

DRAFT

Welcome to *California*

NHSN Targeted Assessment for Prevention (TAP) Reports

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Acknowledgement

Information in this presentation is from the
NHSN training courses

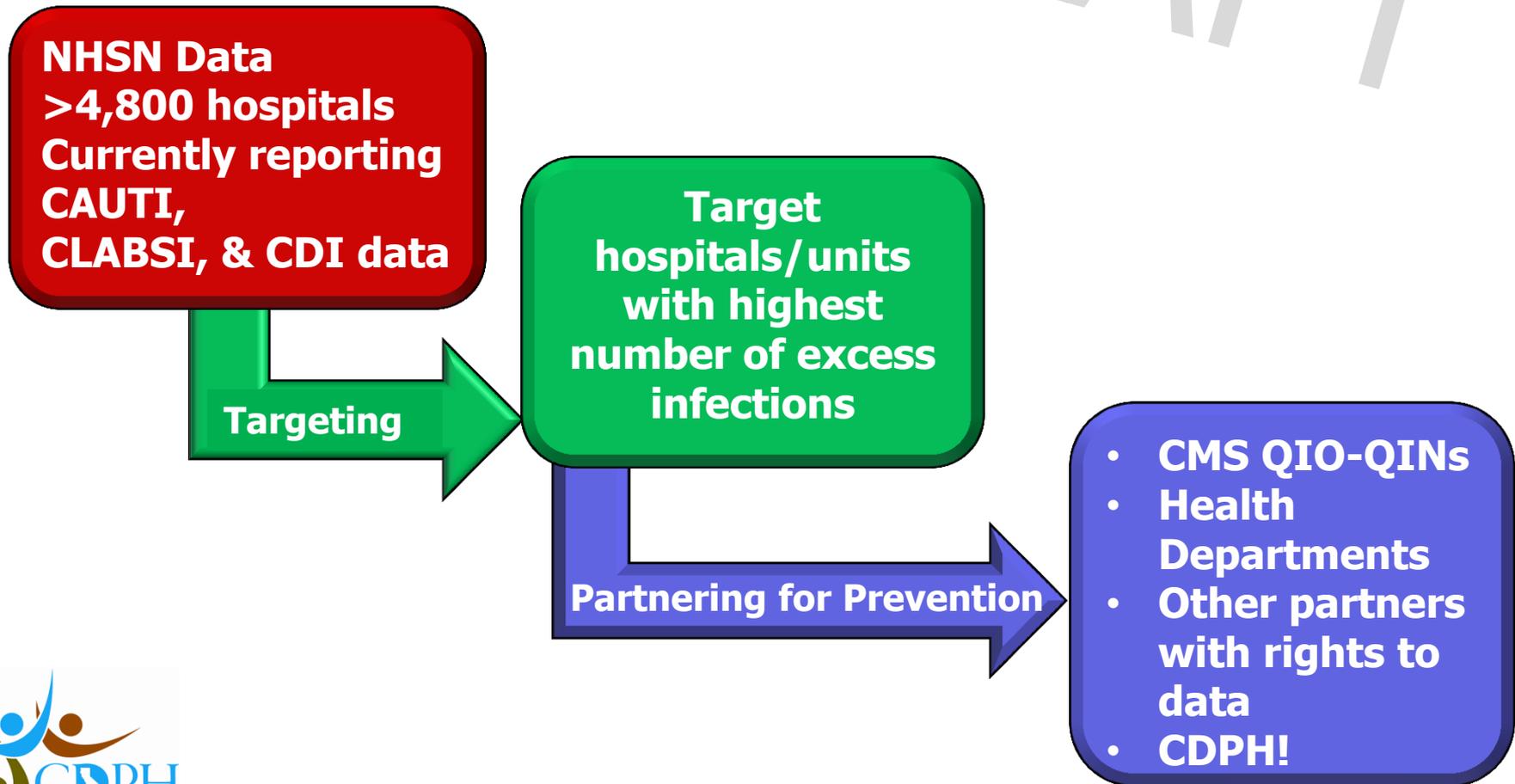
www.cdc.gov/nhsn

Objectives

- Describe Targeted Assessment for Prevention (TAP) strategy
- Review methods for calculating the cumulative attributable difference (CAD)
- Illustrate the TAP reports generated from NHSN
- Discuss methods to present data effectively

