

Florida Department of Health: Healthcare-associated Infection Prevention Program



CAUTI Collaborative Cohort 2 Call
June 20th, 2012

Reminders/Announcements

- Optional Site Visit 2: Staff Education on the Prevention Strategies
- May data should be in NHSN by June 25th

Today we will discuss...

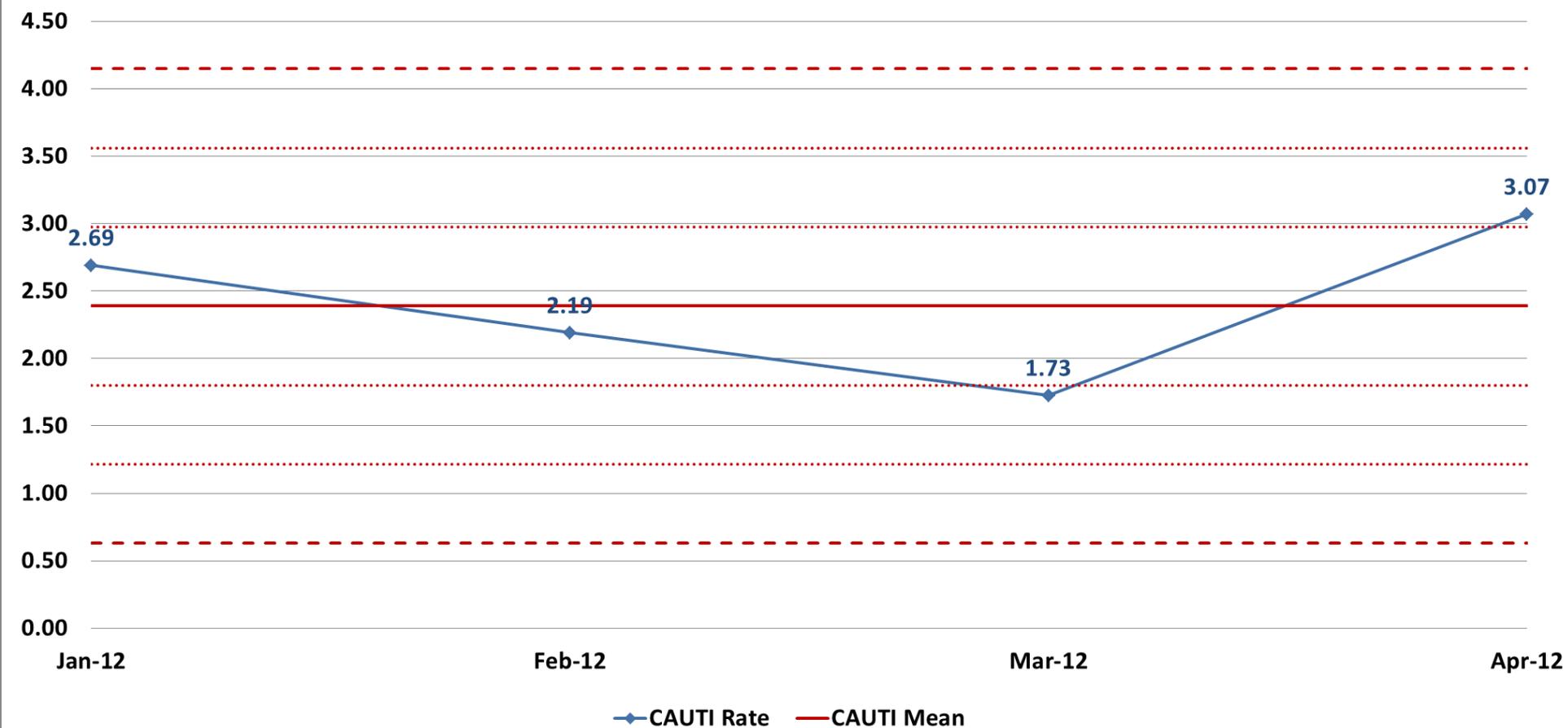
- Aggregate baseline data.
- HICPAC CAUTI Prevention Strategies

