



# Targeted Assessment for Prevention (TAP) Reports in Michigan

**Thursday July 9, 2015 | 10-11 a.m.**



- Your phone lines are automatically set to mute
- Please use the Chat or Q&A Panels on the right of your screen if you have any questions during the webinar
- At the end of the call we will be taking questions through the Q+A, Chat or will open your line if you use raise hand function



# Targeted Assessment for Prevention (TAP) Reports in Michigan

Allison Murad, MPH

Michigan Department of Health and Human Services (MDHHS)

July 9, 2015

10-11am

# Objectives

- Discuss Techniques involved in calculating a Cumulative Attributable Difference (CAD) and Targeted Assessment for Prevention (TAP) Report
- Highlight Michigan-specific TAP Reports
- Inform hospitals on how to use these reports to target prevention activities



# TAP and CAD

# Why TAP?

- SIRs are not always available or representative
  - Hospitals with  $< 1$  infections expected won't receive an SIR
  - Hospitals with very few expected infections will receive an inflated SIR if they have an infection
- TAP gives hospitals a way to target problem areas and see where they rank within a group
  - For our purpose, the group is the SHARP-participating Michigan hospitals.

# TAP Strategy

**Target** → **Assess** → **Implement**

- ❑ **Target** facilities using **TAP Report function** available in **NHSN**
- ❑ **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**

# CAD

- TAP reports use the cumulative attributable difference (CAD) to rank hospitals
  - CAD is generally calculated based on a target or goal SIR
  - Michigan reports use the HHS Target SIR found at:  
[http://www.health.gov/hcq/prevent\\_hai.asp#h\\_i\\_measures](http://www.health.gov/hcq/prevent_hai.asp#h_i_measures)

# Calculate CAD

$$\text{CAD} = \text{Observed} - (\text{Predicted} * \text{SIR}_{\text{target}})$$

- Interpretation:
  - $\text{CAD} > 0$  = “more infections than predicted”  
OR “number of infections needed to be prevented to reach the HHS target SIR”
  - $\text{CAD} < 0$  = “fewer infections than predicted”  
OR “number of infections prevented beyond the HHS target SIR”

# Online TAP Calculator

## Practical Approach to TAP Strategy: Tennessee Example

HAI: CAUTI ▼ Target SIR: 0.75

Number of Infections: 67

Number Predicted:  -OR- Current SIR: 1.3

Compute

Need to prevent 29 infections to reach target SIR of 0.75

Clear Form

<http://health.state.tn.us/ceds/HAI/calculator.shtml>

Slide courtesy of Marion Kainer

Source: [http://www.cdc.gov/nhsn/pdfs/training/2015/runningtapreports\\_md.pdf](http://www.cdc.gov/nhsn/pdfs/training/2015/runningtapreports_md.pdf)

# TAP Reports in NHSN

- To access TAP reports in NHSN:
  - Analysis
    - Output Options
      - TAP Reports
        - Choose Hospital Type
        - CDC Defined Output
        - Select CLAB, CAU or CDI
- Facilities can run the report to rank locations within the hospital
- Groups can run the report to rank hospitals and locations within their participating hospitals

# TAP Reports in NHSN

**Analysis**

- Generate Data Sets
- Output Options**
- Statistics Calculator

**Surveys**

**Users**

**Group**

**Log Out**

Expand All Collapse All

- Device-Associated (DA) Module
- Procedure-Associated (PA) Module
- HAI Antimicrobial Resistance (DA+PA Modules)
- MDRO/CDI Module - Infection Surveillance
- MDRO/CDI Module - LABID Event Reporting
- MDRO/CDI Module - Process Measures
- MDRO/CDI Module - Outcome Measures
- Antimicrobial Use and Resistance Module
- CMS Reports
- TAP Reports**
  - Acute Care Hospitals (ACHs)
    - CDC Defined Output
      - TAP Report - CLAB data for ACHs
      - TAP Report - CAU data for ACHs
      - TAP Report - FACWIDEIN CDI LabID data for ACHs
    - Inpatient Rehabilitation Facilities (IRFs)
    - Long Term Acute Care Hospitals (LTACHs)
  - Advanced
  - My Custom Output
  - Published Output

Run	Modify
Run	Modify
Run	Modify

# TAP Reports in NHSN

- TAP Reports will be generated for a single, cumulative time period
  - If you click “run” it will be cumulative for all data in datasets
  - If you click “modify” you can specify a certain time period

# TAP Reports in NHSN

- Sample Group CAUTI TAP Report from NHSN

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)

Source: [http://www.cdc.gov/nhsn/pdfs/training/2015/runningtapreports\\_md.pdf](http://www.cdc.gov/nhsn/pdfs/training/2015/runningtapreports_md.pdf)

# TAP Reports in NHSN

- Coming this Summer (2015):
  - NHSN users will be able to specify a value for the multiplier used to calculate the CAD
    - Currently: HHS Target SIR
    - Customizable: any SIR (ex. National, State, facility goal, etc...)



