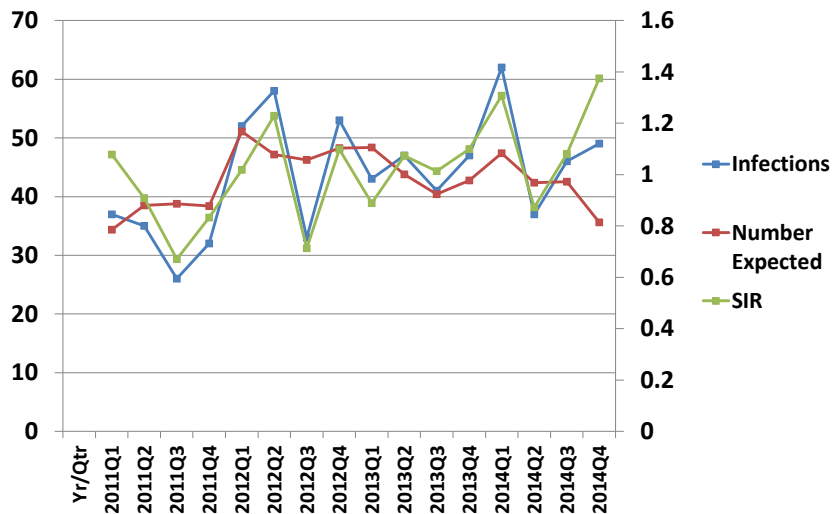




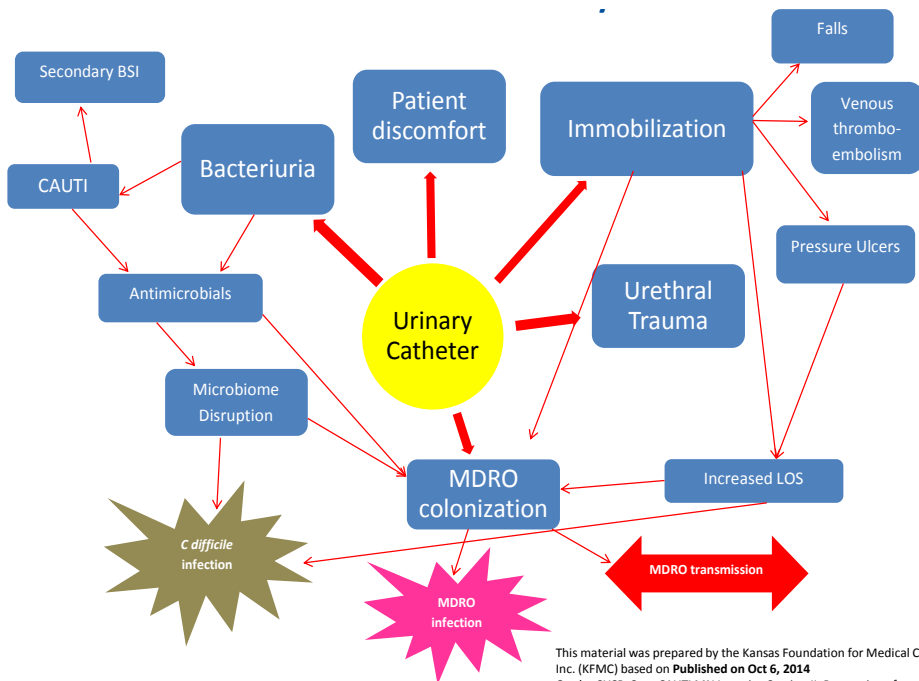
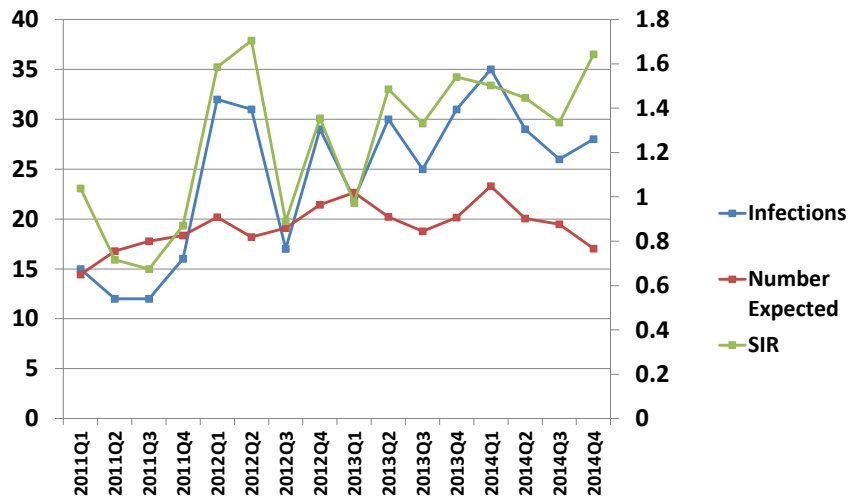
Where oh Where has my CAUTI Changed? 2015 Definition Update March 11, 2015

