
NHSN Analysis: Targeted Assessment for Prevention (TAP) reports

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Agenda

- Overview: NHSN analysis
  - Key terms
  - Types of available data
  - Creating output/reports
- Reminders of analysis options
- HAI program analyses
- TAP reports
- Quick reference guides
- Discussion: NHSN analysis
Why analyze your data?

- Internal data validation
- Confirm HAI program reports
  - Annual data reconciliation
  - Quarterly reports
- Internal progress reports
  - Internal use at your facility
  - Communicate with leadership, community, other stakeholders
- Visualize data
- Use it for response and prevention!
Key terms

Generate Datasets: A function on the Navigation Bar allowing a user to create analysis datasets according to the user’s rights

Output Options: A function on the Navigation Bar that displays the Analysis Output Options menu

Analysis Dataset: A set of data of a particular type (e.g., CLABSI events) created for a user so that output (reports) may be produced

Tree view: A hierarchical view of a list of items or options that can be collapsed or expanded
Key terms

**Output Type:** The general type of output generated using a particular output option (e.g., line listing). Available output types will vary by the measure being analyzed.

**Output Option:** A specific option in the Analysis Output Option menu that can be executed (e.g., Line Listing – Central Line-associated BSI Events).

**CDC Defined Output:** A “canned” report created by CDC to help users generate output of a particular type.

**Design Parameters:** A list of selection items that allows a user to customize output.

**Custom Output:** Customized report created by a user when design parameters have been altered and saved.
Click on analysis to begin
Types of available data

- Data that has been entered by the users at your facility and
- That you have rights to access

In most cases, users may access and analyze all data entered for a particular component at a facility
  - However, rights can be restricted
Select this function to generate data.
Each folder section of the Treeview can be expanded by clicking on either the folder icon or name.

Each branch of the Treeview displays a list of pre-defined output options contained within a folder called CDC Defined Output.
The Modify button allows the user to change the design of each output option.
This page displays a list of parameters that can be modified to customize output.
Tip: Change name and title if you want to save output for later use

YM is year month
YH is half year
YQ is year quarter
Y is full year
### Date Variable

<table>
<thead>
<tr>
<th>Date Variable</th>
<th>Beginning</th>
<th>Ending</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Enter Date variable/Time period at the time you click the Run button

### Specify Other Selection Criteria:

- **Show Criteria**
- **Column +**
- **Row +**
- **Clear Criteria**

### Other Options:

- **Print Variable Reference List**
- **Modify Variables To Display By Clicking:** Modify List
- **Specify Sort Variables By Clicking:** Modify List
- **Select Page by variable:**

- **Run**
- **Save As**
- **Reset**
- **Back**
- **Export Output Data Set**

You can run, save, or export the output.
Each user-modified output option design can be saved for later execution and is saved a Custom Output folder in the same branch of the Treeview.
Creating output/reports: Tips & hints

- Review the NHSN analysis training modules
- Use the back button in the application, not the back button in the web browser
- Don’t give up while generating data sets – this can take a long time
- Not all options fit every need. You can learn by experimenting with the various options
HAI Program analyses

Facilities can generate reports identical to the HAI Program quarterly/annual reports by using the same analysis options

- NHSN data
- SSI (CABG/CBGB, COLO, KPRO, HYST)
- CAUTI
- CLABSI
- CLIP
HAI Program analyses

Types of analysis

- **Line listing**: Track what was reported or entered into NHSN. Get details on particular infections or procedures.
- **Standardized infection ratio (SIR)**: Summary measure used to track HAIs at the national, state, or local level over time and adjusts for varying risk factors (patient and facility).
- **Data quality line listing**: Used to check data quality such as duplicate procedures, procedures with 0 duration, duplicate SSI events, SSIs on procedure date, extremely high SSI incidence or events.
- **Rates Table**: Can be helpful for Device-related HAIs, SSIs, when there are very few events or procedures reported. Easy for others to understand. Just use with caution because there is limited risk adjustment.
NHSN output options: SIR

- Procedure count
- Infection count
- Number expected based on national data
- SIR
- P-value (assess stat significant)
- Confidence interval (assess stat significant)
Targeted Assessment for Prevention (TAP) Reports

The TAP strategy will allow for the ranking of facilities (or locations) in order to identify and target those areas with the greatest need for improvement.

