

# NHSN Group TAP Reports – CAUTI

December 2023

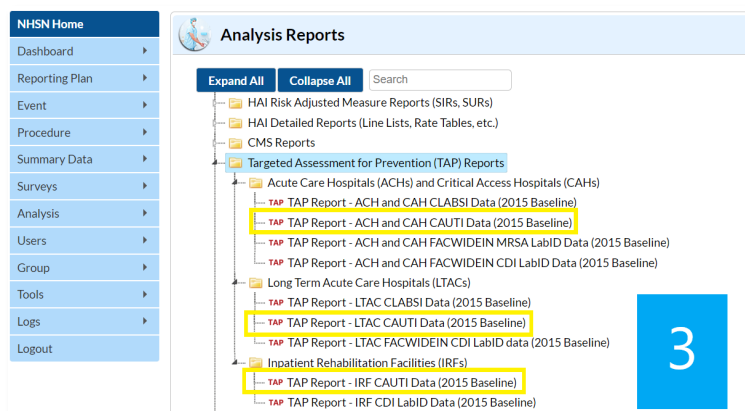
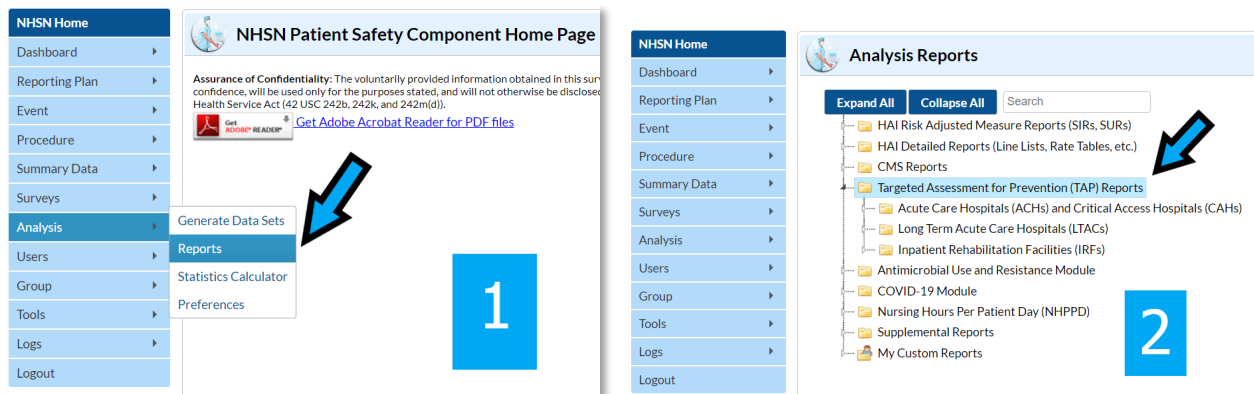
## Description

CDC’s Targeted Assessment for Prevention (TAP) strategy allows for the ranking of facilities and/or locations to identify and target those areas with the greatest need for improvement using a metric known as the Cumulative Attributable Difference (CAD). This is the number of infections that must be prevented to achieve a HAI reduction goal. TAP Reports can be generated within NHSN for CLABSI, CAUTI, and CDI LabID data. The ranking is established using the overall Hospital CAD (highest to lowest) and location CAD for locations within the facility. TAP Reports can help to prioritize the facilities (or locations) where the greatest prevention impact could be achieved.

This quick reference guide will describe how a group can generate a TAP report for CAUTI data within NHSN. It will also explain how to interpret the TAP report output for group users. For more information about the TAP Strategy, please visit: <http://www.cdc.gov/hai/prevent/tap.html>.

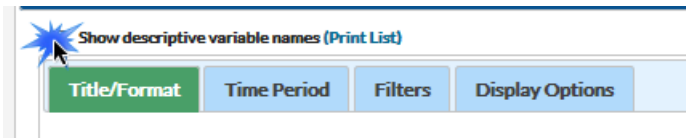
## Generate a CAUTI TAP Report

1. Select Analysis on the NHSN home screen. Then select “Reports” (formerly known as Output Options) from the dropdown menu that opens. Expand the “TAP Reports” folder. The TAP reports are organized by facility type. Expand the folder for the facility type relevant to your analysis to see the available TAP Report options.



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National Center for Emerging and Zoonotic Infectious Diseases

2. Choose to either Run or Modify an Acute Care Hospitals and Critical Access Hospitals (ACH and CAH), Long Term Acute Care Hospitals (LTACs), or Inpatient Rehabilitation Facilities (IRFs) CAUTI TAP Report. Please note: the ACH and CAH TAP Report contains both Acute Care and Critical Access Hospital data and will exclude IRF-unit data.
  - a. Click Run to create a TAP Report that is inclusive of all data reported to NHSN and available in the analysis datasets (e.g., all CAUTI data from 2015 to present).
  - b. Click Modify to customize the TAP Report.
    - i. It is recommended that users check the box above Title/Format titled “Show descriptive variable names”. Not only will this show more descriptive variable names while modifying a TAP report, it will also create more descriptive column headers in the tables created.



