Targeted Assessment for Prevention (TAP) Strategy

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NHSN Training

Monday, March 25, 2019
2:45 – 4:45 PM
What is the TAP Strategy

- Targeted Assessment for Prevention (TAP) strategy
  - Uses data for action to prevent healthcare-associated infections (HAIs).
  - Targets healthcare facilities and facility units with a disproportionate burden of HAIs.
  - Assess the Gaps in Infection Prevention Using TAP Reports
  - Implementing Infection Prevention Strategies
TAP Strategy
Targeted Assessment for Prevention: Using Data for Action
www.cdc.gov/hai/prevent/tap.html

**Target**
- Generate TAP Reports using the National Healthcare Safety Network (NHSN)
- Identify facilities/units with excess HAIs using the Cumulative Attributable Difference (CAD) metric
- Engage targeted facilities/units to participate in focused prevention efforts

**Assess**
- Assess targeted facilities/units for potential gaps in infection control using the TAP Facility Assessment Tools
- Summarize responses and calculate scores across units, facilities, and groups to identify gaps

**Prevent**
- Present identified gaps and data to facility using TAP Feedback Report
- Utilize the Implementation Guide to access resources to aid in addressing identified gaps
- Implement proven prevention strategies in the targeted facilities/units to reduce infection rates

**Tools**
- NHSN TAP Reports
- TAP ‘How To’ Guide

- TAP Facility Assessment Tools
- TAP Excel Databases and User Guide

- TAP Feedback Report
- TAP Implementation Guide - Links to Resources
- TAP Reports
  - Uses data within NHSN to identify facilities and locations with excess infections
  - Translates a target SIR into a numeric HAI prevention goal, providing a concrete goal to drive action
TAP Reports bring together data elements from various data sources within NHSN:

- Annual Surveys
- SIRs
- Event-level Information (CLABSI, CAUTI, and CDI only)

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>CLABSI</th>
<th>CAUTI</th>
<th>CDI LabID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Care Hospital</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Long Term Acute Care Hospital</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Inpatient Rehab Facility</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>
Different Hospitals, Different Stories

Hospital A - Arcement Medical Center

- 400-bed, major teaching acute care hospital
  - 100 ICU beds
  - 300 non-ICU inpatient beds
  - Includes a CMS-certified Inpatient Rehabilitation Facility (IRF) unit that was added in 2015

- Focused its attention on HAI prevention in 2016 after realizing that their CAUTI SIR is higher than other Hospitals
- Began a facility wide initiative to decrease CAUTIs by 2020

Fictitious data used for illustrative purposes only.
Which facility types can use the TAP Strategy?

- Only facilities that have an SIR >1
- Facilities that cannot calculate an SIR
  - ACHs, LTACHs, and IRFs that have an SIR <1
Standardized Infection Ratio (SIR)

- 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:

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

- SIR interpretation:
  - 1.0 = same number of infections reported as would be predicted given the US baseline data
  - Greater than 1.0 = more infections reported than what would be predicted given the US baseline data
  - Less than 1.0 = fewer infections reported than what would be predicted given the US baseline data
Standardized Infection Ratio (SIR)

Hospital A

- Reviewing calendar year 2018
- SIR is 18% higher than would be predicted given the U.S Baseline Data

National Healthcare Safety Network
SIR for Catheter-Associated UTI Data for Acute Care Hospitals (2015 baseline) - By OrgID
As of February 16, 2018 at 2:00 PM
Date Range: All BS2_CAU_RATESALL

<table>
<thead>
<tr>
<th>Facility Org ID</th>
<th>CCN</th>
<th>Summary YR</th>
<th>Events</th>
<th>Number Predicted</th>
<th>Urinary Catheter Days</th>
<th>SIR</th>
<th>SIR p-value</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>10000</td>
<td></td>
<td>2018</td>
<td>65</td>
<td>54.944</td>
<td>39497</td>
<td>1.183</td>
<td>0.1811</td>
<td>0.921, 1.498</td>
</tr>
</tbody>
</table>
Cumulative Attributable Difference (CAD)

- CAD is a measure that shows difference between the number of observed infections and ‘predicted infections multiplied by a SIR goal’ in a defined period

\[
\text{CAD} = \text{Observed } \# \text{ HAIs} - (\text{Predicted } \# \text{ HAIs} \times \text{SIRgoal})
\]
Cumulative Attributable Difference (CAD)

\[
\text{CAD} = \text{Observed} \ # \ \text{HAIs} - (\text{Predicted} \ # \ \text{HAIs} \times \text{SIR goal})
\]

\[
\text{CAD} = 65 - (54.944 \times \text{SIR goal})
\]

- **SIR goal** represents an “HAI Reduction Goal”
- Custom SIR goal = value less than 1
  - HHS 25% reduction goal for CAUTI $\rightarrow$ SIR goal = 0.75

<table>
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<th>SIR</th>
<th>SIR p-value</th>
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Cumulative Attributable Difference (CAD)

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<td></td>
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<td>39497</td>
<td>1.183</td>
<td>0.1811</td>
<td>0.921, 1.498</td>
</tr>
</tbody>
</table>

CAD = Observed # HAIs − (Predicted # HAIs × SIR goal)

CAD = 65 − (54.944 × 0.75*)

CAD = 65 − (41.208)

CAD = 23.79

*HHS CAUTI Action Plan Goals for 2020 = 0.75
# Hospital A – CAUTI TAP Report

## Number of total excess infections in the facility

### National Healthcare Safety Network

TAP Report for CAUTI Data for Acute Care and Critical Access Hospitals (2015 Baseline)
Locations Ranked by CAD Within a Facility

**SIR Goal:** HHS Goal = 0.75

A TAP Report is the first step in the CDC TAP Strategy. For more information on the TAP strategy, please visit: [http://www.cdc.gov/hai/prevent/tap.html](http://www.cdc.gov/hai/prevent/tap.html)

**Date Range:** All BSCLAB TAP summary/yr 2018 to 2018

### FACILITY

<table>
<thead>
<tr>
<th>Facility Org ID</th>
<th>Facility Name</th>
<th>CAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Armcendor Medical Center</td>
<td>23.75</td>
</tr>
</tbody>
</table>

### LOCATION

<table>
<thead>
<tr>
<th>Facility</th>
<th>Location Rank</th>
<th>Location</th>
<th>CDC Location</th>
<th>CAD</th>
<th>SIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 EAST</td>
<td>1</td>
<td>IN:ACUTE:WARD:M</td>
<td>11</td>
<td>2741</td>
<td>21</td>
</tr>
<tr>
<td>2 NEURO</td>
<td>2</td>
<td>IN:ACUTE:WARD:N</td>
<td>5</td>
<td>1999</td>
<td>20</td>
</tr>
<tr>
<td>3 2 EAST</td>
<td>3</td>
<td>IN:ACUTE:WARD:MS</td>
<td>4</td>
<td>2057</td>
<td>13</td>
</tr>
<tr>
<td>4 ICU</td>
<td>4</td>
<td>IN:ACUTE:CC:M</td>
<td>4</td>
<td>5144</td>
<td>50</td>
</tr>
<tr>
<td>5 1 WEST</td>
<td>5</td>
<td>IN:ACUTE:WARD:M</td>
<td>6</td>
<td>1442</td>
<td>13</td>
</tr>
<tr>
<td>6 2 WEST</td>
<td>6</td>
<td>IN:ACUTE:WARD:MS</td>
<td>2</td>
<td>1371</td>
<td>9</td>
</tr>
<tr>
<td>8 ONC</td>
<td>8</td>
<td>IN:ACUTE:WARD:ONC_HONG</td>
<td>9</td>
<td>945</td>
<td>10</td>
</tr>
<tr>
<td>9 SICU</td>
<td>9</td>
<td>IN:ACUTE:CC:S</td>
<td>1</td>
<td>645</td>
<td>67</td>
</tr>
<tr>
<td>10 TELE</td>
<td>10</td>
<td>IN:ACUTE:WARD:TEL</td>
<td>1318</td>
<td>9</td>
<td>0.62</td>
</tr>
</tbody>
</table>