Aggregate Baseline Data

	CAUTI Rate	DU ratio	% Units Reporting (62)
Jan-12	2.69	0.29	87%
Feb-12	2.19	0.30	82%
Mar-12	1.73	0.29	81%
Apr-12	3.07	0.31	71%
Mean	2.39	0.30	80%

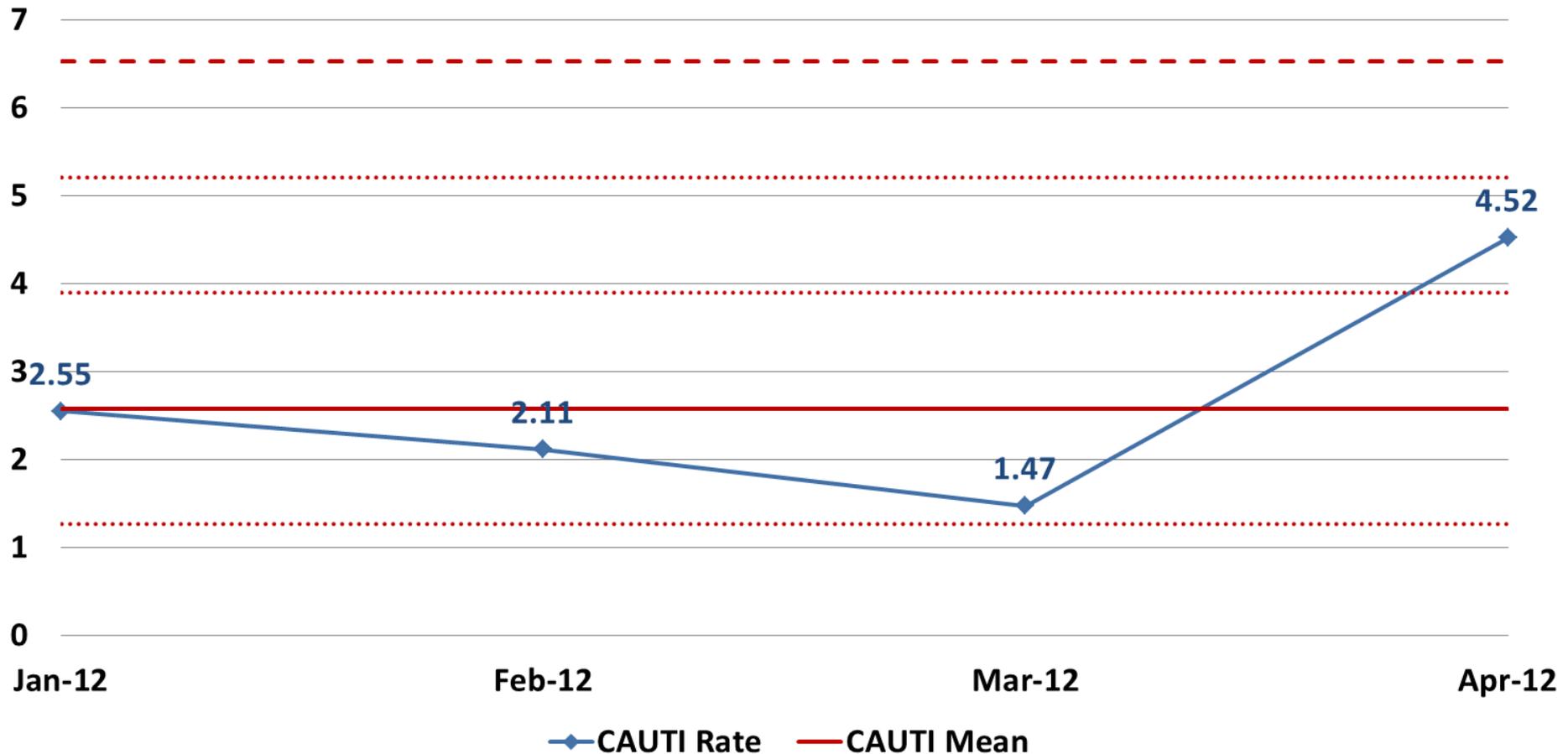
Aggregate CAUTI Rate

Aggregate Baseline CAUTI Rate
January 2012 - April 2012