# Michigan TAP Reports

2014 Michigan Annual Report

# Michigan 2014 TAP Reports

- 2014 Annual Michigan TAP Reports can be found in the 2014 Annual Report at [www.michigan.gov/hai](http://www.michigan.gov/hai)
- Located in the Appendix beginning on page 42

**Table A1. HHS Target SIR**

CAUTI	CLABSI	CDI	MRSA bacteremia	SSI COLO	SSI HYST
0.75	0.50	0.70	0.75	0.75	0.75

# Michigan 2014 TAP Reports

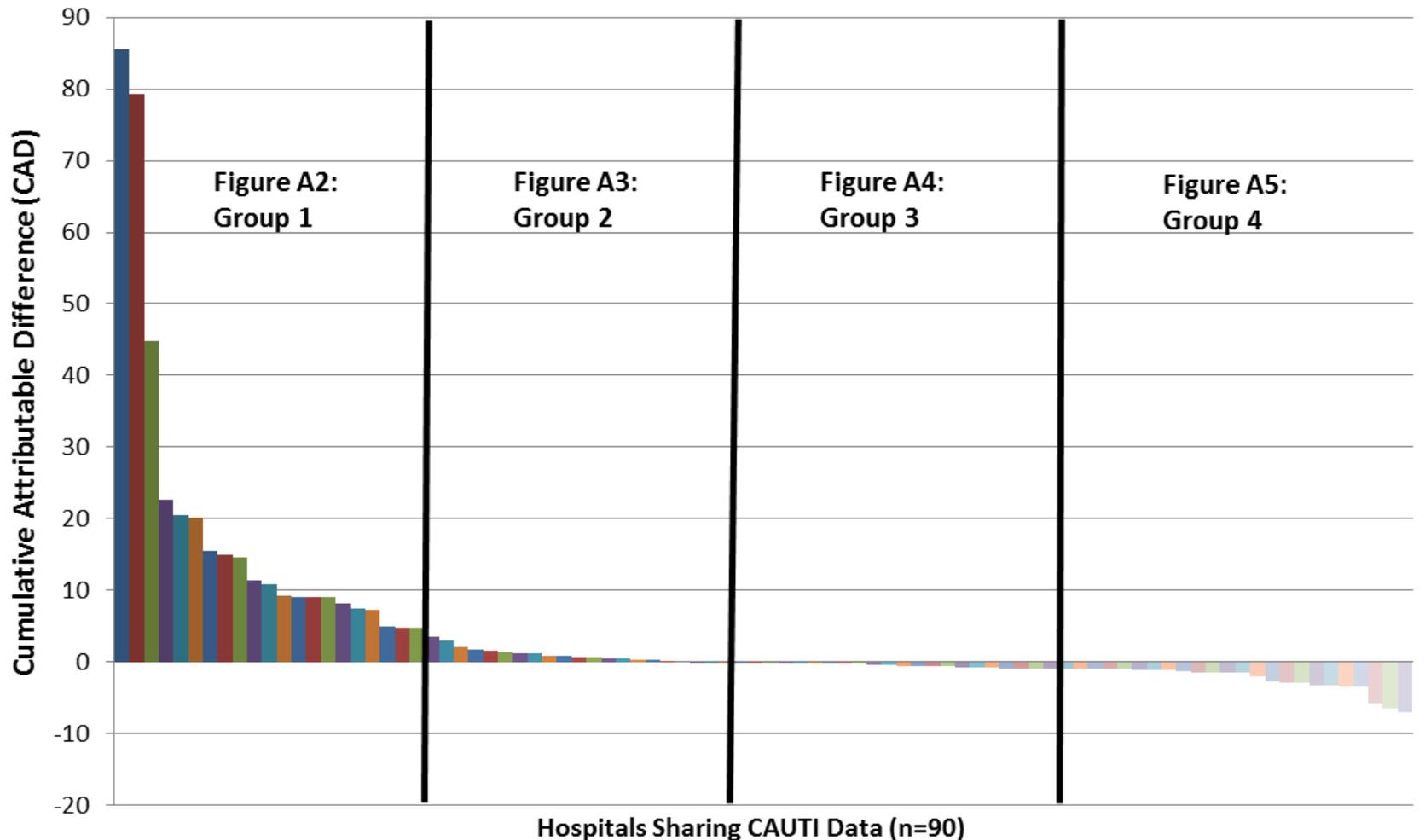
- Bar graphs show the CAD for facilities who share data with the SHARP Unit
- Facilities are each assigned a letter by the SHARP Unit based on CAUTI rank
  - Letters are re-assigned with every report
  - Letters have been provided to the contact the SHARP Unit has on file for each facility