Peg Gilbert, RN, MS, CIC
Quality Improvement Advisor
Regional Lead
Great Plains Quality Innovation Network

All CAUTI Statistics



CAUTI ICU Only



This material was prepared by the Kansas Foundation for Medical Care, Inc. (KFMC) based on **Published on Oct 6, 2014**
 On the CUSP: Stop CAUTI MN Learning Session II, Prevention of Catheter Associated Urinary Tract Infections, Dr. David Pegues

Denominator for Devices

Alias Catheter Days, Patient Days or Summary Data

- Manual
 - Count **at the same time each day**
 - Number of patients on the unit
 - Number of patients with an indwelling urinary catheter
 - [Worksheet for Denominator manual count](#)
- Electronic method
 - Validate against the manual method
 - 3 months concurrent data collection with both
 - Difference between methods must be within +/- 5% of each other



Weekly Sampling

- Minimum 75 days/month
- Do not sample
 - Saturday or Sunday
 - No oncology units
- Count line days and patient days one day/week
- Check boxes for sampling
- Enter sample count on Summary Screen of line days and patient days
 - Calculates line days automatically for the month
- Enter total patient days

Denominator Sampling

Denominators for Intensive Care Unit (ICU)/ Other locations (not NICU or SCA)

@HELP Print Form

Mandatory fields marked with *

Facility ID*: 10000 (DHQP Memorial Hospital)

Location Code*: MICU-2 - MEDICAL ICU

Month*: January

Year*: 2015

1

2

Total Patient Days*:

Central Line Days*:

Urinary Catheter Days*:

Ventilator Days*:

APRV Days*:

Report No Events

CLABSI: ☐

CAUTI: ☐

VAE: ☐

PedVAP: ☐

Check box(es) if sampling used

Sample Patient Days:

Sample Central Line Days:

Sample Urinary Catheter Days:

Custom Fields @HELP

‘Must Haves’ for CAUTI

- Catheter through the **urethra**
- In place for >2 days
- Positive Urine Culture
- Urine Culture with 100,000 CFU/ml
- No more than 2 species of bacteria
- Candida is not a uropathogen

All Organisms			
Organism Name	NHSN Organism Code	SNOMED Concept Code	SNOMED Fully Specified Name
Cronobacter turicensis	CROTUR	445639005	Cronobacter turicensis (organism)
Cryptococcus albidus	CRYALB	74062009	Cryptococcus albidus (organism)

Organisms / Common Commensals / MBI Organisms / UTI Bacteria

Reporting of Lab Cultures

- Only bacteria will be accepted as causative agent
 - No yeast, mold, dimorphic fungi or parasites
- Colony counts must be >100,000 CFU/ml
 - Check reporting from your lab
- Urinalysis no longer used

No More Than 2 Species of Micro-Organisms

- Urine cultures with >2 organisms are routinely regarded as contaminated cultures and not used for clinical care nor NHSN CAUTI surveillance
 - Urine culture including “mixed flora” or equivalent cannot be used
- Organisms of same genus but different species = 2 organisms
 - **Example:** *Pseudomonas aeruginosa* and *Pseudomonas stutzeri*
- The same organism with different antimicrobial susceptibilities = 1 organism
 - **Example:** MRSA and MSSA

Date of Event

- The date the **first** element used to meet an NHSN site-specific infection criterion occurs for the first time within the seven-day infection window period
 - Basis for timing of all repeat infections