NHSN Data for Action

Targeted Assessment for Prevention (TAP)



TAP Strategy



- **Target** facilities (or units/wards in facilities) using the TAP Report function available in NSHN
- **Assess** gaps in infection prevention in targeted facilities/units using Facility Assessment Tools
- **Implement** interventions to address the gaps in infection prevention using Implementation guidance

Cumulative Attributable Difference (CAD) -1

- **CAD definition**
 - The number of infections that a facility (or location) would have needed to prevent to achieve an HAI reduction goal during a specified time period.
- 2013 Health and Human Services (HHS) standardized infection ratio targets
 - Used as a multiplier in the CAD formula
 - CAUTI: Reduce by 25% SRI goal = 0.75
 - CDI: Reduce by 30% SIR goal = 0.70
 - CLABSI: Reduce by 50% SIR goal = 0.50

Cumulative Attributable Difference (CAD) -2

- CAD is a measure to help target and prioritize prevention efforts to reach HAI reduction goals

$$\text{CAD} = \text{OBSERVED} - (\text{PREDICTED} * \text{SIR}_{\text{goal}})$$

- Target SIR can be chosen based on goals of a group, state, organization, or national target.
 - Lower target SIR larger excess number of infections
- CAD Interpretation:
 - Positive CAD= more infections than predicted
 - Negative CAD= fewer infections than predicted

Sample CAUTI TAP Report: Facility Level

- Facilities are ranked by CAD in descending order
- Data separated by ICU vs non ICU locations
- TAP report also includes data on device utilization and pathogens

Facility rankings				Device utilization data				Event data		Pathogen data
FACILITY RANK	ORGID	STATE	BEDS	NO.LOCATION (ICU, NON-ICU)	CAUTIS (ICU, NON-ICU)	DEVICE DAYS (ICU, NON-ICU)	DU% (ICU, NON-ICU)	CAD (ICU, NON-ICU)	SIR (ICU, NON-ICU)	ICU: TOTAL NO. PATHOGENS (% EC, YS, PA, KPO, FS, PM, ES)
1	001	AA	325	6(4,2)	42(34,8)	6861(5364,1497)	26(56,9)	22.9(17.8,5.2)	2.2(2.1,2.8)	37 (24, 14, 16, 8, 11, 0, 0)
2	002	AA	586	3(2,1)	73(70,3)	14292(13898,394)	48(70,4)	21.6(20.1,1.5)	1.4(1.4,2)	78 (27, 17, 10, 17, 12, 1, 0)
3	003	AA	471	3(2,1)	28(26,2)	6255(5880,375)	51(72,9)	15.6(15.1,0.6)	2.3(2.4,1.4)	28 (21, 36, 7, 7, 7, 0, 0)
4	004	AA	340	1(1,0)	36(36,,)	6760(6760,,)	84(84,,)	13(13,,)	1.6(1.6,,)	36 (36, 36, 8, 6, 0, 0, 0)
5	005	AA	646	4(4,0)	45(45,,)	11569(11569,,)	71(71,,)	12.2(12.2,,)	1.4(1.4,,)	45 (22, 31, 4, 9, 2, 2, 16)