# Michigan 2014 TAP Reports

- Graphs are provided for:
  - CAUTI Overall, CAUTI ICU, CAUTI Ward
  - CLABSI Overall, CLABSI ICU, CLABSI Ward, CLABSI NICU
  - CDI LabID Facility-wide inpatient
  - MRSA bacteremia LabID Facility-wide inpatient
  - SSIs for colon surgeries and abdominal hysterectomies
    - Note: CAUTI, CLABSI, and CDI were calculated via NHSN while MRSA bacteremia and SSI were calculated by hand
- Most graphs are shown in an all hospital format followed by a smaller group to improve readability

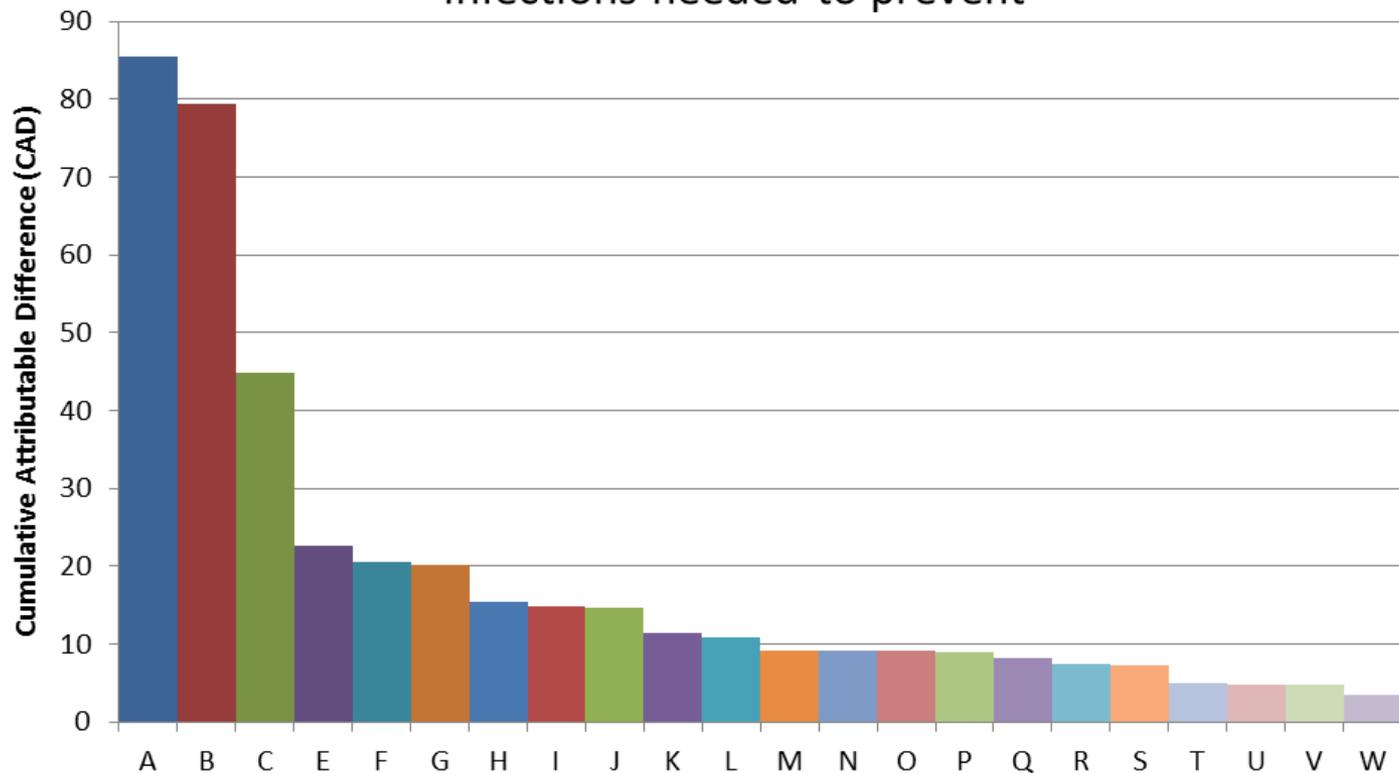
# Michigan CAUTI TAP Reports

**Figure A1.** Overall 2014 CAUTI CAD in Michigan Hospitals



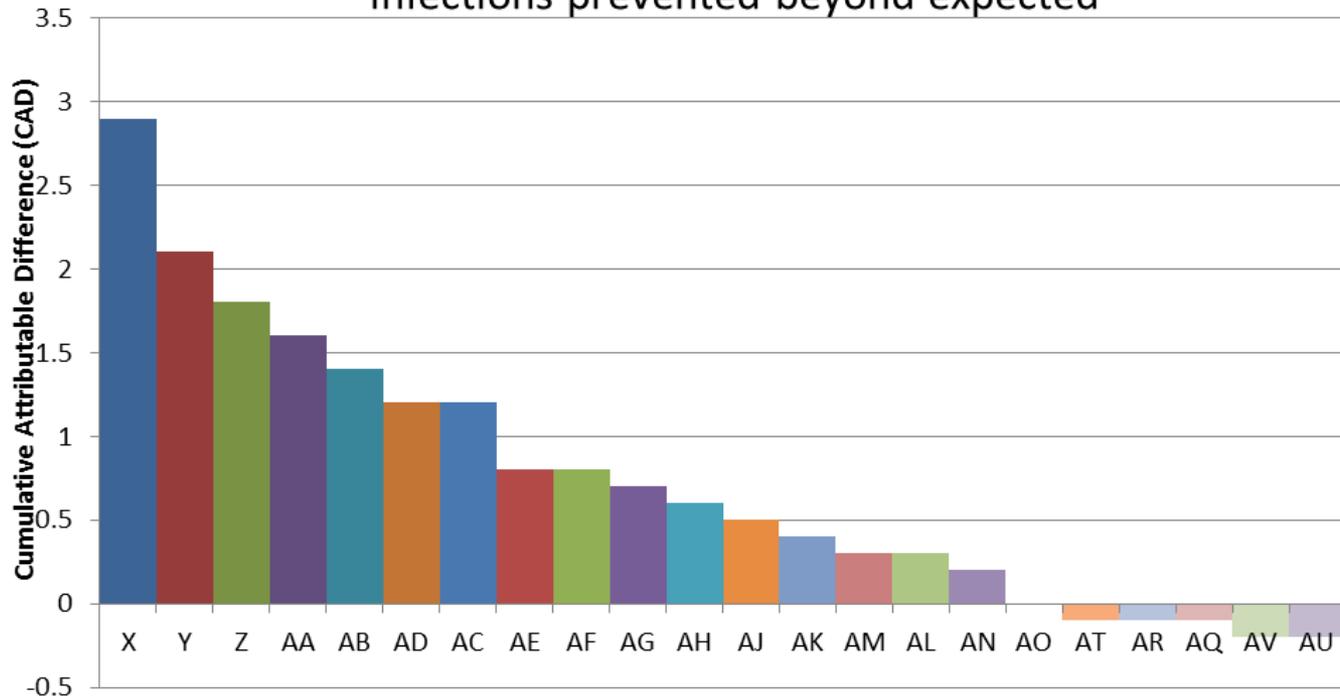
# Michigan CAUTI TAP Reports

**Figure A2. CAUTI CAD Group 1: Facilities with the most infections needed to prevent**



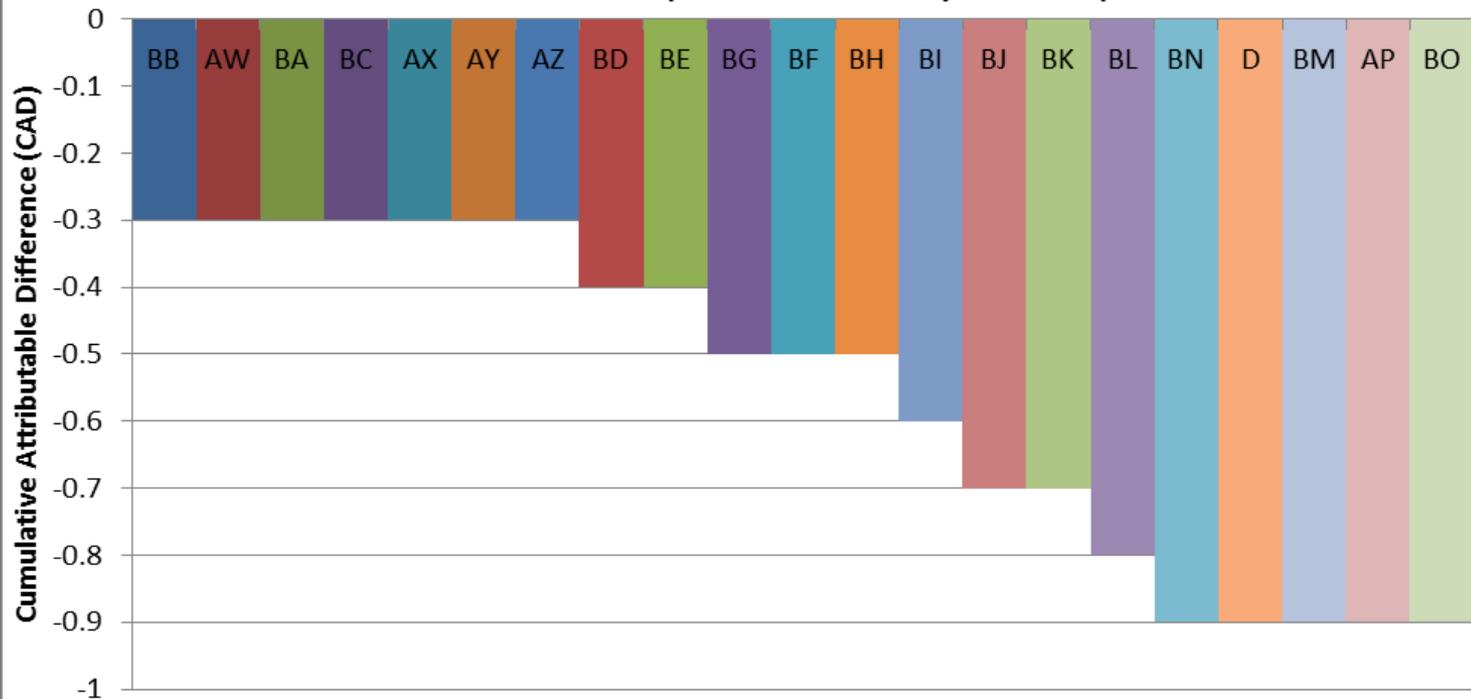
# Michigan CAUTI TAP Reports

**Figure A3.** CAUTI CAD Group 2: Facilities with the second most infections needed to prevent or the fewest infections prevented beyond expected



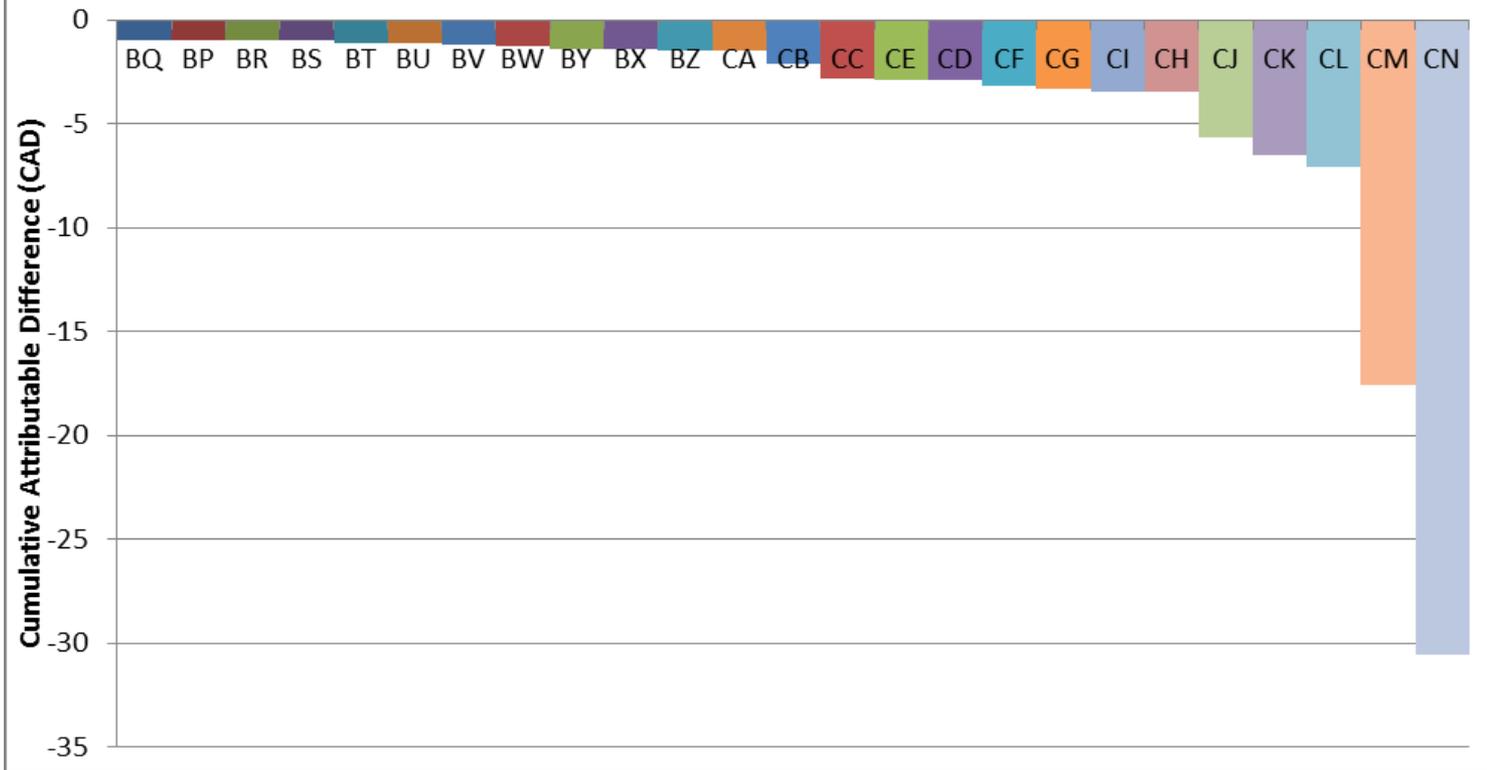
# Michigan CAUTI TAP Reports

**Figure A4. CAUTI CAD Group 3: Facilities with the second most infections prevented beyond expected**



# Michigan CAUTI TAP Reports

**Figure A5. CAUTI CAD Group 4: Facilities with the most infections prevented beyond expected**



# Individual TAP Reports

- Participating Michigan hospitals should have received a TAP Report for 2014 data from the SHARP Unit
- Note: Participating Michigan hospitals will still receive a 2014 Individual Hospital Report containing SIRs