Under output options, referred to as “Tap Reports,” will be available for facilities and groups and will be generated for CLABSI, CAUTI, CDI.
Targeted Assessment for Prevention (TAP) Reports

The reports rank facilities (or locations) by the cumulative attributable difference (CAD)

- CAD is the number of infections that must be prevented to achieve a HAI reduction goal.
  - Calculated by subtracting a numerical prevention target from an observed number of HAIs
  - Example: CAD = HHS action goal (0.75) - observed CAUTI
    - facility A (2) = -1.25

- The CAD can help to prioritize the facilities (or locations) where the greatest prevention impact could be achieved.
Targeted Assessment for Prevention (TAP) Reports

Why?

“CDC strives to move toward the goal of HAI elimination by using data to target prevention efforts and measure progress. The CDC TAP strategy uses the CAD metric to identify healthcare facilities, or locations within facilities, with a disproportionate burden of HAIs above the Department of Health and Human Services (HHS) prevention targets so that limited prevention resources can be used most effectively. This strategy can be tailored to specific HAI reduction goals and healthcare settings. The CAD is based upon and complimentary to CDC’s main HAI metric, the Standardized Infection Ratio (SIR). The CAD will not replace the SIR; the SIR will remain CDC’s main measure of progress toward the elimination of HAIs. Instead, the CAD will be used in conjunction with the SIR, specifically serving as the metric for the TAP strategy that is intended to accelerate prevention to meet goals on the way toward elimination.”
## National Healthcare Safety Network

### TAP Report - CAUTI Data for Acute Care Hospitals

**Locations Ranked by CAD Within a Facility**

*As of January 12, 2015 at 1:46 PM*

*Data Range: CAU_TAP summaryYr 2013 to 2013*

<table>
<thead>
<tr>
<th>FACILITY</th>
<th>LOCATION</th>
<th>CDC Location</th>
<th>Events</th>
<th>Urinary Catheter Days</th>
<th>DUR %</th>
<th>CAD</th>
<th>SIR</th>
<th>SIR Test</th>
<th>No. Pathogens (EC,YS,PA,KS,PM,ES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10018 DHQ MEMORIAL HOSPITAL</td>
<td>ICU</td>
<td>IN:ACUTE:CC:MS</td>
<td>5</td>
<td>400</td>
<td>32</td>
<td>4.31</td>
<td>.</td>
<td>5 (2, 1, 1, 0, 0, 1)</td>
<td></td>
</tr>
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<td></td>
</tr>
</tbody>
</table>

**Notes:**

- If location-level CADs are the same in a given facility, their ranks are tied.
- \( (EC,YS,PA,KS,PM,ES) = \) No. of E. Coli, Yeast (both candida and non-candida species), P. aeruginosa, K. pneumoniae/K. oxytoca, Proteus Mirabilis, Enterococcus species
- SIR is set to 1 when expected number of events is <1.0.
- LOCATION CAD = (OBSERVED_LOCATION - EXPECTED_LOCATION * 0.77)
Can choose HHS goal, national goal, or custom value
TAP for group users

### National Healthcare Safety Network
**TAP Report - CAUTI Data for Acute Care Hospitals**
#### Totals for all Facilities in Group
**Cumulative Attributable Difference (CAD) Multiplier: HHS Goal = 0.75**

<table>
<thead>
<tr>
<th>FacCount</th>
<th>NumBeds</th>
<th>NumLoc</th>
<th>NumEvent</th>
<th>GrpDAYS</th>
<th>GrpDUR</th>
<th>GrpCADLocType</th>
<th>GrpSIR</th>
<th>SIRTest</th>
<th>NumPathUTICU</th>
<th>NumPathUTIWARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>2,683</td>
<td>20</td>
<td>(20, 0)</td>
<td>32</td>
<td>(32, 0)</td>
<td>-13</td>
<td>0.5</td>
<td></td>
<td>35</td>
<td>(14, 0, 0, 0, 1, 0)</td>
</tr>
</tbody>
</table>

Data value will be “.” if there is no location reporting. SIR set to “.” when expected number of events < 1.0. DUR not calculated if device days or patient days are missing at facility level.

### National Healthcare Safety Network
**TAP Report - CAUTI Data for Acute Care Hospitals**
#### Locations Ranked by CAD Within a Facility
**Cumulative Attributable Difference (CAD) Multiplier: HHS Goal = 0.75**