Present on Admission

- The date of event occurs during the POA time period
- Defined as the day of admission to an inpatient location (calendar day 1), the 2 days before admission, and the calendar day after admission

Patient Day	POA
Pre admit	
Pre admit	
Admit Date	Admit Date
Day 2	
Day 3	
Day 4	

Infection Window

Infection Window Period		3 days before
	First positive diagnostic test OR First documented localized sign and/or symptom in the absence of a diagnostic test	
		3 days after

- Diagnostic tests:
 - laboratory specimen collection
 - imaging test
 - procedure or exam
 - physician diagnosis
 - initiation of treatment

Repeat Infection Timeframe

- 14-day timeframe during which no new infections of the same type are reported. The **date of event** is Day 1 of the 14-day RIT
- If POA the RIT timeframe begins with Hospital Day 1, even if the date of event on 2 days prior to admission

Hospital Day	Date of Event Assignment for RIT	Classification
2 days before admit	Hospital Day 1	POA
1 day before admit	Hospital Day 1	
1	Hospital Day 1	
2	Hospital Day 2	
3	Hospital Day 3	HAI
4	Hospital Day 4	
5	Hospital Day 5	

Secondary Blood Stream Infection

- The period in which a positive blood culture must be collected to be considered as a secondary bloodstream infection to a primary site infection
- Includes the Infection Window Period combined with the Repeat Infection Timeframe (RIT)
 - 14-17 days in length depending upon the date of event
- Secondary BSI
 - One organism must match
 - Site Specific culture must match
- Excluded pathogens cannot have a secondary BSI (yeast – SUTI)



Example Time Frames for NHSN Surveillance					
Patient Day	POA	HAI	Infection Window	Repeat Infection Timeframe	Secondary BSI Attribution Window
Pre admit					
Pre admit					
Admit Date	Admit Date	Admit Date	Admit Date	Admit Date	Admit Date
Day 2					
Day 3					
Day 4					
Day 5					
Day 6					
Day 7			Symptom	Date of Event	Date of Event
Day 8			Date of Test		
Day 9					
Day 10					
Day 11					
Day 12					
Day 13					
Day 14					
Day 15					
Day 16					
Day 17					
Day 18					
Day 19					
Day 20					
Day 21					
Day 22		Discharge			
Day 23					
LOS minus					
Total Days	4 Days	2 Days	7 Days	14 Days	14 - 17 Days
Note	Not used with SSI, LABID, or VAE	Not used with SSI, LABID, or VAE	Not used with SSI, LABID, or VAE	Not used with SSI, LABID, or VAE	Not used with LAB ID or VAE. May be used with SSI