ICU vs. non-ICU location data separated

Sample CAUTI TAP Report: Unit Level

FACILITY		LOCATION								
FACILITY RANK	ORGID	LOCATION RANK*	LOCATION	CDC LOCATION TYPE	EVENT	DEVICE DAYS	DU	CAD	SIR	TOTAL NO. PATHOGENS (%EC,YS,PA,KPO,FS,PM,ES)
1	001	1	1073	IN:ACUTE:CC:B	14	1783	48%	6.2	1.78	16 (31, 6, 25, 13, 0, 0, 0)
		1	11001	IN:ACUTE:CC:S	10	1443	64%	6.2	2.66	10 (30, 10, 0, 10, 10, 0, 0)
		3	1004	IN:ACUTE:CC:M_PED	4	197	18%	3.8	.	5 (20, 0, 20, 0, 40, 0, 0)
		4	10011	IN:ACUTE:STEP	5	964	13%	3.2	2.72	5 (20, 80, 0, 0, 0, 0, 0)
		5	1012	IN:ACUTE:WARD:M	3	533	6%	2	2.96	4 (50, 0, 25, 0, 0, 0, 0)
		6	1002	IN:ACUTE:CC:M	6	1941	78%	1.5	1.34	6 (0, 50, 17, 0, 17, 0, 0)
2	002	1	POD	IN:ACUTE:CC:MS	24	5358	80%	11.7	1.94	26 (19, 31, 12, 12, 4, 4, 0)
		2	NSTU	IN:ACUTE:CC:NS	46	8540	65%	8.4	1.22	52 (31, 10, 10, 19, 15, 0, 0)
		3	N- REHA	IN:ACUTE:WARD:REHAB	3	394	4%	1.5	2.00	3 (0, 0, 33, 67, 0, 0, 0)
3	003	1	ICU	IN:ACUTE:CC:MS	19	4666	74%	13.4	3.39	21 (19, 48, 0, 10, 5, 0, 0)
		2	NCCU	IN:ACUTE:CC:NS	7	1214	64%	1.7	1.31	7 (29, 0, 29, 0, 14, 0, 0)
		3	REHAB	IN:ACUTE:WARD:REHAB	2	375	9%	0.6	1.40	2 (0, 0, 0, 50, 0, 50, 0)
4	004	1	ICU OSB	IN:ACUTE:CC:T	36	6760	84%	13	1.56	36 (36, 36, 8, 6, 0, 0, 0)
5	005	1	1A	IN:ACUTE:CC:MS	19	4729	75%	8.1	1.74	19 (21, 47, 0, 0, 0, 0, 11)
		2	2AB	IN:ACUTE:CC:T	12	1706	69%	6.2	2.06	12 (33, 17, 8, 8, 0, 0, 17)
		3	2CD	IN:ACUTE:CC:CT	4	2410	71%	-0.1	0.97	4 (0, 75, 0, 0, 25, 0, 0)
		4	1BD	IN:ACUTE:CC:NS	10	2724	65%	-2	0.83	10 (20, 0, 10, 30, 0, 10, 30)

Running TAP Reports in NHSN

- TAP reports bring together data elements from other reports within NHSN
 - Annual Survey
 - Rate Tables
 - SIRs
 - Event-level Information (CLABSI and CAUTI only)
- TAP reports only include data for which there is a corresponding denominator reported

Targeted Assessment for Prevention (TAP)

- TAP allows for the ranking of facilities – or locations.
- Uses the cumulative attributable difference (CAD).
- The CAD helps the facility prioritize the locations where the greatest prevention impact could be achieved.
- Ranking is from overall highest to lowest by location within the hospital.

Currently Available TAP Reports

Facility Type	CLABSI	CAUTI	CDI Lab ID
Acute Care Hospital	✓	✓	✓
Long Term Acute Care Hospital	✓	✓	
Inpatient Rehabilitation Facility		✓	

- TAP reports are available for facility and Group users
- Group users can run TAP reports, dependent on the rights accepted by member facilities

Currently Available TAP reports

Antimicrobial Use and Resistance Module

CMS Reports

→ TAP Reports

Acute Care Hospitals (ACHs)

CDC Defined Output

TAP Report - CLAB Data for ACHs

Run Modify

TAP Report - CAU Data for ACHs

Run Modify

TAP Report - FACWIDEIN CDI LabID data for ACHs

Run Modify

Inpatient Rehabilitation Facilities (IRFs)

CDC Defined Output

TAP Report - CAU data for IRFs

Run Modify

Long Term Acute Care Hospitals (LTACHs)

CDC Defined Output

TAP Report - CLAB Data for LTACHs

Run Modify

TAP Report - CAU Data for LTACHs

Run Modify

Running TAP Reports -1

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- Default output format is HTML
- If another format (e.g., RTF) is selected, change the orientation to "Landscape"
- RECOMMENDATION: Use of variable labels will provide more descriptive column headers

Select output format:

Output Format:

HTML



Use Variable Labels

Running TAP Reports - 2

- TAP Reports will be generated for a single, cumulative time period
- Click “Run” to obtain a cumulative TAP report that would be inclusive of all data reported in the generated datasets (e.g., January 2012 to present)
- Click “Modify” to limit the TAP report to a specific time period

