16
- Nurse Managers, PI and Education attended
- Excellent feedback from audit results
- Action Plans from consultant to get us headed in the right direction

Questions?

VHQC Online Community

Join the VHQC online community by visiting
www.vhqc-qinqio.ning.com
**VDH Contact Information**

Andrea Alvarez, MPH – Program Coordinator  
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Contact for HAI program questions, training opportunities, newsletter and coordination

Sarah Lineberger, MPH – HAI Epidemiologist  
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Contact for HAI data/reports & National Healthcare Safety Network technical assistance

Carol Jamerson, BSN, RN, CIC – Nurse Epidemiologist  
carol.jamerson@vdh.virginia.gov  
Contact for consultation on infection prevention-related issues

Mefruz Haque, MPH – CDC/CSTE HAI Applied Epi Fellow  
mefruz.haque@vdh.virginia.gov  
Contact for data requests, educational materials

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**VHQC Contact Information**

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NHSN technical assistance for MVHIN providers

Carol Whalen RN, BAT, CPHQ  
carol.whalen@vhqc.org  
VHQC Improvement Consultant

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**Save the Date!**

**Surveillance Strategies for Success Part 3:**  
Annual NHSN Training Updates  
Friday, April 8  
12:00 PM – 1:00 PM