- ii. Use the Title/Format tab to change the name of the Report generated or to change the format (HTML, PDF, CSV, and RTF). TIP: If the format is changed to PDF or RTF, change the orientation of the report to Landscape in order to allow all columns to fit on a single page.
- iii. Use the Time Period tab to modify the date variable by months, quarters, half-years, or year (e.g., summaryYr 2015 to 2016).
- iv. Display Options. Choose the source value of the SIR goal. The SIR goal can be a custom/value or the user can use the HHS Goal or CAUTI National SIR. These are available in the source drop down menu. If a custom value is used, remember that the multiplier must be <1.

CLABSI and CAUTI TAP reports are generated using similar formats, but each uses a different HAI reduction goal in the calculation of the CAD. CLABSI also includes NICU Data in the CAD calculations whereas CAUTI does not.

## Example TAP Report Output – CAUTI

The following table is an example of a CAUTI TAP report generated by a Group with ten member hospitals for the calendar year 2016. The footnotes provided with each table define the data that appear in the derived columns. Please see page 4 for an example interpretation of the tables.

**National Healthcare Safety Network**  
**TAP Report for CAUTI Data for Acute Care and Critical Access Hospitals (2015 Baseline)**  
**Totals for all Facilities in Group**  
**SIR Goal: HHS Goal = 0.75**

Table 1 of the CAUTI Group TAP Report

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\_CAU\_TAP summaryYr2016 to 2016

Number of Facilities	Number of Beds	Location (LC)	Events (LC)	Device Days (LC)	DUR % (LC)	CAD (LC)	SIR (LC)	SIR Test	ICU No. Pathogens (EC,YS,PA,KS,PM,ES)	Ward+ No. Pathogens (EC,YS,PA,KS,PM,ES)
10	2,420	81 (15, 66)	60 (23, 37)	77290 (30029, 47261)	22 (64, 15)	1.5 (-1.1, 2.6)	0.8 (0.7, 0.8)		30 (9, 0, 4, 6, 4, 3)	48 (17, 0, 4, 6, 1, 10)

1. This report includes CAUTI data for 2015 and forward.
2. If location-level CADs are the same in a given facility, their ranks are tied.
3. (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
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



**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**

**Table 2 of the CAUTI  
Group TAP Report**

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\_CAU\_TAP summaryYr2016 to 2016

Facility Rank	Facility Org ID	Facility Name	State	Type of Affiliation	Number of Beds	Location (LC)	Events (LC)	Device Days (LC)	DUR % (LC)	CAD (LC)	SIR (LC)	SIR Test	ICU No. Pathogens (EC,YS,PA,KS,PM,ES)	Ward+ No. Pathogens (EC,YS,PA,KS,PM,ES)
1	10000	DHQP Memorial Hospital	GA		453	16 (4, 12)	22 (9, 13)	14716 (7420, 7296)	17 (74, 10)	10.8 (2.8, 8)	1.5 (1.1, 2)		10 (3, 0, 1, 3, 1, 1)	18 (7, 0, 0, 1, 0, 5)
2	10401	DHQP Memorial Annex	GA	G	150	9 (2, 7)	8 (3, 5)	9090 (3419, 5671)	25 (54, 19)	2.1 (0.7, 1.4)	1 (1, 1)		4 (1, 0, 0, 2, 0, 0)	8 (3, 0, 1, 3, 0, 0)
3	90001	Dudeck Regional Life Center	IL		150	8 (1, 7)	2 (0, 2)	3051 (385, 2666)	19 (16, 20)	0.4 (-0.2, 0.6)	0.9 (, 1.1)		0 (0, 0, 0, 0, 0, 0)	2 (0, 0, 0, 1, 0, 1)
4	10587	CDC Health Hospital	GA		117	7 (2, 5)	3 (1, 2)	4905 (2405, 2500)	25 (72, 16)	0.1 (-0.6, 0.7)	0.8 (0.5, 1.2)		1 (0, 0, 1, 0, 0, 0)	2 (1, 0, 0, 0, 0, 1)
5	10018	Weiner Center of Medicine	CA	M	354	9 (1, 8)	21 (8, 13)	22875 (7156, 15719)	42 (77, 35)	-0.5 (0.9, -1.4)	0.7 (0.8, 0.7)		13 (4, 0, 2, 1, 3, 1)	16 (5, 0, 3, 1, 1, 3)
6	10297	Arcelement Medical Center	LA	G	345	6 (1, 5)	2 (2, 0)	3834 (2417, 1417)	14 (57, 6)	-0.9 (0.1, -1)	0.5 (0.8, 0)		2 (1, 0, 0, 0, 0, 1)	0 (0, 0, 0, 0, 0, 0)
7	10064	Falcon Memorial Hospital	GA		278	7 (1, 6)	2 (0, 2)	4885 (1834, 3051)	15 (51, 11)	-1.3 (-1.3, -0.1)	0.4 (0, 0.7)		0 (0, 0, 0, 0, 0, 0)	2 (1, 0, 0, 0, 0, 0)
8	10957	All Saints Medical	LA	M	181	6 (1, 5)	0 (0, 0)	2916 (1314, 1602)	16 (67, 10)	-2.4 (-1.1, -1.3)	0 (0, 0)		0 (0, 0, 0, 0, 0, 0)	0 (0, 0, 0, 0, 0, 0)
9	10962	Louisiana Hospital of Texas	TX		278	9 (1, 8)	0 (0, 0)	5004 (1837, 3167)	10 (61, 7)	-3.2 (-1.3, -1.9)	0 (0, 0)		0 (0, 0, 0, 0, 0, 0)	0 (0, 0, 0, 0, 0, 0)
10	10946	Georgia Hospital of Louisiana	LA		114	4 (1, 3)	0 (0, 0)	6014 (1842, 4172)	31 (71, 24)	-3.4 (-1.1, -2.3)	0 (0, 0)		0 (0, 0, 0, 0, 0, 0)	0 (0, 0, 0, 0, 0, 0)