### Number of excess infections in each location

<table>
<thead>
<tr>
<th>No. Pathogens (EC, ESP, PA, KS, PS, E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 (5, 0, 1, 1, 0, 1)</td>
</tr>
<tr>
<td>7 (0, 0, 1, 0, 0, 3)</td>
</tr>
<tr>
<td>4 (0, 0, 1, 0, 0, 3)</td>
</tr>
<tr>
<td>3 (0, 2, 0, 1, 0, 0)</td>
</tr>
<tr>
<td>2 (0, 0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>1 (0, 0, 0, 0, 0, 1)</td>
</tr>
<tr>
<td>1 (0, 0, 0, 0, 0, 0)</td>
</tr>
</tbody>
</table>

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*Note: The data represents the number of excess infections in the facility and in each specific location.*
Which of the following SIR goals results in a higher prevention goal?
Cumulative Attributable Difference (CAD)

CAD = Observed # HAIs – (Predicted # HAIs x SIRgoal)

CAD = 65 – (54.944 x 0.50*)

CAD = 65 – (27.472)

CAD = 37. 53

*Custom SIR Goal
CAD and the HAI Reduction Goal

- SIR goal represents an “HAI Reduction Goal”

<table>
<thead>
<tr>
<th>Hospital A</th>
<th>Observed=65, Predicted=54.944, SIR=1.183 in 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHSReduction Goal</td>
<td>SIR Goal</td>
</tr>
<tr>
<td>(Reduction in Reported)</td>
<td></td>
</tr>
<tr>
<td>25%</td>
<td>0.75</td>
</tr>
<tr>
<td>50%</td>
<td>0.50</td>
</tr>
</tbody>
</table>

- Since CAD is an indicator of infections that would need to be prevented, it should be rounded up to the nearest whole number
- The time period of analysis should be included in the CAD interpretation, i.e., 24 infections over the 12 month period to reach an SIR of 0.75
Different Hospitals, Different Stories

Hospital B - Patel Community Health
- Facility services small rural area made up of 2 neighboring towns
- 115-bed, acute care hospital
  - 15 ICU beds
  - 100 non-ICU inpatient beds

- Under New Management since May 2018
- Usually can not calculate an SIR for CLABSI data because their number predicted is less than 1

Fictitious data used for illustrative purposes only.
Standardized Infection Ratio (SIR)

Hospital B

- Wants to review data from the last 2 quarters of 2018
- The SIR is only calculated if the number predicted (numPred) is $\geq 1$
- Unlike SIR, CAD is calculated even if the predicted number of events is less than 1

<table>
<thead>
<tr>
<th>Facility Org ID</th>
<th>CCN</th>
<th>Events</th>
<th>Number Predicted</th>
<th>Urinary Catheter Days</th>
<th>SIR</th>
<th>SIR p-value</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>88888</td>
<td></td>
<td>2</td>
<td>0.518</td>
<td>1570</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Different Hospitals, Different Stories

Hospital C – Scott Decker Health Institute

- 300-bed, acute care hospital
  - 75 ICU beds
  - 125 non-ICU inpatient beds
- Always has an SIR less than 1
- Now what?

Fictitious data used for illustrative purposes only.
### Cumulative Attributable Difference (CAD)

#### Formula:

\[
\text{CAD} = \text{Observed \# HAIs} - (\text{Predicted \# HAIs} \times \text{SIRgoal})
\]

#### Example Calculation:

\[
\begin{align*}
\text{CAD} &= 50 - (70.805 \times 0.75^*) \\
\text{CAD} &= 50 - (53.10375) \\
\text{CAD} &= -3.10
\end{align*}
\]

*Fictitious data for illustrative purposes only

*HHS Action Plan Goals for 2020 = 0.75
Cumulative Attributable Difference (CAD)

CAD = Observed # HAIs – (Predicted # HAIs x SIRgoal)

CAD = 50 – (70.805 x 0.50*)

CAD = 50 – (35.4025)

CAD = 14.60

*Custom SIR goal = 0.50

*Fictitious data for illustrative purposes only
CAD and the HAI Reduction Goal

- SIR goal represents an “HAI Reduction Goal”

<table>
<thead>
<tr>
<th>Hospital C: Observed=50, Predicted=70.805, SIR=0.706 in 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction Goal (Reduction in Reported)</td>
</tr>
<tr>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>25% HHSReduction Goal</td>
</tr>
<tr>
<td>50%</td>
</tr>
</tbody>
</table>

- CAD can be Positive or Negative
  - Positive CAD = additional burden of infections than what would be predicted with regard to a SIR goal (“excess” infections)
  - Negative CAD = fewer infections than what would be predicted

*Fictitious data for illustrative purposes only

### CAD at the Location Level

<table>
<thead>
<tr>
<th>Hospital C</th>
<th>Observed</th>
<th>Predicted</th>
<th>SIR</th>
<th>SIR goal</th>
<th>CAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward</td>
<td>20</td>
<td>10</td>
<td>2.0</td>
<td>0.50</td>
<td>15</td>
</tr>
<tr>
<td>ICU</td>
<td>30</td>
<td>60</td>
<td>0.5</td>
<td>0.50</td>
<td>0</td>
</tr>
<tr>
<td>Facility</td>
<td>50</td>
<td>70</td>
<td>0.71</td>
<td>0.50</td>
<td>15</td>
</tr>
</tbody>
</table>

**Observed # HAIs – (Predicted # HAIs x SIR goal) = CAD**

Can CAD be used to compare facilities the same way the SIR is used?

Yes

No
CAD versus SIR

- CAD is not a comparison metric for performance measurement like SIR
  - CAD detects burden of infection

<table>
<thead>
<tr>
<th></th>
<th>Facility 1</th>
<th>Facility 2</th>
<th>Facility 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Observed no.</strong></td>
<td>30</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td><strong>Predicted no.</strong></td>
<td>10</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>SIR</strong></td>
<td>3</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td><strong>CAD [Observed – (Predictedx1.0)]</strong></td>
<td><strong>20</strong></td>
<td><strong>2</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

Summary

- Beginning with the TAP Report and CAD metric, the TAP Strategy efficiently prioritizes healthcare facilities (and locations within a facility) that need enhanced prevention intervention to maximize the impact of given resources.
- CAD is a flexible measure that can be applied by individual hospitals as part of their internal quality improvement efforts and by groups such as state health departments, quality improvement organizations, and hospital systems.
- CAD is not a comparative metric!
Generating TAP Reports
Helpful Hints for Running TAP Reports

- TAP reports are built on the rules that influence SIRs.
- Ensure that locations are mapped correctly: https://www.cdc.gov/nhsn/pdfs/pscmanual/15locationsdescriptions_current.pdf.
- Verify that an up-to-date data set was generated.
- Use Time Periods of at least 1 quarter.
- Remember to look at the footnotes!
The TAP Reports for All HAI Types utilize 2015 baseline data.

Analyze all data dated from January 2015 forward.