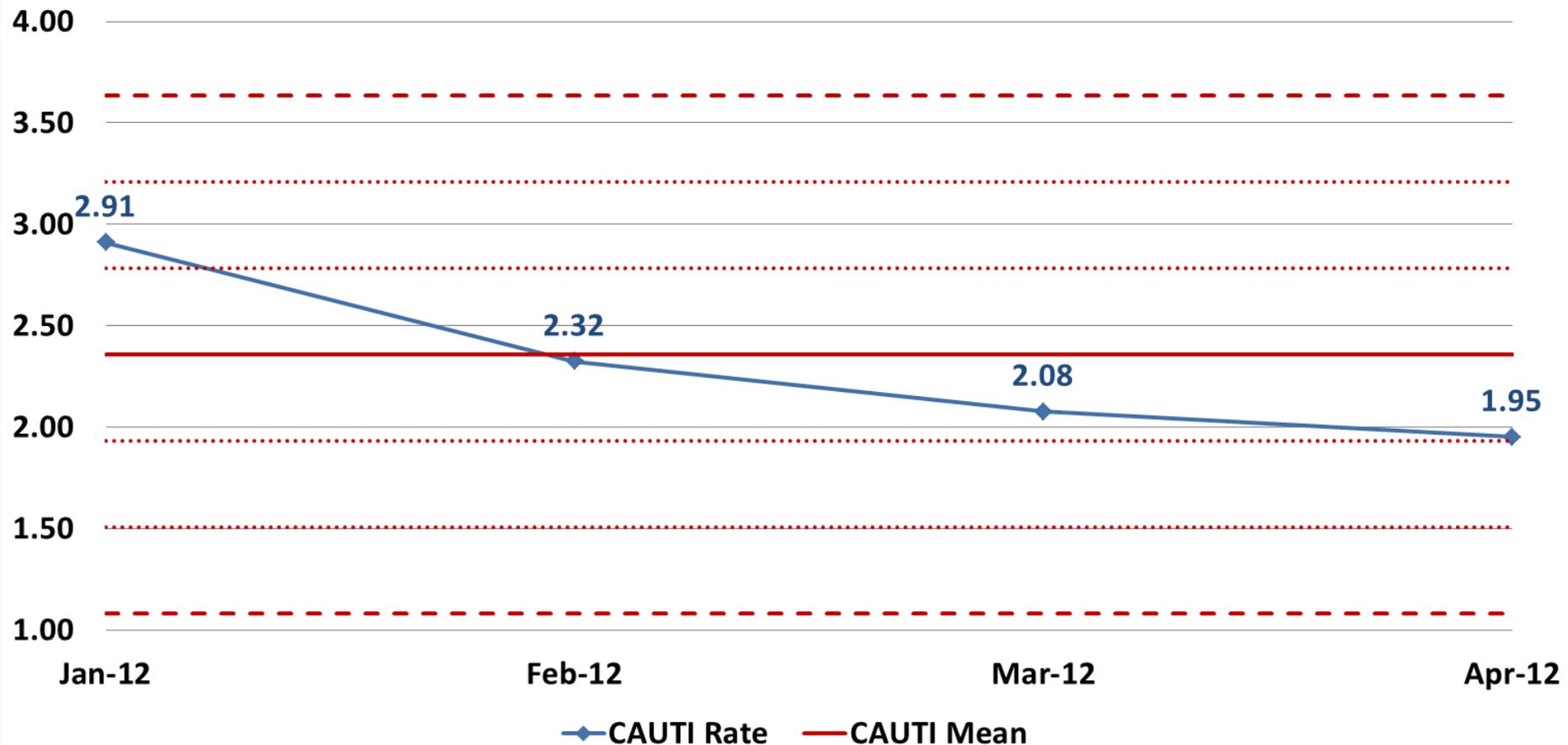
CAUTI Rate Critical Care Units

Aggregate Baseline CAUTI Rate: Critical Care Units
January 2012 - April 2012



CAUTI Rate Inpatient Wards

Aggregate Baseline CAUTI Rate: Inpatient Wards
January 2012 - April 2012