Select a time period or Leave Blank for Cumulative Time Period: [HELP](#)

Date Variable

summaryYr 

Beginning

2014

Ending

2014

Clear Time Period

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

Example of TAP report for CAUTI -1

- For CLABSI and CAUTI, Group users will see two tables – the first table (shown here) will include one row, per facility.
- The data will be ranked by Facility CAD

Facility Rank	Facility Org ID	Facility Name	State	Type of Affiliation	Number of Beds	Location (I, N, W)	Events (I, N, W)	Device Days (I, N, W)	DUR % (I, N, W)	CAD (I, N, W)	SIR (I, N, W)	SIR Test	ICU No. Pathogens (EC,YS,PA,KS,PM,ES)	Ward+ No. Pathogens (EC,YS,PA,KS,PM,ES)
1	15331	Decennial Medical Center	GA	U	.	1 (1, 0)	2 (2, 0)	576 (576, 0)	50 (50, .)	1.1 (1.1, 0)	1.7 (1.7, .)		2 (1, 0, 0, 0, 0, 0)	0 (0, 0, 0, 0, 0, 0)
2	10000	DHQP Memorial Hospital	GA		.	3 (1, 2)	1 (0, 1)	1119 (434, 685)	11 (5, 48)	-1.4 (-1.4, 0)	0.3 (0, 0.8)		0 (0, 0, 0, 0, 0, 0)	1 (0, 0, 0, 0, 0, 0)

Example TAP Report – CAUTI -2

- The second table will be displayed for both facility and group users and will rank locations within the facility
- NOTE: Facility users will not see a facility rank, since the data in this table are limited to one facility

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	15331	Decennial Medical Center	1.14	1	ICU/CCU	IN:ACUTE:CC:C	2	576	50	1.14	1.74		2 (1, 0, 0, 0, 0, 0)
2	10000	DHQP Memorial Hospital	-1.40	1	INMEDWARD	IN:ACUTE:WARD:M	1	674	47	0.04	0.78		1 (0, 0, 0, 0, 0, 0)
				2	11	IN:ACUTE:WARD:BHV	0	11	100	-0.01	.		
				3	MD ICU	IN:ACUTE:CC:B	0	434	5	-1.43	0.00		

Example: CLABSI TAP Report

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Facility user view

FACILITY			LOCATION										
Facility Org ID	Facility Name	Facility CAD	Location Rank	Location	CDC Location	Events	Central Line Days	DUR %	CAD	SIR	SIR Test	No. Pathogens (CNS,YS,SA,ES,KS,EC)	
15633	California General Hospital	5.82	1	1 MICU	IN:ACUTE:CC:M	4	823	91	3.22	2.56	.	4 (0, 0, 0, 1, 0, 0)	
			2	1 SICU	IN:ACUTE:CC:S	2	370	77	1.57	.	.	2 (0, 1, 0, 1, 0, 0)	
			3	DLB	IN:ACUTE:CC:MS	1	169	10	0.87	.	.	1 (0, 1, 0, 0, 0, 0)	
			4	BMT	IN:ACUTE:WARD:ONC_HSCT	1	80	17	0.85	.	.	1 (0, 0, 0, 0, 0, 0)	
			5	.A7W.W	IN:ACUTE:CC:MS	0	5	5	0.00	.	.	.	.
			6	8586 NICU	IN:ACUTE:CC_STEP:NURS	0	15	20	-0.01	.	.	.	.
			7	DLB96	IN:ACUTE:CC_STEP:NURS	0	100	7	-0.12	.	.	.	.
			8	ONC	IN:ACUTE:CC:S	0	134	61	-0.15	.	.	.	.
			9	ICU WEST	IN:ACUTE:CC:MS	0	212	49	-0.16	.	.	.	.
			10	DLB95	IN:ACUTE:CC:NURS	0	223	12	-0.26	.	.	.	.