http://www.cdc.gov/nhsn/forms/57.114_UTI_BLANK.pdf

NHSN National Healthcare System		Form approved 04/16/2010-04/16/2011 By: CDC/NHSN www.cdc.gov/nhsn	
Urinary Tract Infection (UTI)			
Page 1 of 4		Required for coding: _____ Required for completion: _____	
Facility ID:	Event #:		
Patient ID:	Secondary ID:		
Patient Name, Last:	First:	Middle:	
*Gender: F M Other	*Date of Birth:		
Ethnicity (Specify):	Race (Specify):		
*Event Type: UTI	*Date of Event:		
Postprocedure UTI: Yes No	Date of Procedure:		
NHSN Procedure Code:	ICD-9-CM Procedure Code:		
*MORCO Infection Surveillance:			
<input type="checkbox"/> Yes, this infection's pathogen & location are in-plan for infection surveillance in the MORCO Module			
<input type="checkbox"/> No, this infection's pathogen & location are not in-plan for infection surveillance in the MORCO Module			
*Date Admitted to Facility:		*Location:	
Risk Factors			
*Urinary Catheter status:			
<input type="checkbox"/> In place – Urinary catheter in place > 2 days on date of event		<input type="checkbox"/> Removed – Urinary catheter in place > 2 days but removed on the date of event or the day before	
Location of Device Insertion: _____		Date of Device Insertion: ____/____/____	
<input type="checkbox"/> If NIDUI, birth weight (gms): _____			
Event Details			
*Specific Event: <input type="checkbox"/> Symptomatic UTI (SUTI) <input type="checkbox"/> Asymptomatic Bacteremic UTI (ABUTI) <input type="checkbox"/> Urinary System Infection (USI)			
*Specify Criteria Used (check all that apply)			
Signs & Symptoms		Laboratory & Diagnostic Testing	
<input type="checkbox"/> Fever <input type="checkbox"/> Urgency <input type="checkbox"/> Dysuria		<input type="checkbox"/> 1 positive culture with 10 ³ CFU/ml with no more than 2 species of bacteria	
<input type="checkbox"/> Frequency <input type="checkbox"/> Dysuria <input type="checkbox"/> Hypothermia		<input type="checkbox"/> Positive dipstick for leukocyte esterase and nitrite	
<input type="checkbox"/> Pain or tenderness <input type="checkbox"/> Abscess <input type="checkbox"/> Apnea		<input type="checkbox"/> Urine not tested for WBC	
<input type="checkbox"/> Acute pain, swelling, or tenderness of testes, epididymis, or prostate		<input type="checkbox"/> Bradycardia <input type="checkbox"/> Pyuria (≥ 10 WBC/mm ³ of unspun urine or > 5 WBC/HPF on centrifuged specimen)	
<input type="checkbox"/> Suprapubic tenderness <input type="checkbox"/> Lethargy		<input type="checkbox"/> Neutropenia (WBC or ANC < 500 cells/mm ³)	
<input type="checkbox"/> Costovertebral angle pain or tenderness		<input type="checkbox"/> 1 positive culture with 10 ³ CFU/ml and < 10 ⁴ CFU/ml with no more than 2 species of bacteria	
<input type="checkbox"/> Purulent drainage from affected site		<input type="checkbox"/> Bacteria seen on Gram stain of unspun urine	
<input type="checkbox"/> Other evidence of infection found on invasive procedure, gross anatomic exam, or histopathologic exam		<input type="checkbox"/> Positive blood culture	
<input type="checkbox"/> If septic, site of sepsis: _____		<input type="checkbox"/> Imaging test evidence of infection	
*Secondary bloodstream infection: Yes No		*UTI Contributed to Death: Yes No	
*Discharge Date: _____		*Pathogens Identified: Yes No If Yes, specify on pages 2-4	

Symptoms Vary in Definition

- Catheter in place
 - Fever (>38.0°C)
 - Suprapubic tenderness (no other cause)
 - Costovertebral angle pain or tenderness (no other cause)
- Catheter removed **add**
 - Frequency
 - Urgency
 - Dysuria
- Infant <1year **additional**
 - Apnea
 - Bradycardia
 - Lethargy
 - Vomiting
 - Hypothermia <36.0°C

Fever

- Fever and hypothermia are non-specific symptoms of infection and cannot be excluded from UTI determination because they are clinically deemed due to another recognized cause
- *Cannot be attributed to something else
- **Must be >38.0 C or >100.4 F in the route the temperature was taken regardless of your policy**
- **Core temperatures no longer required for infants**

SUTI 1a (catheter in place)

Patient must meet 1, 2, and 3 below:

1. Patient has an indwelling urinary catheter **in place for the entire day on the date of event** and such catheter had been in place for >2 calendar days, on that date (day of device placement = Day 1)
2. Patient has at least **one** of the following signs or symptoms:
 - fever (>38.0°C)
 - suprapubic tenderness*
 - costovertebral angle pain or tenderness*
3. Patient has a urine culture with no more than two species of organisms, at least one of which is a bacteria of $\geq 10^5$ CFU/ml. All elements of the UTI criterion must occur during the Infection Window Period

SUTI 1a (Catheter Recently Removed)

Patient must meet 1, 2, and 3 below:

1. Patient has an indwelling urinary catheter in place for greater than 2 days which was removed on the day of or the day before the date of event
2. Patient has at least **one** of the following signs or symptoms:
 - fever ($>38.0^{\circ}\text{C}$)
 - suprapubic tenderness*
 - costovertebral angle pain or tenderness*
 - urinary urgency*
 - urinary frequency*
 - dysuria*
3. Patient has a urine culture with no more than two species of organisms, at least one of which is a bacteria of $\geq 10^5$ CFU/ml. All elements of the UTI criterion must occur during the Infection Window Period