1. This report includes CAUTI data for 2015 and forward.
2. If location-level CADs are the same in a given facility, their ranks are tied.
3. (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
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

**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**

**Table 3 of the CAUTI  
Group TAP Report**

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\_CAU\_TAP summaryYr2016 to 2016

FACILITY				LOCATION										
Facility Rank	Facility Org ID	Facility Name	Facility CAD	Location Rank	Location	CDC Location	Events	Urinary Catheter Days	DUR %	CAD	SIR	SIR Test	No. Pathogens (EC,YS,PA,KS,PM,ES)	
1	10000	DHQP Memorial Hospital	10.78	1	STEP1	IN:ACUTE:STEP	4	453	8	3.51	.	.	6 (3, 0, 0, 0, 0, 1)	
				2	2W	IN:ACUTE:WARD:M	2	1054	12	1.5	.	.	2 (1, 0, 0, 0, 0, 0)	
				3	ICU	IN:ACUTE:CC:MS	2	830	8	1.43	.	.	2 (0, 0, 0, 0, 0, 1)	
				4	STEP2	IN:ACUTE:STEP	2	1008	12	1.38	.	.	3 (1, 0, 0, 0, 0, 2)	
				5	1E	IN:ACUTE:WARD:MS	3	950	68	1.24	1.3	3 (1, 0, 0, 2, 0, 0)		
				6	2E	IN:ACUTE:WARD:PP	2	1325	13	0.98	1.5	3 (2, 0, 0, 1, 0, 0)		
				7	1W	IN:ACUTE:WARD:M	3	3090	75	0.86	1.1	4 (1, 0, 0, 0, 1, 1)		
				8	TELE	IN:ACUTE:WARD:TEL	3	3380	75	0.66	1	3 (1, 0, 1, 1, 0, 0)		
				9	ICU2	IN:ACUTE:CC:MS	1	720	9	0.51	.	2 (0, 0, 0, 0, 0, 1)		
2	10401	DHQP Memorial Annex	2.1	1	ICU	IN:ACUTE:CC:MS	3	1409	17	2.05	2.4	5 (3, 0, 0, 1, 0, 0)		
				2	2 West	IN:ACUTE:WARD:TEL	2	1246	50	1.15	1.8	3 (1, 0, 0, 1, 0, 0)		
				3	6 West	IN:ACUTE:WARD:N	1	1230	18	0.17	0.9	1 (0, 0, 0, 1, 0, 0)		
				4	ICU4	IN:ACUTE:CC:MS	1	1597	23	0.03	0.8	2 (0, 0, 1, 1, 0, 0)		
				5	ICU3	IN:ACUTE:CC:M	0	82	19	-0.06	.			
				6	7 East	IN:ACUTE:WARD:S	1	2173	57	-0.48	0.5	1 (0, 0, 0, 1, 0, 0)		

1. This report includes CAUTI data for 2015 and forward.
2. If location-level CADs are the same in a given facility, their ranks are tied.
3. (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
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