<table>
<thead>
<tr>
<th>FacRank</th>
<th>OrgID</th>
<th>Name</th>
<th>State</th>
<th>MedType</th>
<th>NumBeds</th>
<th>NumLoc</th>
<th>NumEvent</th>
<th>GrpDAYS</th>
<th>GrpDUR</th>
<th>GrpCADLocType</th>
<th>GrpSIR</th>
<th>SIRTest</th>
<th>NumPathUTICU</th>
<th>NumPathUTIWARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NH</td>
<td></td>
<td>NH</td>
<td>1 (1, 0)</td>
<td>5 (5, 0)</td>
<td>3776</td>
<td>70 (70, .)</td>
<td>1.8</td>
<td>1.1</td>
<td>1.7</td>
<td>0.7</td>
<td>0.4</td>
<td>5 (8, 0, 0, 1, 0)</td>
<td>0 (0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>2</td>
<td>NH</td>
<td></td>
<td>NH</td>
<td>1 (1, 0)</td>
<td>2 (2, 0)</td>
<td>898</td>
<td>58 (58, .)</td>
<td>1.1</td>
<td>1.1</td>
<td>1.7</td>
<td>0.7</td>
<td>0.4</td>
<td>2 (2, 0, 0, 0, 0)</td>
<td>0 (0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>3</td>
<td>NH</td>
<td></td>
<td>NH</td>
<td>1 (1, 0)</td>
<td>1 (1, 0)</td>
<td>216</td>
<td>44 (44, .)</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
<td>0.4</td>
<td>2 (2, 0, 0, 0, 0)</td>
<td>0 (0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>4</td>
<td>NH</td>
<td></td>
<td>NH</td>
<td>1 (1, 0)</td>
<td>2 (2, 0)</td>
<td>1819</td>
<td>72 (72, .)</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>3 (3, 0, 0, 0)</td>
<td>0 (0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>5</td>
<td>NH</td>
<td></td>
<td>NH</td>
<td>1 (1, 0)</td>
<td>0 (0, 0)</td>
<td>27</td>
<td>27 (27, .)</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0 (0, 0, 0, 0)</td>
<td>0 (0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>6</td>
<td>NH</td>
<td></td>
<td>NH</td>
<td>1 (1, 0)</td>
<td>0 (0, 0)</td>
<td>85 (85, .)</td>
<td>47 (47, .)</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0 (0, 0, 0, 0)</td>
<td>0 (0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>7</td>
<td>NH</td>
<td></td>
<td>NH</td>
<td>0 (0, 0)</td>
<td>0 (0, 0)</td>
<td>97 (97, .)</td>
<td>97 (97, .)</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0 (0, 0, 0, 0)</td>
<td>0 (0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>8</td>
<td>NH</td>
<td></td>
<td>NH</td>
<td>0 (0, 0)</td>
<td>0 (0, 0)</td>
<td>27 (27, .)</td>
<td>27 (27, .)</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0 (0, 0, 0, 0)</td>
<td>0 (0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>9</td>
<td>NH</td>
<td></td>
<td>NH</td>
<td>0 (0, 0)</td>
<td>0 (0, 0)</td>
<td>27 (27, .)</td>
<td>27 (27, .)</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0 (0, 0, 0, 0)</td>
<td>0 (0, 0, 0, 0, 0)</td>
</tr>
<tr>
<td>10</td>
<td>NH</td>
<td></td>
<td>NH</td>
<td>0 (0, 0)</td>
<td>0 (0, 0)</td>
<td>27 (27, .)</td>
<td>27 (27, .)</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0 (0, 0, 0, 0)</td>
<td>0 (0, 0, 0, 0, 0)</td>
</tr>
</tbody>
</table>
TAP for facility users

National Healthcare Safety Network
TAP Report - CLABSI Data for Acute Care Hospitals
Facilities within the Group ranked by CAD
Cumulative Attributable Difference (CAD) Multiplier: HHS Goal = 0.5
As of: March 4, 2019 at 4:03 PM
Data Range: CLAB_TAP summaryYr 2015 to 2019

<table>
<thead>
<tr>
<th>FACILITY</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACID</td>
<td>LOCATION</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Data contained in this report were last generated on February 22, 2019 at 1:03 PM.

Rank
Location CAD
TAP reference guide

TAP Reports for the FACILITY User

Description
In 2015, new reports – referred to as “TAP Reports” - were implemented in NHSN in alignment with CDC’s Targeted Assessment for Prevention (TAP) strategy. The TAP strategy allows for the ranking of facilities (or locations) in order to identify and target those areas with the greatest need for improvement.

TAP Reports can be generated within NHSN for CLABS, CAUTI, and CDI LabID data. The reports will rank facilities (or locations) by the cumulative attributable difference (CAD), which is the number of infections that must be prevented to achieve a HAI reduction goal. The CAD can help to prioritize the facilities (or locations) where the greatest prevention impact could be achieved. Ranking occurs for overall Hospital CAD (highest to lowest) and by location within the hospital.