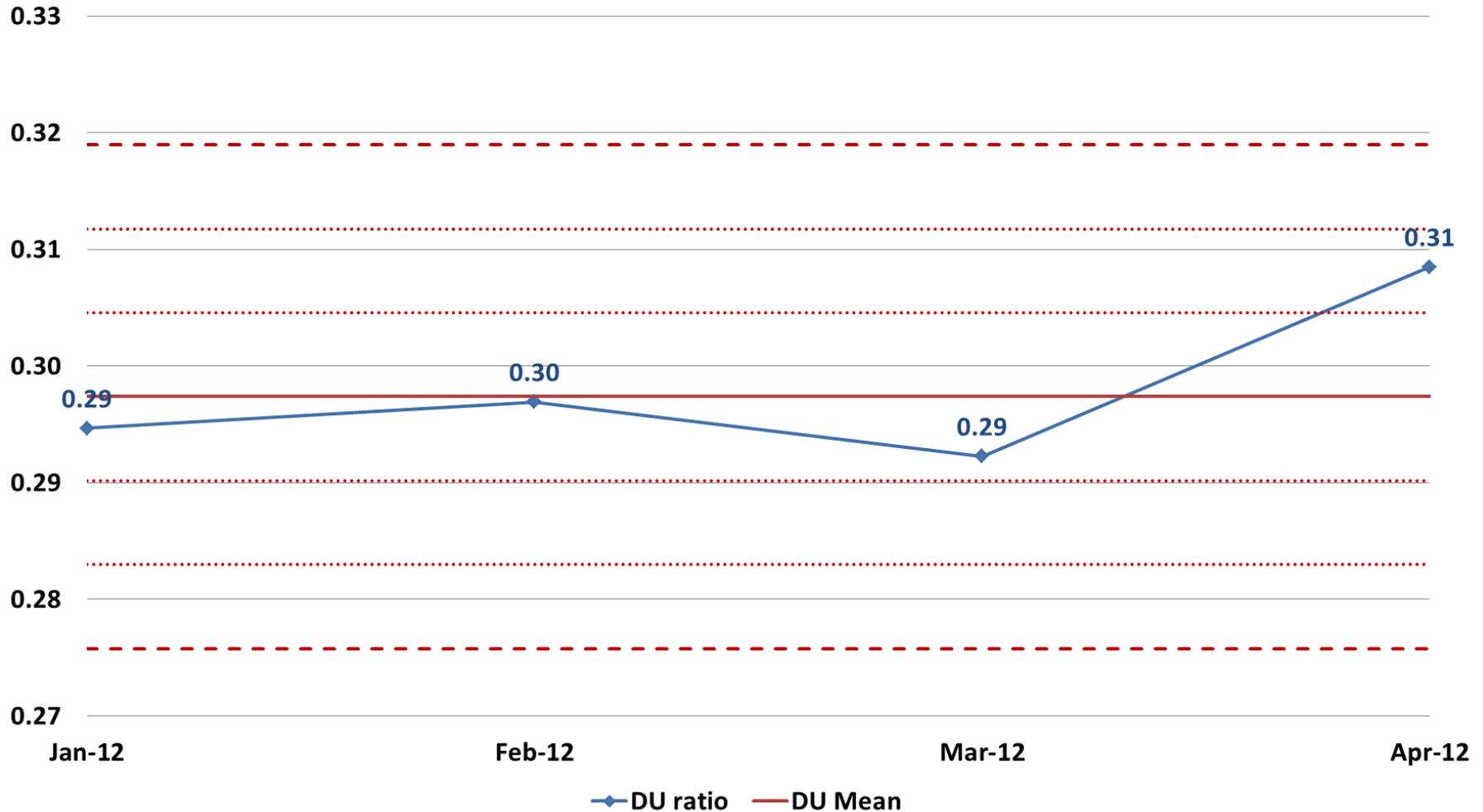


Aggregate CAUTI Rate Summary

- Aggregate baseline CAUTI Rate
 - Mean 2.39 with 80% of units reporting
 - Showing a downward trend with slight increase in April (most likely due to only 71% units reporting)
 - Overall, no significant trends identified