# Sample Individual TAP Report

## Sample Hospital, 2014 Report

Letter ?? on 2014 Aggregate Annual TAP Report

Michigan Department of Health and Human Services

Surveillance for Healthcare-Associated and Resistant Pathogens (SHARP) Unit



The Michigan Department of Health and Human Services (MDHHS) Surveillance for Healthcare-Associated and Resistant Pathogens (SHARP) Unit will include the new targeted assessment for prevention (TAP) reports in the 2014 annual statewide aggregate report and subsequent 2015 quarterly aggregate reports. Below, you will see your facility's 2014 annual TAP report. Beginning in 2015, individual TAP reports will be provided quarterly.

This report shows modules and locations where your facility either needs to focus additional prevention efforts, or where your facility is excelling in infection prevention. The table presents a cumulative attributable difference (CAD) determined using the HHS target standardized infection ratios (SIRs) for each module. Numbers in red show how many infections your facility needs to prevent annually in order to reach the HHS target SIR. Numbers in green show the number of infections prevented beyond what was expected for your facility according to the HHS target SIR. Your facility's corresponding SIR for each module and location are provided as well.

A bar graph containing CAD values from all letter-coded SHARP-participating hospitals by module and location will be available in the 2014 Annual Report (in process). This graph will allow each facility to view their rank within each module and location compared to all other SHARP-participating facilities.

# Sample Individual TAP Report

## 2014 Annual Targeted Assessment for Prevention Report

NHSN Module	Location	SIR <sup>1</sup>	Significant (Y/N) <sup>2</sup>	CAD <sup>3</sup>	Prevented or Need to Prevent
CAUTI	All	0.8	N	0.8	Need to Prevent
	ICU	0.7	----	1.1	Prevented
	Ward	0.9	----	2.1	Need to Prevent
CLABSI	All	0.2	Y	6.8	Prevented
	ICU	0.5	----	0.4	Prevented
	Ward	.	----	0.1	Prevented
	NICU	0.1	----	3.8	Prevented
CDI	Facility-wide	1.3	Y	51.8	Need to Prevent
MRSA Bac	Facility-wide	0.8	Y	4.5	Prevented
SSI COLO	----	0.9	N	1.2	Need to Prevent
SSI HYST	----	0.6	Y	0.3	Prevented

<sup>1</sup>SIR: Standardized Infection Ratio: Ratio of observed events compared to the number of predicted events, accounting for unit type or other variables. An SIR of 1 can be interpreted as having the same number of events as predicted. An SIR that is between 0 and 1 represents fewer events than predicted, while an SIR of greater than 1 represents more events than predicted.

<sup>2</sup>Significant (Y/N). A Y indicates that, based on the p-value and 95% Confidence Interval (CI), the SIR is statistically significantly different than 1. An N indicates that, based on the p-value and 95% CI, the SIR is not statistically significantly different than 1 (expected). P-values and 95% CI will be included in the 2014 Individual Hospital Report.

<sup>3</sup>CAD=Cumulative Attributable Difference. The number of infections that your hospital either needs to prevent to meet the HHS target or has prevented beyond the HHS target.

HHS CAUTI Target SIR = 0.75, HHS CLABSI Target SIR = 0.5, HHS CDI Target SIR = 0.7, HHS MRSA bacteremia Target SIR = 0.75, HHS SSI Target SIR = 0.75

Please contact Allie Murad at [murada@michigan.gov](mailto:murada@michigan.gov) with questions, comments, or suggestions. Aggregate reports are posted at [www.michigan.gov/hai](http://www.michigan.gov/hai).



# Prevention Activities

# Who is using TAP?

- CDC is working with partners such as the Centers for Medicare & Medicaid Services (CMS) Quality Innovation Network-Quality Improvement Organizations (QIN-QIOs), State Health Departments, healthcare systems, and facilities to incorporate the TAP strategy into their quality improvement work.
- Prevention partners engaged in quality improvement and collaborative work may use the TAP strategy to identify and reach out to facilities within their jurisdictions to assist them with prioritizing HAI prevention throughout facilities or within specific locations.
- In this way, groups and facilities can use data for action to target gaps for prevention and intervention.