Data from earlier time periods (before Jan 2015) must be analyzed using the original baseline models.
TAP Reports

- Baseline Set 1 data sets are still available within NHSN
- Analyze all data dated through December 31, 2016
- Data representing a later time period (i.e., after December 2016) must be analyzed using the new 2015 rebaseline models.
Running TAP Reports

- For each facility type, choose to either Run or Modify a TAP Report for the available HAI type:
  - Selecting Run – Creates the default TAP Report
  - Select Modify to customize TAP Report:
    - **Title/Format**
    - **Filters (but not really)**
    - **Time period of interest**
    - **Display Options: SIR Goal**
Running TAP Reports

- **Title/Format Tab**
  - Select “Show descriptive variable names” - variable labels will provide more descriptive column headers
  - Default output format is HTML
  - If another format, (e.g., pdf) is selected, change the orientation to “Landscape”
Running TAP Reports

- **Time Period**
  - Select Date Variable
    - Half year
    - Month
    - Quarter
    - Year
  - Best Practice: Time periods of at least 1 quarter
    - *CDI LabID must use at least 1 quarter of data*
Running TAP Reports

- Filters (Group TAP Reports only)
  - ACH and CAH TAP Reports are together, but can be separated using the “factype” filter
Is it beneficial to filter TAP Reports by location?

No; TAP Reports are designed to prioritize units with an excess burden of HAIs. This is accomplished by showing the SIR and CAD for each location.

Yes; Identifying the CAD for a specific location tells the user how many infections need to be prevented for the location.
Running TAP Reports

- **Filters**
  - With the exception of the “factype” filter, filters should not be used in TAP Reports.
  - Single-facility TAP report provides data at the unit level for **all units in the facility** reporting data to NHSN so that all the units can be ranked by their CAD.
Running TAP Reports

- **Display Options**: Change SIR Goal
  - 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
    - MRSA SIR goal: 0.50
  - Custom SIR Goals
    - Must be <1
Interpreting TAP Reports
Facility TAP Report - CLABSI

- Acute Care Hospital units designated as IRFs can be found in the IRF TAP Report.
Example TAP Report Outputs For Group Users

Table 1 – Totals for all Facilities in Group

National Healthcare Safety Network
TAP Report for CLABSI Data for Acute Care and Critical Access Hospitals (2015 Baseline)
Totals for all Facilities in Group
SIR Goal: HHS Goal = 0.5

A TAP Report is the first step in the CDC TAP Strategy. For more information on the TAP Strategy, please visit: http://www.cdc.gov/hai/prevent/tap.html

As of February 16, 2017 at 2:00 PM
Date Range: BS2_CLAB_TAP summary Yr2016 to 2016

<table>
<thead>
<tr>
<th>Number of Facilities</th>
<th>Number of Beds</th>
<th>Location (LC)</th>
<th>Events (LC)</th>
<th>Device Days (LC)</th>
<th>DUR % (LC)</th>
<th>CAD (LC)</th>
<th>SIR (LC)</th>
<th>SIR Test</th>
<th>ICU No. Pathogens (CNS,YS,SA,ES,KS,EC)</th>
<th>NICU No. Pathogens (CNS,YS,SA,ES,KS,EC)</th>
<th>Ward+ No. Pathogens (CNS,YS,SA,ES,KS,EC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>2,420</td>
<td>87 (15, 6, 06)</td>
<td>44 (17, 0, 27)</td>
<td>60186 (20966, 569, 3867)</td>
<td>17 (45, 7, 13)</td>
<td>19 (7.5, -0.3, 11.8)</td>
<td>0.9 (0.9, 0.9)</td>
<td>19 (2, 8, 0, 2, 1, 0)</td>
<td>19 (2, 8, 0, 2, 1, 0)</td>
<td>19 (2, 8, 0, 2, 1, 0)</td>
<td>28 (4, 8, 1, 2, 1)</td>
</tr>
</tbody>
</table>

1. This report includes CLABSI data for 2015 and forward. Following the 2015 rebaseline, Mucosal Barrier Injury Laboratory-Confirmed Bloodstream Infections (MBI-LCBI) are excluded from CLABSI rates, SIRs and TAP reports.
2. If location-level CADs are the same in a given facility, their ranks are tied.
3. (CNS,YS,SA,ES,KS,EC) = No. of CNS, Yeast (both candida and non-candida species), Staph aureus, Enterococcus species, K. pneumoniae/K. oxytoca, E. coli
4. SIR is set to . when predicted number of events is <1.0.
5. LOCATION CAD = (OBSERVED, LOCATION - PREDICTED, LOCATION* SELECTED SIR Goal)
6. SIR TEST = ‘SIG’ means SIR > SIR Goal significantly
Source of aggregate data: 2015 NNIS CLABSI Data
Data contained in this report were last generated on February 14, 2017 at 10:57 AM.
### Example TAP Report Outputs For Group Users

- **Location Category**, abbreviated as (LC), gives a breakdown of the different types of locations contributing to the total in the following order: ICU, NICU, Ward+.

<table>
<thead>
<tr>
<th>Number of Facilities</th>
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<th>Events (LC)</th>
<th>Device Days (LC)</th>
<th>DUR % (LC)</th>
</tr>
</thead>
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<td>44 (17, 0, 27)</td>
<td>60186 (20966, 569, 38651)</td>
<td>17 (45, 7, 13)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>19 (7.5, -0.3, 11.8)</td>
<td>0.9 (0.9, .., 0.9)</td>
<td>19 (2, 8, 0, 2, 1, 0)</td>
<td>0 (0, 0, 0, 0, 0, 0)</td>
<td>28 (4, 8, 4, 1, 2, 1)</td>
<td></td>
</tr>
</tbody>
</table>

- For CAUTI, there are only 2 Location Categories: ICU, Ward+. 
Example TAP Report Outputs For Group Users

- Number of common pathogens identified for each location.
- Pathogen list can be found in the footnotes.
- The Pathogen columns for each location category are in the same order as they are listed in parenthesis for the preceding columns.
# Example TAP Report Outputs For Group Users