Catheter Removed

- UTIs with event date on the day of device discontinuation or the following calendar day are considered device-associated UTIs if the device had been in place already for >2 calendar days
- For this criterion urgency, frequency and dysuria are symptoms

Catheter Removal

Day 1	Day 2	Day 3	Day 4	CAUTI?
Foley placed	Foley in place	Foley in place for part of day only then removed	Date of Event	Yes
Foley placed	Foley in place for part of day then removed	No Foley	Date of Event	No
Foley placed	Foley in place for part of day then removed	Date of Event		No

Risk Factor

Required Field: Three options:

INPLACE- If catheter was in place >2 calendar days for the entire day on the date of event

REMOVE – If Foley catheter was in place >2 calendar days but was removed day of or day before the date of event

NEITHER – if no urinary catheter was in place on the day of or the day before the date of event OR not in place >2 calendar days on the date of event

Risk Factors 

Urinary CatheterTM: REMOVE - Removed within 48 hours prior 

Location of Device Insertion: 

Date of Device Insertion: 

SUTI 2 (\leq 1-year-old)

Patient must meet 1, 2, and 3 below:

1. Patient is ≤ 1 year of age (with[‡] or w/o indwelling catheter)
2. Patient has at least **one** of the following signs or symptoms:

- fever ($>38.0^{\circ}\text{C}$)
- hypothermia ($<36.0^{\circ}\text{C}$)
- apnea*
- bradycardia*
- lethargy*
- vomiting*
- suprapubic tenderness*

***Dysuria
removed for
2015**

3. Patient has a urine culture with no more than two species of organisms, at least one of which is a bacteria of $\geq 10^5$ CFU/ml. All elements of the SUTI criterion must occur during the Infection Window Period

[‡] If patient had an indwelling urinary catheter in place for >2 calendar days, and catheter was in place on the date of event or the previous day the CAUTI criterion is met. If no such indwelling urinary catheter was in place, UTI (non-catheter associated) criterion is met.

Asymptomatic Bacteremic UTI (ABUTI)

Patient must meet 1, 2, and 3 below:

1. Patient with* or without an indwelling urinary catheter has no signs or symptoms of SUTI 1 or 2 according to age
2. Patient has a urine culture with no more than two species of organisms, at least one of which is a bacteria of $\geq 10^5$ CFU/ml
3. Patient has a positive blood culture with at least **one** matching bacteria to the urine culture, or meets LCBI criterion 2 (without fever) and matching common commensal(s) in the urine. All elements of the ABUTI criterion must occur during the Infection Window Period

* Patient had an indwelling urinary catheter in place for >2 calendar days, with day of device placement being Day 1, and catheter was in place on the date of event or the day before.

*Uses same pathogen list as SUTI

*Patients > 65 years of age with a non-catheter-associated ABUTI **may** have a fever and still meet the ABUTI criterion)

Assigning the Correct Location

- Inpatient Location assigned on date of event
 - Or first if multiple locations
- *Transfer Rule*: If the date of event for the UTI is the day of transfer or the next day, the UTI is attributed to the transferring location or facility
- *Discharge*: If the date of event is the day of discharge or the next day, the infection is attributed to the discharging location.

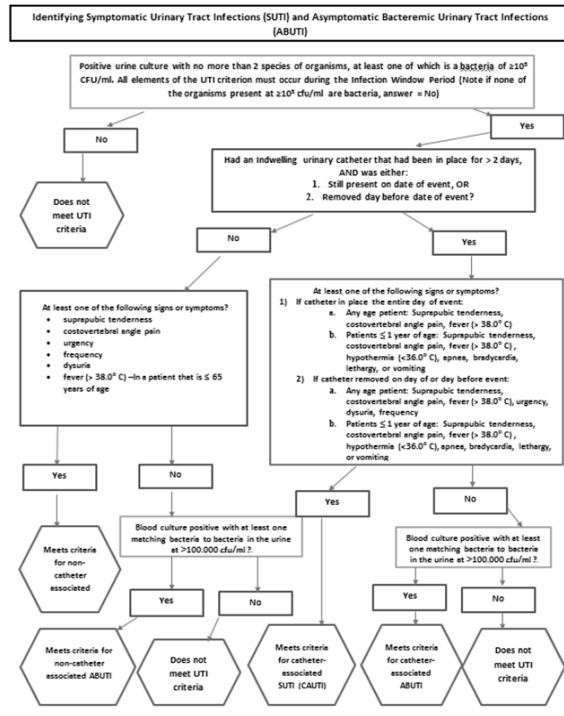
Process to Investigate: Positive Culture