Example: CDI TAP Report

- For CDI, only one table will be displayed for group and facility users
- Again, facility users will not see a facility rank

National Healthcare Safety Network
TAP Report - FACWIDEIN CDI LabID data for Acute Care Hospitals
Facilities Ranked by CAD 'Cumulative Attributable Difference'
 As of: February 2, 2015 at 11:26 AM
 Date Range: All CDI_TAP

Facility Rank	Facility Org ID	Facility Name	State	Type of Facility	Type of Affiliation	Number of Beds	Patient Days	COHCFA Prevalence Rate	CDIF Facility Incident HO LabID Event Count	CDIF Facility Incident HO LabID Number Expected	Facility CAD	SIR	SIR Test
1	10000	DHQP Memorial Hospital	GA	HOSP-GEN		239	11026	0.00	3	6.709	-1.70	0.450	
2	15331	Decennial Medical Center	GA	HOSP-GEN	U	200	11902	0.00	1	7.132	-3.99	0.140	

Comparing TAP Report Results

- Facility users are able to run TAP reports using all of the data entered into NHSN.
- Group users are able to run TAP reports using all of the data entered into NHSN for which they have rights to access (as granted by the member facilities).

Comparing TAP Report Results - 1

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

As of: February 2, 2015 at 11:11 AM

Date Range: All CAU_TAP

CAUTI TAP Report, as run by the Group

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	15331	Decennial Medical Center	1.14	1	ICU/CCU	IN:ACUTE:CC:C	2	576	50	1.14	1.74		2 (1, 0, 0, 0, 0, 0)
2	10000	DHQP Memorial Hospital	-1.40	1	INMEDWARD	IN:ACUTE:WARD:M	1	674	47	0.04	0.78		1 (0, 0, 0, 0, 0, 0)
				2	11	IN:ACUTE:WARD:BHV	0	11	100	-0.01	.		
				3	MD ICU	IN:ACUTE:CC:B	0	434	5	-1.43	0.00		

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 '.' when expected number of events is <1.0.

LOCATION CAD = (OBSERVED_LOCATION - EXPECTED_LOCATION* 0.75)

Data contained in this report were last generated on February 2, 2015 at 8:50 AM.

Comparing TAP Report Results - 2

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

CAUTI TAP Report, as run by the Facility

As of: February 2, 2015 at 12:02 PM
Date Range: All CAU_TAP

FACILITY			LOCATION									
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)
10000	DHQP Memorial Hospital	0.07	1	FICU	IN:ACUTE:CC:M	3	124	28	2.81	.	.	3 (0, 1, 0, 0, 0, 0)
			2	CMICU_N	IN:ACUTE:CC:C	1	125	31	0.81	.	.	1 (0, 0, 0, 0, 0, 0)
			3	ON_MS	IN:ACUTE:CC:MS	1	300	60	0.71	.	.	1 (0, 0, 0, 0, 0, 0)
			4	BURN	IN:ACUTE:CC:B	1	110	85	0.64	.	.	1 (0, 0, 0, 0, 0, 0)
			5	12345	IN:ACUTE:CC:M	1	252	39	0.62	.	.	1 (0, 1, 0, 0, 0, 0)
			6	ON_S	IN:ACUTE:CC:S	1	400	57	0.22	0.96	.	1 (0, 0, 0, 0, 0, 0)
			7	3 CENTRAL	IN:ACUTE:WARD:M	0	0	.	0.00	.	.	
			7	LTAC	IN:ACUTE:SCA:LTAC	0	0	0	0.00	.	.	
			9	11	IN:ACUTE:WARD:BHV	0	11	100	-0.01	.	.	
			10	00001	IN:ACUTE:WARD:ONC_HONC	0	12	1	-0.02	.	.	
			10	5W	IN:ACUTE:CC:C	0	12	55	-0.02	.	.	
			10	PICU2	IN:ACUTE:CC:MS_PED	0	10	100	-0.02	.	.	