## Table 2 – Facilities Within the Group Ranked by CAD

<table>
<thead>
<tr>
<th>facRank</th>
<th>name</th>
<th>state</th>
<th>medType</th>
<th>numBeds</th>
<th>numLoc</th>
<th>numEvent</th>
<th>facDDays</th>
<th>facDUR</th>
<th>facCADlocType</th>
<th>facSIR</th>
<th>SIRtest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DHQP Memorial Hospital</td>
<td>GA</td>
<td>M</td>
<td>677</td>
<td>27</td>
<td>(8, 0, 19)</td>
<td>157 (77, 0, 80)</td>
<td>112962 (54877, 0, 58085)</td>
<td>27 (11, 17)</td>
<td>100 (47.2, 0, 52.8)</td>
<td>1.4 (1.3, 1.5)</td>
</tr>
<tr>
<td>2</td>
<td>DHQP Memorial Annex</td>
<td>GA</td>
<td>M</td>
<td>866</td>
<td>31</td>
<td>(7, 1, 23)</td>
<td>123 (57, 4, 62)</td>
<td>99541 (38931, 6864, 53726)</td>
<td>20 (44, 28, 14)</td>
<td>69.1 (32.6, -0.3, 35.9)</td>
<td>1.1 (1.2, 0.6, 1.2)</td>
</tr>
<tr>
<td>3</td>
<td>Dudeck Regional Life Center</td>
<td>IL</td>
<td>M</td>
<td>1,044</td>
<td>40</td>
<td>(7, 1, 32)</td>
<td>115 (27, 11, 17)</td>
<td>105785 (32639, 5901, 67045)</td>
<td>20 (59, 23, 15)</td>
<td>60.4 (8.4, 6.7, 45.2)</td>
<td>1.1 (0.7, 1.3, 1.2)</td>
</tr>
<tr>
<td>4</td>
<td>CDC Health Hospital</td>
<td>GA</td>
<td>M</td>
<td>357</td>
<td>20</td>
<td>(4, 1, 13)</td>
<td>61 (22, 4, 35)</td>
<td>22527 (6017, 1765, 14745)</td>
<td>16 (36, 18, 13)</td>
<td>49.3 (18.8, 2.6, 27.9)</td>
<td>2.6 (3.4, 1.4, 2.5)</td>
</tr>
<tr>
<td>5</td>
<td>Weiner Center of Medicine</td>
<td>CA</td>
<td>M</td>
<td>535</td>
<td>20</td>
<td>(3, 1, 6)</td>
<td>53 (22, 2, 29)</td>
<td>20574 (5814, 725, 14225)</td>
<td>10 (36, 8, 8)</td>
<td>42.5 (18.4, 9.1, 22, 2)</td>
<td>2.6 (3.5, 1.7, 2.2)</td>
</tr>
<tr>
<td>6</td>
<td>Ascension Medical Center</td>
<td>LA</td>
<td>M</td>
<td>361</td>
<td>19</td>
<td>(3, 0, 16)</td>
<td>55 (20, 0, 35)</td>
<td>25796 (8169, 0, 16727)</td>
<td>15 (40, 12)</td>
<td>42.1 (15.4, 26, 7.7)</td>
<td>2.1 (2.2, 2, 2.1)</td>
</tr>
<tr>
<td>7</td>
<td>Falcon Memorial Hospital</td>
<td>GA</td>
<td>M</td>
<td>457</td>
<td>19</td>
<td>(4, 0, 15)</td>
<td>79 (18, 0, 61)</td>
<td>76593 (28370, 47123)</td>
<td>31 (57, 24)</td>
<td>40.3 (2.3, 38.3)</td>
<td>1.0 (0.6, 1.3)</td>
</tr>
<tr>
<td>8</td>
<td>All Saints Medical</td>
<td>LA</td>
<td>M</td>
<td>281</td>
<td>9</td>
<td>(2, 0, 7)</td>
<td>47 (9, 0, 38)</td>
<td>16691 (5102, 0, 11589)</td>
<td>14 (40, 11)</td>
<td>40.2 (6.7, 0, 33)</td>
<td>3.4 (2, 4)</td>
</tr>
<tr>
<td>9</td>
<td>Louisiana Hospital of Texas</td>
<td>TX</td>
<td>G</td>
<td>595</td>
<td>20</td>
<td>(5, 1, 14)</td>
<td>62 (13, 2, 47)</td>
<td>40067 (14574, 3700, 21733)</td>
<td>19 (40, 21, 14)</td>
<td>40.2 (4.8, -1.3, 36.7)</td>
<td>1.4 (0.8, 0.3, 2.3)</td>
</tr>
<tr>
<td>10</td>
<td>Louisiana Hospital of Louisiana</td>
<td>LA</td>
<td>G</td>
<td>359</td>
<td>24</td>
<td>(5, 1, 14)</td>
<td>47 (9, 0, 38)</td>
<td>16936 (7962, 636, 8346)</td>
<td>11 (27, 7, 7)</td>
<td>38 (7.5, 5.4, 25.1)</td>
<td>2.6 (1.3, 5.1, 3.7)</td>
</tr>
</tbody>
</table>

1. This report includes CLABSI data for 2015 and forward. Following the 2015 rebaseline, Viral Barrier Infection Laboratory-Confirmed Bloodstream Infections (VBL-CBI) are excluded from CLABSI rates, SIRs, and TAP reports.
2. If location-level CADs are the same in a given facility, their ranks are tied.
3. (CNS,Y,SA,ES,KS,EC) = No. of CNS, Yeast (both candida and non-candida species), Staph aureus, Enterococcus species, K. pneumoniae/K. oxytoca, E. coli
4. SIR is set to ‘:’ when predicted number of events is <1.0.
5. LOCATION CAD = PREDICTED LOCATION - SELECTED SIR Goal
6. SIR TEST = SIG means SIR > SIR Goal significantly

Source of aggregate data: 2015 INHA CLABSI Data

Data contained in this report were last generated on January 19, 2017 at 12:17 PM.
### Example TAP Report Outputs For Group Users

**TABLE 3 – Locations Ranked by CAD Within a Facility**

<table>
<thead>
<tr>
<th>Facility Rank</th>
<th>Facility Org ID</th>
<th>Facility Name</th>
<th>Facility CAD</th>
<th>Location Rank</th>
<th>Location</th>
<th>CDC Location</th>
<th>Events</th>
<th>Central Line Days</th>
<th>DUR %</th>
<th>CAD</th>
<th>SIR</th>
<th>Test</th>
<th>No. Pathogens (CNS,YS,SA,ES,KS,CC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10000</td>
<td>DHQP Memorial Hospital</td>
<td>6.35</td>
<td>1</td>
<td>OP WARD</td>
<td>OUT ACUTE WARD</td>
<td>0</td>
<td>59</td>
<td>2.41</td>
<td>2.5</td>
<td></td>
<td></td>
<td>(1, 1, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>2</td>
<td>10401</td>
<td>DHQP Memorial Annex</td>
<td>5.35</td>
<td>1</td>
<td>ICU</td>
<td>IN ACUTE CC.MS</td>
<td>0</td>
<td>564</td>
<td>10.26</td>
<td></td>
<td></td>
<td></td>
<td>(1, 0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2 West</td>
<td>IN ACUTE WARD.TEL</td>
<td>0</td>
<td>656</td>
<td>1.73</td>
<td></td>
<td></td>
<td></td>
<td>(0, 0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3 West</td>
<td>IN ACUTE WARD.M</td>
<td>0</td>
<td>382</td>
<td>0.95</td>
<td></td>
<td></td>
<td></td>
<td>(0, 0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>ICU4</td>
<td>IN ACUTE CC.MS</td>
<td>0</td>
<td>2693</td>
<td>0.64</td>
<td>0.9</td>
<td></td>
<td></td>
<td>(0, 0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>ICU3</td>
<td>IN ACUTE CC.M</td>
<td>1</td>
<td>496</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
<td>(0, 0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>7 East</td>
<td>IN ACUTE WARD.S</td>
<td>1</td>
<td>1169</td>
<td>0.52</td>
<td></td>
<td></td>
<td></td>
<td>(0, 0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>5 West</td>
<td>IN ACUTE WARD.M</td>
<td>1</td>
<td>2194</td>
<td>0.18</td>
<td>0.6</td>
<td></td>
<td></td>
<td>(0, 0, 0, 0, 0, 0)</td>
</tr>
</tbody>
</table>
Facility TAP Report – CDI LabID

Data is only applicable at the FACWIDEIN level

- COHCFA Prevalence – allow facilities and groups to see a rate for those CDI events that are potentially associated with a previous stay in that hospital.
  - CO event from a patient discharged from the facility ≤4 weeks earlier
Target PreventAssess

• Assess targeted facilities/units for potential gaps in infection control using the TAP Facility Assessment Tools
• Summarize responses and calculate scores across units, facilities, and groups to identify gaps
• Prioritize and summarize potential gaps using TAP Feedback Reports