Proceed in this order*:

1. Determine Infection Window Period (IWP)
2. Determine if all criteria occur within IWP, i.e., is it an event?
3. Yes = Continue; No = Stop, no event
4. Determine Date of Event (DOE)
5. Determine if present on admission (POA) or Healthcare-Associated Infection (HAI)
 - If POA, previously discharged that day or day before?
 - Yes = UTI attributable to discharging location; No = Stop, POA
 - If HAI, continue
6. Determine if device-associated
7. Determine attributable location/facility
8. Determine Repeat Infection Timeframe



CDC/NHSN CAUTI Protocol
Manual; January, 2015,
pg 7-11



Worksheet

Patient Name: _____
Admission Date: _____

Location(s): _____

Date	First diagnostic test or sign/symptom	Infection Window Period	Event (Date of Event)	RTT (Specimen & Pathogen)	Primary BSI Attribution Period	Calendar Date / Hospital Day	First diagnostic test or sign/symptom	Infection Window Period	Date of Event	Repeat Infection Timeframe - RTT	Secondary BSI Attribution Period
1						1					
2						2					
3						3					
4						4					
5						5					
6						6					
7						7					
8						8					
9						9					
10						10					
11						11					
12						12					
13						13					
14						14					
15						15					
16						16					

Cases

- Patient admitted and catheter inserted
- Day 4 Foley is removed
- Day 5 Foley is replaced
- If date of event is Day 6, can this be a Catheter Associated - HAI?

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Admit			Foley Removed	Foley Replaced	Date of Event	

Practice

- If Foley replaced on Day 6 and Date of Event is on Day 7, is this a Catheter Associated - HAI?

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Admit			Foley Removed		Foley Replaced	Date of Event

Practice

- Patient admitted to 3W for bilateral total knee replacements. Indwelling catheter placed pre-op
- Day 2: Temp 100⁵ F
- Day 3: Urine Culture: E. Coli
- Is this a CAUTI?

Practice

- 75 year-old admitted for a CVA, Foley inserted
- Day 4: Temp 100.⁴ F
- Day 6: Urine Culture collected
- Day 7: Urine Culture report: P. Aeruginosa >10,000 CFU/ml
- Is this a CAUTI, if so, what is the DOE?

Targeted Assessment for Prevention

- Purpose: Analysis of your facilities processes for CAUTI prevention
- Survey Monkey tool
 - Ask at least 2 or more to take the tool
 - At least one survey from each ICU and Ward location
 - Plus IP and Senior Leader
 - The more the better!
- Complete by April 15
- Receive your TAP report number by your locations (if your report is in NHSN) plus strategies for improvement

TAP Report

- 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 will only include data for which there is a corresponding denominator reported**
- Reports will rank facilities (or locations) by the number of excess infections identified, calculated as the Cumulative Attributable Difference (CAD)
- The CAD can help to prioritize the facilities (or locations) where the greatest prevention impact could be achieved
- Ranking will occur for overall Hospital CAD (highest to lowest) and then by location within each hospital

Measurement

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

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.

Cumulative Attributable Difference (CAD) = Observed – Expected *.75
Also addresses Device Utilization Percent (not percentile rank as rate tables do)

Summary

- New surveillance process
- Revisions in definitions
- Critical for new baselines
 - Use for quality improvement
 - Pay for performance programs
- Intent to decrease subjectivity and reliability
- CAUTI TAP program to help you be successful

Future Programs

- Participate in CDI TAP Pilot Program
- Ventilator Associated Events, WebEx
 - 9 – 10:30AM, Friday, March 13, 2015
- Nebraska Healthcare Quality Forum
 - Thursday, May 14, 2015
 - Embassy Suites Hotel & Conference Center, LaVista, Nebraska
- Infection Control Symposium
 - NICN, GOAPIC, GPQIN
 - Thursday, August 27, 2015
 - Lied Center, Nebraska City, Nebraska

Contact Information



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