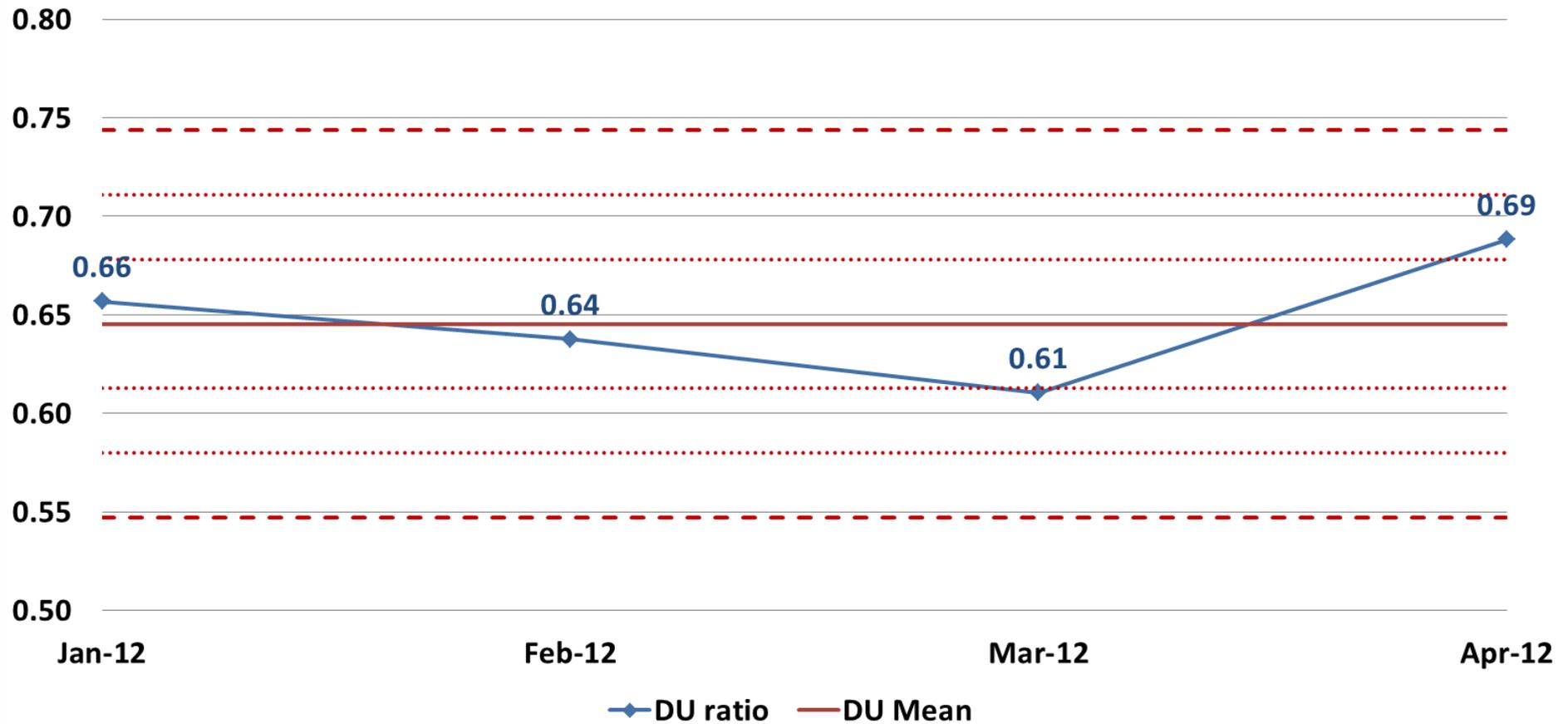
Aggregate Baseline Device Utilization

Aggregate Device Utilization Ratio
January 2012 - April 2012



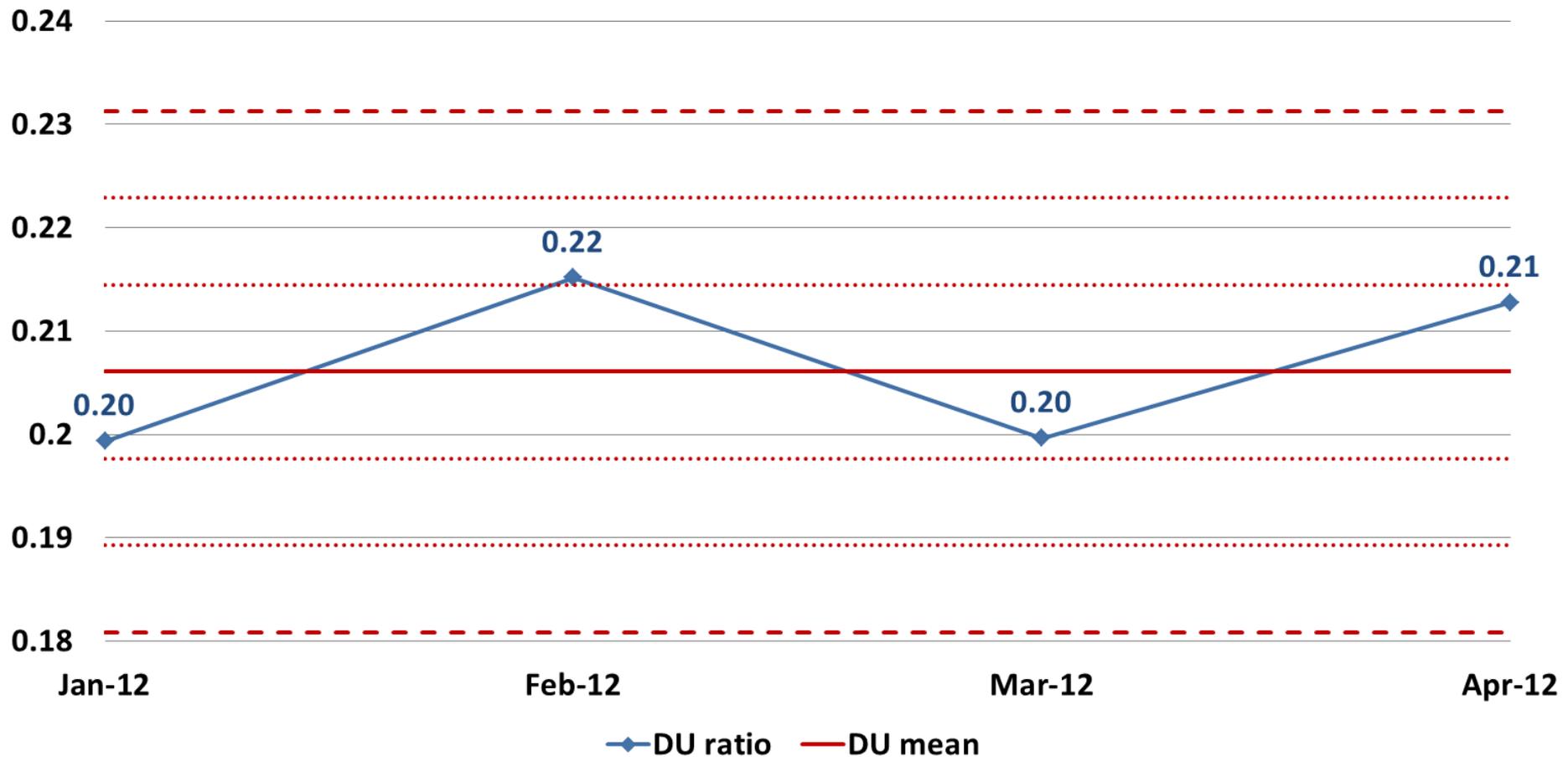
Device Utilization Critical Care Units

Aggregate Baseline Device Utilization Ratio: Critical Care Units
January 2012 - April 2012



Device Utilization Ratio Inpatient Wards

Aggregate Baseline Device Utilization Ratio: Inpatient Wards
January 2012 - April 2012