• Present identified gaps and data to facility using TAP Feedback Report
• Prioritize gaps and develop strategies to implement interventions
• Access resources in the TAP Implementation Guides to aid in addressing identified gaps in the targeted locations to reduce infections

Tools
• NHSN TAP Reports
• TAP ‘How To’ Guide
• TAP Infographic

Tools
• TAP Facility Assessment Tools
• TAP Excel Spreadsheets
• TAP Feedback Reports

Tools
• TAP Feedback Reports
• TAP Prevention Prioritization Toolkit
• TAP Implementation Guides
TAP Facility Assessment Tools
The Targeted Assessment for Prevention (TAP) Strategy

**Target**
- Individual Facility User – TAP How-To Guide
- Group User – TAP How-To Guide
- Targeted Assessment for Prevention of Healthcare-Associated Infections: A New Prioritization Metric
- Example Letter
- TAP Strategy Reports
- TAP Glossary of Terms March 2015
- TAP Training – NHSN Data Entry and Analysis

**Assess**
- CAUTI TAP Facility Assessment Tool v2.0 – May 2016
- CLABSI TAP Facility Assessment Tool v3.0 – March 2018
- CDI TAP Facility Assessment Tool v5.0 – April 2018
- CDI TAP Facility Assessment Tool v6.0 – July 2016
- TAP Facility Assessment Tool - Instructions
- TAP Facility Assessment Tool - Lab section
- TAP Facility Assessment Tool - LOS section
TAP Facility Assessment Tools

- Aim to capture *awareness and perceptions* among facility staff and healthcare personnel related to prevention policies and practices
  - Using evidence-based guidance and recommendations

- Should be administered to a variety of staff and healthcare personnel
  - Frontline providers
  - Mid-level staff
  - Facility’s senior leadership

- Collection of multiple assessments is recommended for interpreting results
  - The greater number of assessments completed, the greater the ability to identify gaps and target prevention
TAP Facility Assessment Tools

- Actionable information from responses
  - “No” or “Never,” “Rarely,” “Sometimes” responses
  - “Unknown” responses
  - Divergent responses among different healthcare personnel
- Real-time teaching moments may make deployment an intervention in itself
  - Generates conversation, “Aha” moments, cues to action

_TAP Assessments allow one to “prioritize and systematically close the gaps.”_ - Jamie Moran, MSN, RN, CIC Qualis Health
## Facility Assessment Tool

### I. General Infrastructure, Capacity, and Processes (Continued)

<table>
<thead>
<tr>
<th>Feedback</th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your facility routinely provide feedback data to healthcare personnel on:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. CLABSI rates and/or standardized infection ratios (SIR)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Central line device utilization ratios (DUR)?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Divergent responses
## Facility Assessment Tool

<table>
<thead>
<tr>
<th>II. Appropriate Indications for Indwelling Urinary Catheter Insertion</th>
<th>Response Choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do ordering providers document an indication for indwelling urinary catheters?</td>
<td>Never</td>
</tr>
<tr>
<td>2. Do ordering providers use indwelling urinary catheters for appropriate indications?</td>
<td>Never</td>
</tr>
<tr>
<td>3. Do personnel use alternative strategies for management of urinary incontinence (e.g., external catheters, bedside commodes, scheduled toileting, garments/pads)?</td>
<td>Never</td>
</tr>
<tr>
<td>4. Do personnel use bladder scanners to confirm urinary retention before placing or replacing urinary catheters?</td>
<td>Never</td>
</tr>
</tbody>
</table>

Teaching tool
## Facility Assessment Tool

<table>
<thead>
<tr>
<th>IV. Contact Precautions/Hand Hygiene</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
</tr>
<tr>
<td>Do patients with CDI remain on Contact Precautions for the duration of diarrhea at your facility?</td>
<td></td>
</tr>
<tr>
<td>Do patients with CDI remain on Contact Precautions beyond the duration of diarrhea at your facility?</td>
<td></td>
</tr>
<tr>
<td>Are patients with CDI housed separately from patients without CDI (i.e., in private rooms or placed with other CDI patients ['cohorted']) at your facility?</td>
<td></td>
</tr>
<tr>
<td>Are dedicated or disposable noncritical medical items (e.g., blood pressure cuffs, stethoscopes, thermometers) used for patients with confirmed or suspected CDI?</td>
<td></td>
</tr>
<tr>
<td>Are Contact Precautions signs used for rooms to designate patients with confirmed or suspected CDI?</td>
<td></td>
</tr>
</tbody>
</table>

Useful ‘Unknowns’
## Facility Assessment Tool

### On-the-floor practices from view of frontline personnel

<table>
<thead>
<tr>
<th>V. Environmental Cleaning</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Are high-touch environmental surfaces (e.g., bed rails/controls, tray table) in patient rooms cleaned:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. On a daily basis?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Upon discharge?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Is shared medical equipment cleaned between patient uses?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Is there a clear delineation between items cleaned by Environmental Services personnel versus unit-level personnel (e.g., nurses, nursing assistants, clerks)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Is an EPA-registered product that is effective against C. difficile spores used for daily disinfection in the rooms of patients with CDI?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Deploying Assessments
Methods for Dissemination

- Collect assessments from facility-wide personnel
  - Senior Leadership
  - Mid-level Leadership
  - Infection Prevention
  - Quality
  - Environmental Cleaning

- Collect assessments from frontline providers
  - From across facility
  - From specific units/locations identified from TAP Reports and/or other contextual factors
Methods for Dissemination

- Paper form
- SurveyMonkey
- Adobe PDF fillable form
- REDCap

*Deployment may include a combination of methods*
Methods for Dissemination – Paper Forms

- Provide paper Assessments for staff to complete
  - Have staff complete during a training or meeting
  - Provide a drop-box at a designated location
- Avoids any potential technology barriers
- Allows staff to complete at their own pace
**Methods for Dissemination - SurveyMonkey**

- CDC can provide a live SM link or send the Assessment template to your SM account.

- SurveyMonkey link can be provided to staff by:
  - Emailing link directly to respondents
  - Posting link to intranet site or internal newsletter
  - Opening link on shared computer and/or tablet, allowing staff to take turns completing
  - Providing flyers/posters with instructions for accessing link on their own device
Methods for Dissemination - PDF

- PDF Assessments can be completed electronically
- Requires respondents to have access to email

PDFs returned via ‘Submit’ button must have ‘Return Email Address’ entered on first page

Pre-populate field if:
- PDF sent via email
- PDF saved on shared computer

Instruct respondents to complete field if:
- Web link is sent via email
- Web link is shared on intranet
Methods for Dissemination – REDCap

- REDCap is a secure, web-based application used to create and manage online surveys and databases
- Partners with access to REDCap can use TAP Assessment templates
- REDCap Assessments are then distributed electronically using a web link

https://projectredcap.org/about/
Prior to today, were you aware of the TAP Facility Assessment Tools?

- Yes, they have been used in my facility
- Yes, I have heard of them but they have not been used in my facility
- Maybe, they sort of sound familiar
- No, this is the first time I’ve heard about them
If you were to deploy the TAP Facility Assessments, which method(s) do you think would work best for your facility or program? Select all that apply.