## Interpretation

- The header above each table describes what information has been included in the table. The second line of the header is a descriptive title for the table. The title indicates which hospital types are included in the report and what baselines data sets are used for the analysis. The third line of the header describes how the data has been arranged (i.e., “Locations Ranked by CAD within a Facility”). The fourth line displays the value for the SIR goal. For the TAP report in this example, HHS Goal = 0.75 was used as the SIR goal. Lastly, the final line of the header helps users find out more about the CDC TAP Strategy. For more information about the TAP strategy, please visit: <https://www.cdc.gov/hai/prevent/tap.html>.
- The footnote for each table includes the rules for interpreting the data, meanings for abbreviation used in the table, pathogen names, and the date datasets were generated. For example, footnote #4 states, “the SIR is set to ‘.’ when predicted number of events is <1.0.” This would be helpful to know if an SIR value is not given in the table. Additionally, the formula for calculating the CAD can also be found in the footnotes.
- The **first table** in the group TAP Report output (see page 2) provides cumulative totals for all facilities in the group. The total number of facilities contributing to the cumulative results in each subsequent column in the table can be found in the very first column labelled, “Number of facilities”. The column labelled “Location” gives the total location count and breaks down the locations contributing to the CAD into location categories. Location Category, abbreviated as (LC), gives a breakdown of the different types of locations contributing to the total in the following order: ICU, Ward+ (i.e., non-ICU). For example, if “Location (LC)” equals “81 (15, 66)”, then the group has 81 total locations; 15 ICUs and 66 wards (CLABSI also includes NICU Data in CAD calculations, CAUTI does not). The Events, Device Days, Device Utilization Ratio percentage, CAD and SIR columns follow this pattern. Cumulative totals for the facilities in the group are followed by a location category breakdown within parenthesis (LC).
- The **second table** in the group TAP Report output (see page 3), Facilities within the Group Ranked by CAD, provides a list of facilities ranked by facility CAD in descending order. The first column in the facility-level table provides a rank by facility CAD; a Facility Rank of 1 indicates that the facility had the highest CAD among all hospitals in the group.
  - Facility specific information follows the facility ranking: Facility Org ID, Facility Name, state where the facility is located, medical school affiliation (M – Major, G – Graduate, U - Undergraduate).
  - Location, Events and Device Day totals are presented in the next 3 columns as a cumulative total for each facility. Once again, the total is broken down by location category.
  - The device utilization ratio (DUR) is presented as a percent; that is, the percentage of patient days that are also device days. In this example, the DUR % represents the percentage of patient days that are catheter urinary days.
  - For DHQP Memorial Hospital, the facility CAD was 10.8, indicating that at least 11 infections would need to be prevented in order to meet the HAI reduction goal that was set (SIR goal = 0.75).
    - The overall SIR for this facility was 1.5. The absence of SIG in the “SIR Test” column indicates that the SIR is NOT significantly greater than the SIR Goal.

- “ICU No. Pathogens” indicates that of the 10 CAUTI events reported in the ICU, 9 events were caused by common CAUTI pathogens. In this example, 3 events were caused by *E. coli* and *Enterococcus sp.*, and 1 each by *Pseudomonas aeruginosa*, *Klebsiella sp.*, and *Proteus mirabilis*.
- The third table in the group TAP report output (see page 3), Locations Ranked by CAD within a Facility, ranks facilities by facility CAD. Then within each facility, the facility’s locations are ranked by location CAD. This table is very similar to what a facility would obtain from NHSN when creating a facility level TAP report except a facility level TAP report would only contain one facility and no facility ranking. Reviewing and interpreting the TAP report at the location level allows the user to target prevention efforts within specific locations or location types. For example:
  - ICU is ranked as the #1 location within DHQP Memorial Annex (see Location Rank) – meaning, this location has the highest number of “excess” infections amongst all other locations for which CAUTI data was reported from this facility during 2016.
  - There were 3 CAUTIs (Events) identified in the ICU location, in 1,409 urinary catheter days.
  - The CAD in the ICU was 2.05 and the SIR was 2.4.
  - The device utilization ratio (DUR), as a percent, was 17% - that is, 17% of the patient days in this unit were also urinary catheter days.

## Addition Resources:

- The Five “W”s of the Targeted Assessment for Prevention (TAP) Strategy: <http://www.cdc.gov/hai/prevent/tap.html>
- Introduction to NHSN Analysis: <https://www.cdc.gov/nhsn/training/analysis/index.html>
- How to filter your data by time period: <http://www.cdc.gov/nhsn/PS-Analysis-resources/PDF/FilterTimePeriod.pdf>
- How to filter your data on additional criteria: <http://www.cdc.gov/nhsn/PS-Analysis-resources/PDF/SelectionCriteria.pdf>
- Analysis Quick Reference Guides: <http://www.cdc.gov/nhsn/PS-Analysis-resources/reference-guides.html>
- HHS Action Plan to Prevent Healthcare-associated Infections: <http://health.gov/hcq/prevent-hai.asp>
- HAI Progress Report: <https://www.cdc.gov/hai/data/portal/progress-report.html>