Aggregate Device Utilization Summary

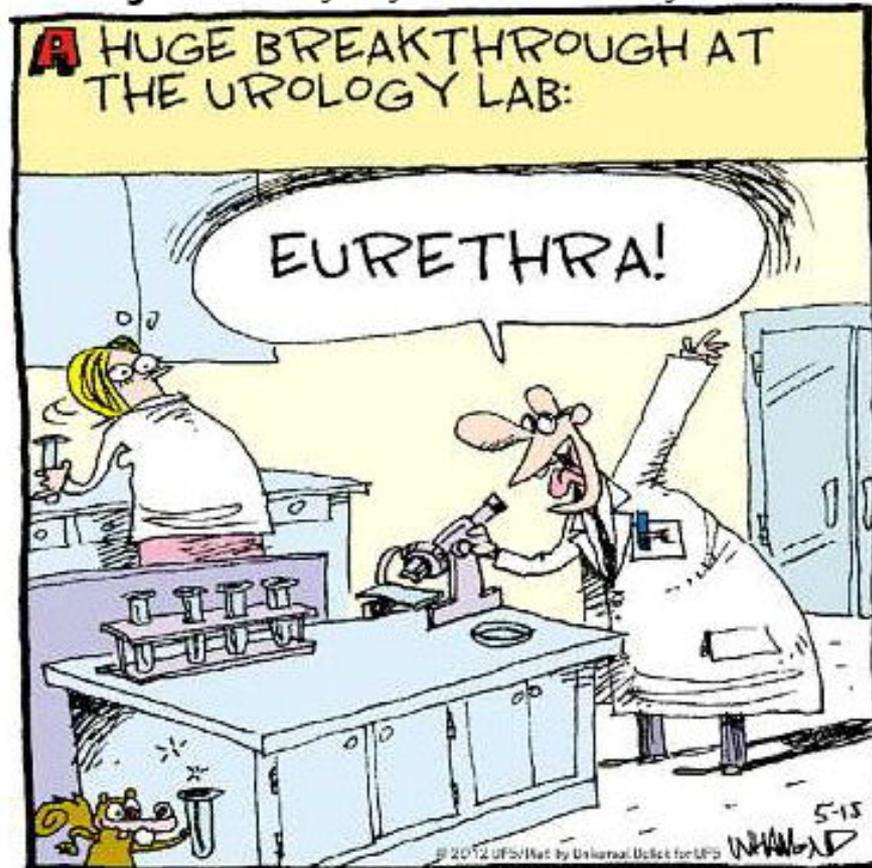
- Aggregate baseline Device Utilization Ratio
 - Mean 0.30 with 80% of units reporting
 - Device utilization ratio is fairly stable near the mean with a slight increase in April (increase in April most likely due to only 71% units reporting)
 - Overall, no significant trends identified

Aggregate Baseline Data

- Aggregate baseline CAUTI rate and device utilization ratio will be compared to the outcome rate and ratio
 - To determine if the goal of a 25% reduction was met
 - To determine if there was a significant reduction
- The aggregate CAUTI rate and device utilization ratio will also be trended over time to identify any significant changes from month to month.

Questions or Comments?

Reality Check by Bryan Chaffin & Cory Harrison





CAUTION!
COUNT TO 10 BEFORE
YOU CATH.

FDOH CAUTI
Collaborative
Call

June 20th 2012

OBJECTIVES

- **To raise awareness about the impact of catheter-associated urinary tract infections.**
- **To inform of the mandates from The Centers for Medicare and Medicaid Services and The Joint Commission.**
- **To educate on the evidence-based prevention strategies for the prevention and control of catheter-associated urinary tract infections.**

CATHETER-ASSOCIATED URINARY TRACT INFECTIONS

- UTIs are the most common healthcare-associated infection with 80% attributed to an indwelling catheter.
- 12%-16% of hospital inpatients will have a urinary catheter at some time during their hospital stay.
- 13,000 deaths per year are attributable to UTI (mortality rate 2.3%).
- Each CAUTI is estimated to cost \$758 with >560,000 occurring per year ($\$758 \times 560,000 = \text{approx. } \425 million).
- An estimated 17%-69% of CAUTI may be preventable which translates to 380,000 infections and 9,000 deaths prevented per year.