- Paper
- SurveyMonkey
- PDF Fillable Form
- REDCap
Summarizing Assessments
Compiling Assessments

- If received as paper forms:
  - Manually enter response data into Excel

- If received electronically (SurveyMonkey, PDF, or REDCap):
  - Export Assessment data to Excel from respective program

- CDC can assist with data entry and compilation

Step-by-step instructions for all TAP Strategy tools

Email HAIPrevention@cdc.gov
- All Assessment responses will be compiled in the TAP Excel Spreadsheet
- Developed to summarize assessment responses using Feedback Report
## TAP Feedback Report

### SAMPLE Central Line-associated Blood Stream Infection (CLABSI) Facility Assessment Tool—Feedback Report

<table>
<thead>
<tr>
<th>Date Range: 2016</th>
<th>Facility Cumulative Attributable Difference (CAD), or the number of infections the facility would have needed to prevent to achieve an HAI reduction goal SIR of 0.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>5.0</td>
</tr>
<tr>
<td>6</td>
<td>1.30</td>
</tr>
</tbody>
</table>

### Assessment Overview

- **# Collected:** 45
- **# Analyzed:** 45
- **Overall Mean Score:** 49 out of 68, or 72%

### Selected Deep Dives—Top Opportunities for Improvement

#### I. General Infrastructure, Capacity, and Processes

- Nurse or Physician champion for CLABSI prevention activities
- Appropriate nursing staff levels in ICUs to reduce risk of CLABSI
- Training of ultrasound guidance for central line insertion
- Competency assessments of ultrasound guidance for central line insertion: Upon Hire and Annually
- Feedback of central line device utilization ratios (DUR)

#### II. Appropriate Use of Central Venous Catheters

- Documentation of indication for central lines
- Daily audits to assess necessity of each central line
- Use of ultrasound guidance for insertion to reduce attempts and mechanical complications
- Feedback of central line device utilization ratios (DUR)

#### III. Proper Insertion Practices for Central Venous Catheters

- Avoidance of femoral vein for central line insertion in adults
- Use of sutureless securement devices
- Replacement of central lines within 48hrs when adherence to aseptic technique can't be ensured
- Use of Sterile Sleeve to protect pulmonary artery catheter

#### IV. Proper Maintenance Practices for Central Venous Catheters

- Proper replacement of tubing used to administer propofol infusions every 6-12hrs
- Proper replacement of tubing used to administer propofol infusions every 6-12hrs

### Leading®

- Unit-level leadership involvement in CLABSI prevention activities and use of insertion ‘bundle’ for performance improvement
- Training, competency assessments, and routine audits of insertion, maintenance, and access procedures
- Availability of supplies, aseptic technique, appropriate skin prep, and use of maximal sterile barrier precautions for insertion and maintenance
- Insertion sites monitored and patients are encouraged to report changes or discomfort of central line

### Lagging†

- Champions for CLABSI prevention activities and appropriate nursing staff levels in ICUs
- Documentation of indication for central lines; Daily audits to assess necessity of each central line
- Avoidance of femoral vein; Replacement of lines if aseptic technique not ensured; Use of ultrasound, sutureless securement devices, and Sterile Sleeve
- Proper replacement of tubing used to administer propofol infusions every 6-12hrs and use of peripheral sites for blood collection

---

**Note:** If this report represents fewer than 30 assessments, results may not be fully representative of the awareness and perceptions of infection prevention practices among healthcare personnel. Scoring and results are for the purpose of internal quality improvement and should not be used as a method to benchmark against other units or facilities.

**SIR > 1.0 indicates more infections than predicted.**
### Responses Per Question

Please note: Selected LEADING results are highlighted in green (>75% Yes, or >75% for sum of Often+Always). Selected LAGGING results are highlighted in red (>33% Unknown, >50% No, >50% for sum of Never+Rarely+Sometimes+Unknown). It is strongly encouraged that each unit and facility review all of the data available to target other potential opportunities for improvement, aligning to ongoing and/or planned areas for intervention where possible. Data may not be representative of actual practices, as these are self-reported respondent perceptions.

#### I. General Infrastructure, Capacity, and Processes

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is your facility's senior leadership involved in CLABSI prevention activities?</td>
<td>72%</td>
<td>19%</td>
<td>9%</td>
</tr>
<tr>
<td>2. Is unit-level leadership involved in CLABSI prevention activities?</td>
<td>73%</td>
<td>19%</td>
<td>9%</td>
</tr>
<tr>
<td>3. Does your facility currently have a team/work group focusing on CLABSI prevention?</td>
<td>72%</td>
<td>9%</td>
<td>19%</td>
</tr>
<tr>
<td>4. Does your facility have a nurse champion for CLABSI prevention activities?</td>
<td>32%</td>
<td>6%</td>
<td>61%</td>
</tr>
<tr>
<td>5. Does your facility have a physician champion for CLABSI prevention activities?</td>
<td>9%</td>
<td>6%</td>
<td>84%</td>
</tr>
<tr>
<td>6. Does your facility ensure appropriate nursing staff levels in the intensive care units to reduce the risk of CLABSI?</td>
<td>44%</td>
<td>22%</td>
<td>34%</td>
</tr>
<tr>
<td>7. Does your facility use performance improvement initiatives in which multifaceted strategies are “bundled” together to improve compliance with evidence-based recommended practices (e.g., “central line insertion bundle”)?</td>
<td>75%</td>
<td>0%</td>
<td>25%</td>
</tr>
<tr>
<td>8. Does your facility conduct an assessment to identify and learn from potential defects when a CLABSI occurs?</td>
<td>68%</td>
<td>3%</td>
<td>29%</td>
</tr>
</tbody>
</table>

Displays response frequencies per question and highlights potential gaps.
TAP Feedback Report

- Scoring methodology created to help further target prevention and track progress
  - For example, this facility may want to prioritize their Antibiotic Stewardship gaps because they scored lowest on this domain
- Scoring is not intended to measure performance or compare across facilities

CDI Feedback Report
# TAP Feedback Report

### Respondent Demographics

<table>
<thead>
<tr>
<th>Respondent Role</th>
<th>Number of Respondents</th>
<th>Percent of Respondents</th>
<th>Total Mean Points</th>
<th>Total Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse/Nurse Assistant</td>
<td>32</td>
<td>60%</td>
<td>42.0</td>
<td>52%</td>
</tr>
<tr>
<td>Physician/PA/NP</td>
<td>15</td>
<td>28%</td>
<td>59.3</td>
<td>73%</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>9%</td>
<td>45.4</td>
<td>56%</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>2%</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Respondent inserts, assists with insertion of, or maintains central venous catheters as part of their work at this facility?

- Yes: 45, 85%, 49.7, 61%
- No: 8, 15%, 33.1, 41%
- Missing: 0, 0%, --, --

### Unit Type

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Number of Respondents</th>
<th>Percent of Respondents</th>
<th>Total Mean Points</th>
<th>Total Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU</td>
<td>12</td>
<td>23%</td>
<td>48.1</td>
<td>59%</td>
</tr>
<tr>
<td>Non-ICU</td>
<td>41</td>
<td>77%</td>
<td>47.0</td>
<td>58%</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>0%</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

### Years of Experience at Facility

<table>
<thead>
<tr>
<th>Years of Experience at Facility</th>
<th>Number of Respondents</th>
<th>Percent of Respondents</th>
<th>Total Mean Points</th>
<th>Total Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1</td>
<td>11</td>
<td>21%</td>
<td>45.5</td>
<td>56%</td>
</tr>
<tr>
<td>1 to 5 years</td>
<td>27</td>
<td>51%</td>
<td>47.9</td>
<td>59%</td>
</tr>
<tr>
<td>6 to 10 years</td>
<td>14</td>
<td>26%</td>
<td>45.9</td>
<td>57%</td>
</tr>
<tr>
<td>Over 10 years</td>
<td>1</td>
<td>2%</td>
<td>66.5</td>
<td>82%</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>0%</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
Feedback Report Demo
Targeted Assessment for Prevention: *Using Data for Action*