# Using TAP Reports

- In a facility:
  - TAP Reports allow you to rank every reporting location for each module
    - Regardless of if there are enough predicted infections to calculate an SIR
    - Allows you to see your top performing and bottom performing locations
      - Note: rank is from bottom performer to top performer (i.e. Location Rank I needs the most prevention work).

# Using TAP Reports

- In a group:
  - TAP Reports allow you to rank every reporting facility as well as location within each facility for each module
    - As with locations rankings, facility rankings are from bottom performer to top performer (i.e. Facility Rank 1 needs the most prevention work)

# CDC's CAUTI TAP Toolkit Implementation Guide

- Once you've targeted the locations and/or facilities most in need, visit:  
<http://www.cdc.gov/hai/prevent/tap/resources.html>
  - Engagement of Leadership, Champions, and Staff
  - Staff Training and Competency Assessments
  - Routine Audits
  - Urinary Catheter Indications, Insertion, Maintenance, and Removal information

# CDC's CAUTI TAP Toolkit

## General Infrastructure, Capacity, and Processes

### Engagement of Leadership, Champions, and Staff

#### [Engage the Senior Executive Module - Comprehensive Unit-based Safety Program \(CUSP\) Toolkit](#)

Curriculum focused on the role and responsibilities of senior executives, from the Agency for Healthcare Research and Quality (AHRQ)

#### [Urinary Catheter Initiative Results Letter](#) [DOC - 29 KB]

Form letter to present unit results of urinary catheter initiatives to senior staff, from the On the CUSP: Stop CAUTI Implementation Guide

#### [CAUTI Cost Calculator](#)

Tool to engage leadership that estimates facility costs due to CAUTI, from catheterout.org

#### [Implementation Team Roles and Responsibilities](#) [PDF - 281 KB]

Summary of recommended personnel to engage for CAUTI reduction efforts, from catheterout.org

#### [CUSP Board Checklist](#) [DOC - 29 KB]

Checklist of CUSP and CAUTI reduction activities for senior leadership, from the On the CUSP: Stop CAUTI Implementation Guide

#### [CDC Safe Healthcare Blog – Why So Many Foleys?](#)

Discussion of best practices for managing urinary catheters and reducing risk of CAUTI, guest author Wendy Kaler, MPH, CIC, Dignity Health

#### [Strategies and Tips for Nurse Engagement](#)

Strategies to engage nurses as champions in CAUTI prevention, from catheterout.org

#### [Strategies and Tips for Physician Engagement](#)

Strategies to engage physicians as champions in CAUTI prevention, from catheterout.org

#### [Presentation to Nurse Manager & Case Manager \(or Unit Champion\)](#) [DOC - 37 KB]

Agenda for presentation to unit champion, from the On the CUSP: Stop CAUTI Implementation Guide

# CAUTI Cost Calculator

- [http://cauti.umms.med.umich.edu/PHP/CAUTI\\_input.php](http://cauti.umms.med.umich.edu/PHP/CAUTI_input.php)

## CAUTI Cost Calculator

The *CAUTI Cost Calculator* estimates your hospital's costs due to catheter-associated urinary tract infections (CAUTI), which are the most common form of hospital-acquired infection. It can be used to estimate both current costs and projected costs after a hypothetical intervention to reduce catheter use, a protocol that involves daily assessment of the need for a catheter.

### Try estimating the CAUTI costs for your hospital:

#### Hospital inputs:

Number of annual adult hospital admissions	<input type="text" value="3000"/>
Percentage of adult hospitalized patients with indwelling urinary catheter on any given day (0-100)	<input type="text" value="15"/>
Mean duration of urinary catheterization (in days)	<input type="text" value="6.68"/>

#### Cost inputs:

Per-person cost of symptomatic urinary tract infection (\$)	<input type="text" value="911"/>
Per-person cost of bloodstream infection (\$)	<input type="text" value="3824"/>

#### Intervention inputs:

Percent decrease in catheterization duration caused by intervention (0-100)	<input type="text" value="37"/>
Percent decrease in urinary catheter placement caused by intervention (0-100)	<input type="text" value="29"/>

# CAUTI Cost Calculator

If you aren't sure about your hospital's numbers, you can leave the fields blank and the calculator will use suggested default values from the literature.