Comparing TAP Report Results

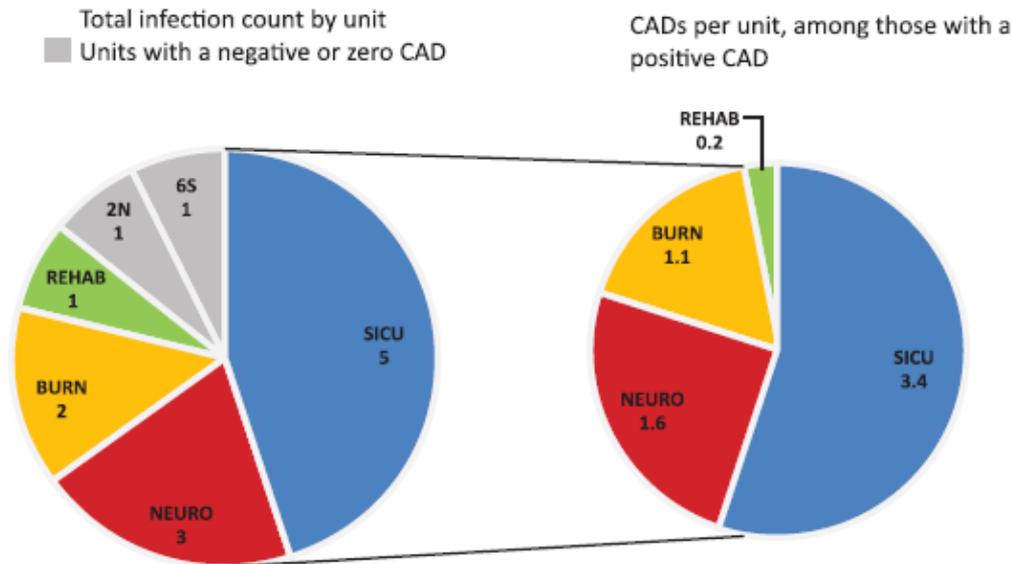
- A group may only have access to a subset of the facility's data.
- When comparing TAP reports (as with any other report in NHSN), it's important to keep in mind the following:
 - What time period is being reviewed?
 - What locations are included in the analysis?
 - Are there any other factors by which the analysis is limited?

Setting a TAP Prevention Target

- Users may specify a value for the multiplier used in the calculation of the CAD
 - Currently, NHSN uses the HHS Action Plan Goal target SIR as the multiplier.
 - Users are now able to customize this to use the National SIR, a State SIR, or other desired goal.

Communicating TAP Report Data to Engage Leadership and Administration -Example

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



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

www.cdc.gov/hai/prevent/tap.html

TAP Strategy ‘How To’ Guide

for the Group User

Targeted Assessment for Prevention: *Using Data for Action*

www.cdc.gov/hai/prevent/tap.html

The Targeted Assessment for Prevention (TAP) Strategy is a framework for quality improvement that offers a focused approach to infection prevention for healthcare facilities, healthcare systems, public health, and quality improvement partners. This strategy can be used to identify facilities and units with a high burden of healthcare-associated infections (HAIs) so that specific gaps in infection prevention can be identified and addressed. The TAP strategy incorporates the TAP reports generated in CDC’s National Healthcare Safety Network ([NHSN](#)) along with standardized assessment tools and accompanying implementation strategies.

This guide has been developed to facilitate implementation of the TAP Strategy by providing guidance and tips for success. This version offers guidance for the Group User – including Quality Innovation Networks–Quality Improvement Organizations (QIN-QIOs), State Health Departments, Healthcare Systems, and other quality improvement partners that have access to NHSN data. An additional version of the ‘How To’ Guide is available for the individual Facility User.

This guide will address the following steps of the TAP strategy:

- I. [Running TAP Reports](#)
- II. [Interpreting TAP Reports to Target Specific Units within the Facility](#)
- III. [Communicating TAP Report Data to Engage Facility Leadership and Administrators](#)
- IV. [Assessing the Gaps in Infection Prevention](#)
- V. [Implementing Infection Prevention Strategies](#)

Throughout this guide, you will come across the following features:

Outlined boxes offer a description or explanation of a specific feature within the TAP Report or TAP Strategy

Blue Boxes offer practical examples for utilizing TAP Report data for HAI prevention (illustrated through sample data from test facility “DHQP Memorial”)

Blue, underlined text contains hyperlinks you can click to be directed to definitions or additional information



Summary

- Using Targeted Assessment for Prevention reports identifies the facilities or locations with the greatest need for improvement.
- Knowing the location or facility Cumulative Attributable Difference (CAD) will help prioritize prevention efforts.
- Effective prevention of TAP report data to hospital leadership improves prioritization for resource allocations.

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Questions?

For more information, please contact
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Thank you