[www.cdc.gov/hai/prevent/tap.html](http://www.cdc.gov/hai/prevent/tap.html)

**Target**
- Generate TAP Reports using the National Healthcare Safety Network (NHSN)
- Identify facilities/units with excess HAIs using the Cumulative Attributable Difference (CAD) metric
- Engage targeted facilities/units to participate in focused prevention efforts

**Assess**
- Assess targeted facilities/units for potential gaps in infection control using the TAP Facility Assessment Tools
- Summarize responses and calculate scores across units, facilities, and groups to identify gaps
- Prioritize and summarize potential gaps using TAP Feedback Reports

**Prevent**
- Present identified gaps and data to facility using TAP Feedback Report
- Prioritize gaps and develop strategies to implement interventions
- Access resources in the TAP Implementation Guides to aid in addressing identified gaps in the targeted locations to reduce infections

**Tools**
- NHSN TAP Reports
- TAP ‘How To’ Guide
- TAP Infographic
- TAP Facility Assessment Tools
- TAP Excel Spreadsheets
- TAP Feedback Reports
- TAP Feedback Reports
- TAP Prevention Prioritization Toolkit
- TAP Implementation Guides
Addressing Identified Gaps
The Targeted Assessment for Prevention (TAP) Strategy

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

TAP Resources

Target

Assess

Prevent

- TAP CAUTI Toolkit Implementation Guide: Links to Example Resources
- TAP CDI Implementation Guide: Links to Example Resources
- TAP CLABSI Implementation Guide: Links to Example Resources

For questions pertaining to the TAP Strategy and the accompanying TAP tools, please contact: HAIPrevention@cdc.gov
TAP Implementation Guides

TAP Clostridium difficile infection (CDI) Implementation Guide: Links to Example Resources

Disclaimer: The links in the domains below are not mutually exclusive nor do they represent an exhaustive list of all the possible resources available. Furthermore, the links presented do not constitute an endorsement of these organizations or their programs by the Centers for Disease Control and Prevention (CDC) or the federal government, and none should be inferred.

Also refer to the following guidelines:

Strategies to Prevent *Clostridium difficile* Infections in Acute Care Hospitals: 2014 Update [PDF]

Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults: 2010 Update by the Society for Healthcare Epidemiology of America (SHEA) and the Infectious Diseases Society of America (IDSA)  [PDF - 22 pages]

Other relevant CDC guidelines.

CDI Prevention Primer Slide Set  [PPT - 7.3 MB]

Domains align with TAP Assessments

- I. General Infrastructure, Capacity, and Processes
- II. Antibiotic Stewardship
- III. Early Detection and Isolation, Appropriate Testing
- IV. Contact Precautions/Hand Hygiene
- V. Environmental Cleaning
TAP Implementation Guides

- Each Domain provides actionable partner resources that can be used to address gaps and prevent infections

1. General Infrastructure, Capacity, and Processes

    Engagement of Leadership, Champions, and Staff

    - Engage the Senior Executive Module – Comprehensive Unit-based Safety Program (CUSP) Toolkit
      Tools focused on engaging and defining the roles and responsibilities of senior executives in a quality improvement initiative, from the Agency for Healthcare Research and Quality (AHRQ)

    - *Clostridium difficile Infection (CDI) Toolkit – A Healthcare Professional’s Guide to Preventing CDIs*
      Compilation of guidelines, recommendations, and tools for reducing CDI, including general strategies to engage Atom Alliance

    - Prevent and Manage Infections Safely: C. difficile Leadership Fact Sheet
      Information about the importance of promoting prevention of C. difficile for nursing home leadership, from Advancing Excellence in America’s Nursing Homes
Prevention Resources

1. Feedback Report

III. Early Detection, Appropriate Testing

62%

C. difficile tests ordered for appropriate indications: Diarrhea with no other known cause

C. difficile tests ordered for appropriate indications: Testing for diagnosis of CDI

Promptness of C. difficile tests ordered

2. Implementation Guide

III. Early Detection and Isolation, Appropriate Testing

- Guidance to Providers: Testing for C. difficile Infection [PDF - 3 pages]

Recommendations for CDI testing, including a sample diagnostic algorithm (pg. 2), from Vanderbilt University Medical Center

Diagnostic Algorithm for C. difficile infection:

- Patient with clinically-significant diarrhea (3 or more loose stools per day for at least 1 to 2 days)?
  - NO: Observe for 24 hrs to assess for persistence of symptoms. Do not order test for C. difficile.
  - YES: Has patient been taking laxatives over the past 24-48 hours?
    - YES: Stop laxative and gauge clinical response prior to ordering C. difficile testing.
    - NO: Enter order for a single stool specimen to be tested for C. difficile. Place patient on empiric Contact Precautions while awaiting results.

- C. difficile test results positive?
  - NO: Continue treatment and Contact Precautions. Do not send follow-up C. difficile test (i.e. as a test of cure)
  - YES: Alternative diagnosis as cause of diarrheal symptoms made?
    - NO: Stop Contact Precautions
    - YES: If C. difficile strongly suspected despite one negative test, a second test may be sent vs. empiric treatment for C. difficile infection.

3. Partner Resource

* http://www.mc.vanderbilt.edu/documents/infectioncontrol/files/Guidance%20for%20Providers%20FINAL%202011.pdf; Vanderbilt University Medical Center
**Prevention Resources**

**III. Proper Insertion Practices for Central Venous Catheters**

- **Vascular Catheter Insertion Checklist** *(PDF - 552 KB)*

Checklist to be completed by the inserter and assistant to document steps before, during, and after central line insertion, from BJC Healthcare

*https://www.jointcommission.org/assets/1/6/CLABSI_Toolkit_Tool_3-16_BJC_Vascular_Catheter_Insertion_Cklst_Final.pdf*
What We’ve Learned
We generated a CDI TAP Report and found we needed to prevent 23 infections to reach our SIR goal of 0.70.
We administered the TAP Facility Assessment across our facility
- May choose to administer to select units based on data
- Collected responses from Frontline Providers, Mid-level Staff, and Senior Leadership

**Clostridium difficile Infection (CDI)**

**Targeted Assessment for Prevention (TAP) Facility Assessment Tool**

<table>
<thead>
<tr>
<th>I. General Infrastructure, Capacity, and Processes</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does your facility’s senior leadership actively promote CDI prevention activities?</td>
<td>Yes ☐ No ☐ Unk ☐</td>
</tr>
<tr>
<td>2. Is unit-level leadership involved in CDI prevention activities?</td>
<td>Yes ☐ No ☐ Unk ☐</td>
</tr>
<tr>
<td>3. Does your facility have a team/work group focusing on CDI prevention?</td>
<td>Yes ☐ No ☐ Unk ☐</td>
</tr>
<tr>
<td>4. Does your facility have a staff person with dedicated time to coordinate CDI prevention activities?</td>
<td>Yes ☐ No ☐ Unk ☐</td>
</tr>
<tr>
<td>5. Does your facility have a nurse champion for CDI prevention activities?</td>
<td>Yes ☐ No ☐ Unk ☐</td>
</tr>
<tr>
<td>6. Does your facility have a physician champion for CDI prevention activities?</td>
<td>Yes ☐ No ☐ Unk ☐</td>
</tr>
</tbody>
</table>
TAP Strategy
Targeted Assessment for Prevention: Using Data for Action