## Here's an example:

For a hospital using all the default values, we get the following results:

CURRENT ESTIMATED COSTS:

\$37,869

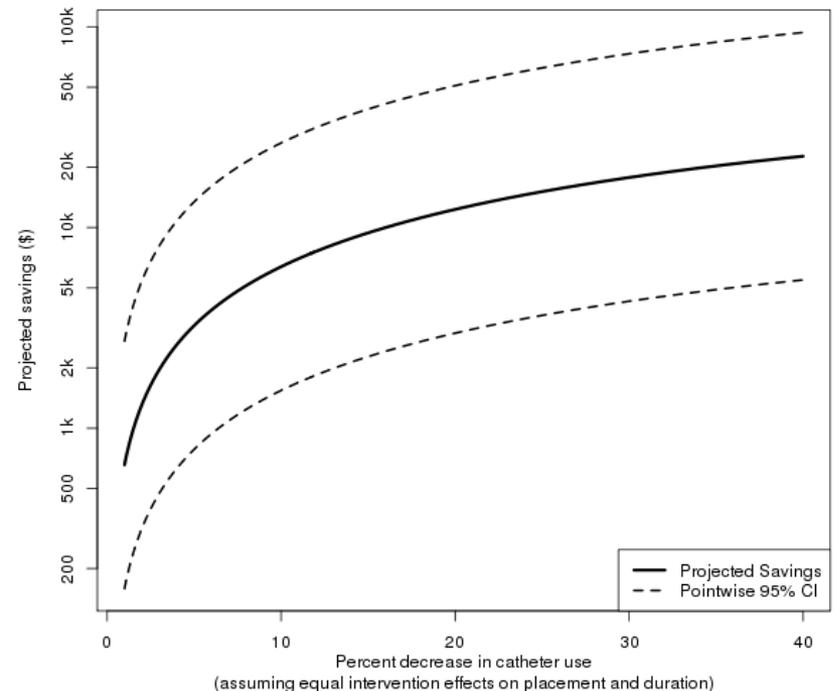
Projected costs after intervention\*:

\$18,743

---

PROJECTED SAVINGS (95% CI):

\$19,126 (\$4,626 - \$79,075)



\* Based on an intervention with a 37% decrease in duration and a 29% decrease in placement.

# Present Data to Leadership



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### Clinicians & Providers

- Education & Training**
  - Continuing Education
- Curriculum Tools
  - Diabetes Planned Visit Notebook
  - Advancing Pharmacy Health Literacy Practices Through Quality Improvement
  - TeamSTEPS
  - Staying Healthy Through Education and Prevention (STEP)
  - Chronic Care Model
  - CLABSI Tools
  - CUSP Toolkit
  - Shared Decision Making Toolkit
- Hospitals & Health Systems
- Prevention & Chronic Care

## Engage the Senior Executive



The Engage the Senior Executive module of the CUSP Toolkit focuses on the role and responsibilities of the senior executive within the CUSP team. Engaging a senior executive to partner with a unit will bridge the gap between senior management and frontline providers and will facilitate a system-level perspective on quality and safety challenges that exist at the unit level.

The Engage the Senior Executive module of the CUSP Toolkit focuses on the role and responsibilities of the senior executive within the CUSP team. Engaging a senior executive to partner with a unit will bridge the gap between senior management and frontline providers and will facilitate a system-level perspective on quality and safety challenges that exist at the unit level.

The senior executive's participation and engagement in this quality improvement initiative is vital to the success of the project.

This module includes--

Facilitator Notes [  - 2.38 MB] ([Accessible Version](#))

Presentation Slides [  ] - 2.6 MB] ([Accessible Version](#))

### Tools

- Safety Issues Worksheet for Senior Executive Partnership [  ] - 208 KB] ([Accessible Version](#))
- Staff Safety Assessment [  ] - 199.5 KB] ([Accessible Version](#))
- CEO and Senior Leader Checklist [  ] - 196.91 KB] ([Accessible Version](#))
- Infection Checklist [  ] - 221.5 KB] ([Accessible Version](#))
- Board Checklist [  ] - 214 KB] ([Accessible Version](#))
- Shadowing Another Professional Tool [  ] - 246.5 KB] ([Accessible Version](#))

# Summary

- TAP Reports allow hospitals to rank locations and groups to rank hospitals for HAI modules based on the SIR
- TAP Reports can be created for all locations and facilities, even those who have too few expected infections to calculate an SIR

# Summary

- The MDHHS SHARP Unit provides annual (will transition to quarterly) TAP Reports to all participating facilities
- Once you have a TAP report, it is important to use that information to target specific units or facilities for prevention activities



# Thank you!

Allison Murad, MPH

Michigan Department of Health and Human Services (MDHHS)  
Surveillance for Healthcare-Associated and Resistant Pathogens  
(SHARP) Unit

[murada@michigan.gov](mailto:murada@michigan.gov)

[www.michigan.gov/hai](http://www.michigan.gov/hai)



Thank you for attending the TAP Report webinar!

If you have comments or questions, do not hesitate to contact us!

Allison Murad, MDHHS SHARP Unit: [MuradA@michigan.gov](mailto:MuradA@michigan.gov)

Michelle Norcross, MHA Keystone Center: [MNorcross@mha.org](mailto:MNorcross@mha.org)

Kristie Mimms, LSQIN-MPRO: [kmimms@mpro.org](mailto:kmimms@mpro.org)