This quick reference guide will describe how to run and interpret the TAP report, as generated by an individual facility within NHSN. For more information about the TAP strategy, please visit:
http://www.cdc.gov/hai/prevent/tap.html

Generate a TAP Report
1. On the output options screen, expand the “TAP Reports” folder. The TAP Reports are organized by facility type. Expand the folder for your facility type to see the TAP Report options available:
Patient safety analysis quick reference guides

Quick reference guides developed to help NHSN users understand, modify, and interpret data

Companions to the “Introduction to NHSN Analysis” training slide set

Including

- General tips
- Troubleshooting guides
- Frequently requested output/reports
- Output/report option types
- Tips for customizing your output/reports
- Detailed guides for specific analysis options
General Tips

• General Tips for NHSN Analysis [PDF - 112 KB]

Troubleshooting Guides

• Troubleshooting CLABSI and CAUTI SIR [PDF - 139 KB]
• Troubleshooting Surgical Site Infection SIR [PDF - 128 KB]
• Troubleshooting MRSA and CDI LabID Event SIR [PDF - 176 KB]

Frequently Requested Output/Reports

• How to obtain rates/standardized infection ratios (SIRs) for a fiscal year or cumulative time period [PDF - 126 KB]
• How to obtain a line list of procedures [PDF - 126 KB]
• How to obtain an event line list that includes pathogen information [PDF - 151 KB]
• How to obtain a line list of summary data [PDF - 262 KB]
Output/Report Option Types

Each of these guides will describe and provide an example of how to create, modify, and interpret the data displayed in the output/report.

- Line List [PDF - 192 KB]
- Line List - Custom Field Variable Names [PDF - 192 KB]
- Frequency Table [PDF - 331 KB]
- Bar Chart [PDF - 160 KB]
- Pie Chart [PDF - 162 KB]
- Rate Table [PDF - 301 KB]
- Run Chart [PDF - 183 KB]
- SIR Table: Device-associated [PDF - 184 KB]
- SIR Table: Surgical Site Infections [PDF - 170 KB]
- SIR Table: MRSA/CDI LabID Events [PDF - 210 KB]
Detailed Guides for Specific Analysis Options

- Analyzing Procedure Closure Technique [PDF - 121 KB] March 2014
- Analyzing MBI-LCBI CLABSI Data [PDF - 109 KB]
- Using the “SIR – CLAB Data for CMS IPPS” Output Option [PDF - 418 KB]
- Using the “SIR – CAUTI Data for CMS IPPS” Output Option [PDF - 380 KB]
- Using the “SIR – Complex 30-Day SSI Data for CMS IPPS” Output Option [PDF - 398 KB]
- Using the “SIR - MRSA Blood FacwideIn LabID Data for CMS IPPS” Output Option [PDF - 150 KB] April 2013
- Using the “SIR - FacWideIn CDI LabID Data for CMS IPPS” Output Option [PDF - 164 KB] April 2013
- NHSN Newsletter: Your Guide to the Standardized Infection Ratio [PDF - 419 KB]
- Guide to the Patient Safety Data Quality Output Options [PDF - 375 KB]
TAP Resources

- TAP ‘How To’ Guide for Individual Facility User [PDF - 1.41 MB]
- TAP ‘How To’ Guide for Group User [PDF - 1.35 MB]
- TAP CAUTI Toolkit Implementation Guide: Links to Example Resources
- Example Letter [DOC - 172 KB]
  - From a State Health Department to a Healthcare Facility with positive Cumulative Attributable Difference (CAD) for one of three targeted healthcare-associated infections, encouraging participation in state and regional prevention collaboratives.
- Targeted Assessment for Prevention of Healthcare-Associated Infections: A New Prioritization Metric

NHSN TAP Technical Documents and Training Resources

- TAP Strategy Reports
- TAP Glossary of Terms March 2015 [PDF - 127 KB]
- TAP Training – NHSN Data Entry and Analysis

Partners for Prevention

- State HAI coordinators
- CMS Quality Innovation Network (QIN-QIO)
  - HSAG Uses CDC’s TAP Strategy to Reduce Harmful HAIs
  - A Patient Safety Q & A with Anita Thomas
- American Hospital Association (AHA)
Group discussion

- What features do you use in NHSN?
- Have you used the TAP strategy and what do you do with the data?
  - Examples of prevention strategies informed by TAP reports?
- What analysis feature do you find most helpful?
Resources

NHSN expertise in the state:
- NH HAI program
- NHCQF
- Foundation for Healthy Communities
- Other ICPs

NHSN at CDC
- Email: nhsn@cdc.gov
- Updates: http://www.cdc.gov/nhsn/Training/analysis/index.html
For More Information:
Katrina Hansen, MPH
HAI Program Manager
(603) 271-8325
Katrina.hansen@dhhs.state.nh.us