- Created our TAP Feedback Report
- Identified and prioritized our potential gaps
- Accessed actionable resources
- Implemented strategies to address those gaps

* http://www.qualityforum.org/Publications/2016/05/National_Quality_Partners_Playbook__Antibiotic_Stewardship_in_Acute_Care.aspx; National Quality Forum
Getting Started
TAP Strategy ‘How To’ Guide

- Running TAP Reports
- Interpreting TAP Reports
- Communicating TAP Report Data
- Assessing for Gaps
- Implementing Infection Prevention Strategies

https://www.cdc.gov/hai/pdfs/prevent/tap-guide-for-individual-facility-user.pdf
Tips for Success

- Collaborate with partners
  - State Health Departments, Hospital Associations, QIN-QIOs, HIINs, and others utilize the TAP Strategy and may be able to offer support
  - CDC is available to offer technical assistance

- Align prevention efforts
  - Integrate TAP Strategy with new and ongoing efforts to enhance prevention
  - Deploy Assessments during meetings and training
Tips for Success

- Explore Assessment deployment options
  - Use method(s) that best fits facility’s needs to optimize participation and completion

- Leadership support
  - Engage leadership and identify ‘Champions’
    - Facility wide and unit-level
  - Encourage leaders to communicate intent/importance of TAP Strategy and promote completion of Assessments
Gaining buy-in

Provide the TAP Infographic as an introduction to the TAP Strategy

The Targeted Assessment for Prevention Strategy

A quality improvement framework that targets resources to maximize efficiency for the reduction of healthcare-associated infections (HAIs)

CAUTI • CDI • CLABSI

Prevent HAIs by targeting locations with excess infections, assessing for gaps, and implementing interventions

TARGET

TAP Reports use data for action to identify facilities and units with the greatest burden of excess infections, targeting efforts to most efficiently reach prevention goals

PREVENT

TAP Implementation Guides contain actionable tools and resources that allow facilities to customize their interventions based on identified gaps

ASSESS

TAP Assessments systematically identify gaps in prevention and opportunities for improvement, while serving as real-time teaching moments among multidisciplinary staff
Gaining buy-in

Share the TAP Testimonials as examples of partner experiences

<table>
<thead>
<tr>
<th>Successes</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAP brings unit-based leaders at the hospital to the table...helping to collect Assessments so that we could identify gaps in prevention efforts.</td>
</tr>
<tr>
<td>– Louisiana Department of Health</td>
</tr>
<tr>
<td>TAP Facility Assessments allow frontline staff to become engaged in quality improvement efforts to alleviate infections in their facilities. The TAP Strategy is the best friend leadership and frontline staff have in reducing infections and enhancing staff education. It continues to be a “game changer” if widely employed!</td>
</tr>
<tr>
<td>– Health Services Advisory Group, Florida</td>
</tr>
<tr>
<td>The TAP Facility Assessment pinpointed housekeeping services as an opportunity for improvement. As a result, our team was able to bring housekeeping into our improvement processes and provide much needed education on their importance in preventing the spread of CDI.</td>
</tr>
<tr>
<td>– Chinal Comprehensive Health Care Facility, AZ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilities have verbalized that TAP allows teams to focus on where the issues are. It provides a complete model for assessing individual units or hospitals and provides evidence-based practices that have a direct impact on patient care. Nursing leadership can quickly identify educational opportunities by utilizing the TAP Facility Assessment Tool.</td>
</tr>
<tr>
<td>– Health Services Advisory Group, Florida</td>
</tr>
<tr>
<td>Utilizing the TAP Strategy, we were able to engage the largest health system in the state. We worked together to create a CDI testing strategy for several target locations that has since been adapted and implemented throughout the organization.</td>
</tr>
<tr>
<td>– Health Services Advisory Group, Ohio</td>
</tr>
<tr>
<td>Our facility saw a 60% reduction in the median number of CDI cases/month in 2018 compared with 2016-2017, culminating in reaching zero CDI cases for December 2018. This is the first time our facility has observed zero CDI cases in any month since tracking began.</td>
</tr>
<tr>
<td>– Chinal Comprehensive Health Care Facility, AZ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lessons Learned</th>
</tr>
</thead>
<tbody>
<tr>
<td>The greatest piece of advice is to make the TAP Strategy driven by the facilities themselves. While the TAP Strategy is a quality improvement program led by the HAI/AR Program, we brand all materials as coming from the facility itself. We also recommended that TAP unit-based leaders not be IPs. This further reinforced the need for shared infection control responsibilities.</td>
</tr>
<tr>
<td>– Louisiana Department of Health</td>
</tr>
<tr>
<td>A facility champion is a must; healthcare professionals that truly get TAP will be the biggest supporters. Utilize the value-based purchasing (VBP) SIR thresholds (SIR goal) when generating TAP Reports to engage senior leadership. TAP is perfect for providing an understandable metric (CAD) for senior leadership to appreciate the number of infections above or below the VBP threshold.</td>
</tr>
<tr>
<td>– Health Services Advisory Group, Florida</td>
</tr>
<tr>
<td>We would recommend targeting specific disciplines involved in processes that affect the transmission of CDI to complete the Assessment, then review the results together as a multidisciplinary team.</td>
</tr>
<tr>
<td>– Chinal Comprehensive Health Care Facility, AZ</td>
</tr>
</tbody>
</table>
Gaining buy-in

- Share NHSN TAP Report data with leadership
- The CAD translates a target SIR into a numeric HAI prevention goal, providing a concrete goal to drive action
- CAD = # of infections needed to prevent to reach SIRgoal
Gaining buy-in

Share Sample Feedback Report as example of end product after Assessment deployment

Describe technical assistance available from CDC and other prevention partners
# TAP Tools

<table>
<thead>
<tr>
<th>Tools</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target</strong></td>
<td></td>
</tr>
<tr>
<td>TAP Reports</td>
<td>NHSN Patient Safety Component</td>
</tr>
<tr>
<td>TAP Infographic &amp; TAP Testimonials</td>
<td>TAP Website</td>
</tr>
<tr>
<td><strong>Assess</strong></td>
<td></td>
</tr>
<tr>
<td>TAP Facility Assessments</td>
<td>TAP Website</td>
</tr>
<tr>
<td>TAP Excel Spreadsheets</td>
<td>Email: <a href="mailto:HAIPrevention@cdc.gov">HAIPrevention@cdc.gov</a></td>
</tr>
<tr>
<td>TAP Tools Guide</td>
<td>Email: <a href="mailto:HAIPrevention@cdc.gov">HAIPrevention@cdc.gov</a></td>
</tr>
<tr>
<td><strong>Prevent</strong></td>
<td></td>
</tr>
<tr>
<td>TAP Feedback Report</td>
<td>Component of TAP Excel Spreadsheets</td>
</tr>
<tr>
<td>TAP Implementation Guides</td>
<td>TAP Website</td>
</tr>
</tbody>
</table>

**TAP Website:** [www.cdc.gov/hai/prevent/tap.html](http://www.cdc.gov/hai/prevent/tap.html)
TAP Strategy Resources

- TAP FAQs: http://www.cdc.gov/hai/prevent/tap.html

- Journal article by Soe et al. published in *Infection Control & Hospital Epidemiology* describing the cumulative attributable difference (CAD) metric.
  
Additional Resources

- Help with the TAP Strategy: email HAIPrevention@cdc.gov
- Help with TAP Reports: email NHSN@cdc.gov
Thank You!

For more information, contact CDC
1-800-CDC-INFO (232-4636)

NHSN@cdc.gov
HAIPrevention@cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.