COMING DOWN THE PIKE.....

- As of 2008, CMS no longer reimburses hospitals and nursing homes for treating events that are preventable such as catheter-associated urinary tract infections (CAUTI).
- In January 2012 CMS began requiring hospitals report CAUTI into the National Healthcare Safety Network, a system created by the Centers for Disease control to track healthcare-associated infections.
- The Joint Commission added a requirement for hospitals to implement evidence-based practices to prevent CAUTI by 2013 to the National Patient Safety Goals.

HEALTHCARE FACILITY HAI REPORTING TO CMS VIA NHSN

HAI Event	Facility Type	Start Date
CLABSI	Acute Care Hospitals Adult, Pediatric, and Neonatal ICUs	January 2011
CAUTI	Acute Care Hospitals Adult and Pediatric ICUs	January 2012
SSI	Acute Care Hospitals Colon and abdominal hysterectomy procedures	January 2012
I.V. antimicrobial start	Dialysis Facilities	January 2012
Positive blood culture	Dialysis Facilities	January 2012
Signs of vascular access infection	Dialysis Facilities	January 2012
CAUTI	Inpatient Rehabilitation Facilities	October 2012
CLABSI	Long Term Care Hospitals	October 2012
CAUTI	Long Term Care Hospitals	October 2012
MRSA Bacteremia	Acute Care Hospitals Facility-wide	January 2013
<i>C. difficile</i> LabID Event	Acute Care Hospitals Facility-wide	January 2013
HCW Influenza Vaccination	Acute Care Hospitals, OP Surgery, ASCs	January 2013
SSI (<i>proposed</i>)	Outpatient Surgery/ASCs	January 2014

NATIONAL PATIENT SAFETY GOAL

07.07.01

Hospital Accreditation Program

NPSG.07.07.01

Implement evidence-based practices to prevent indwelling catheter-associated urinary tract infections (CAUTI). *

Note: This NPSG is not applicable to pediatric populations. Research resulting in evidence-based practices was conducted with adults, and there is not consensus that these practices apply to children.

Footnote *: Evidence-based guidelines for CAUTI are located at: Compendium of Strategies to Prevent Healthcare-Associated Infections in Acute Care Hospitals at, <http://www.shea-online.org/about/compendium.cfm>

Guideline for Prevention of Catheter-associated Urinary Tract Infections, 2009 at http://www.cdc.gov/hicpac/cauti/001_cauti.html

Elements of Performance for NPSG.07.07.01

1. During 2012, plan for the full implementation of this NPSG by January 1, 2013.
Note: Planning may include a number of different activities, such as assigning responsibility for implementation activities, creating timelines, identifying resources, and pilot testing.
2. Insert indwelling urinary catheters to prevent infection according to established evidence-based guidelines that address the following:
 - Limiting use and duration to situations necessary for patient care
 - Using aseptic techniques for site preparation, equipment, and supplies
3. Manage indwelling urinary catheters to prevent infection according to established evidence-based guidelines that address the following:
 - Securing catheters for unobstructed urine flow and drainage
 - Maintaining the sterility of the urine collection system
 - Replacing the urine collection system when required
 - Collecting urine samples
4. Measure and monitor catheter-associated urinary tract infection prevention processes and outcomes by doing the following:
 - Selecting measures using evidence-based guidelines or best practices
 - Monitoring compliance with evidence-based guidelines or best practices
 - Evaluating the effectiveness of prevention efforts

http://www.jointcommission.org/assets/1/6/NPSGs_CAUTI-VAP_HAP_20101119.pdf

PATHOGENESIS OF CAUTI

- Source: colonic or perineal flora or hands of personnel.
- Microbes enter the bladder via extraluminal route 2/3 of the time and intraluminal route 1/3 of the time.
- Daily risk of bacteriuria with catheterization is 3% - 10% and by day 30 = 100%

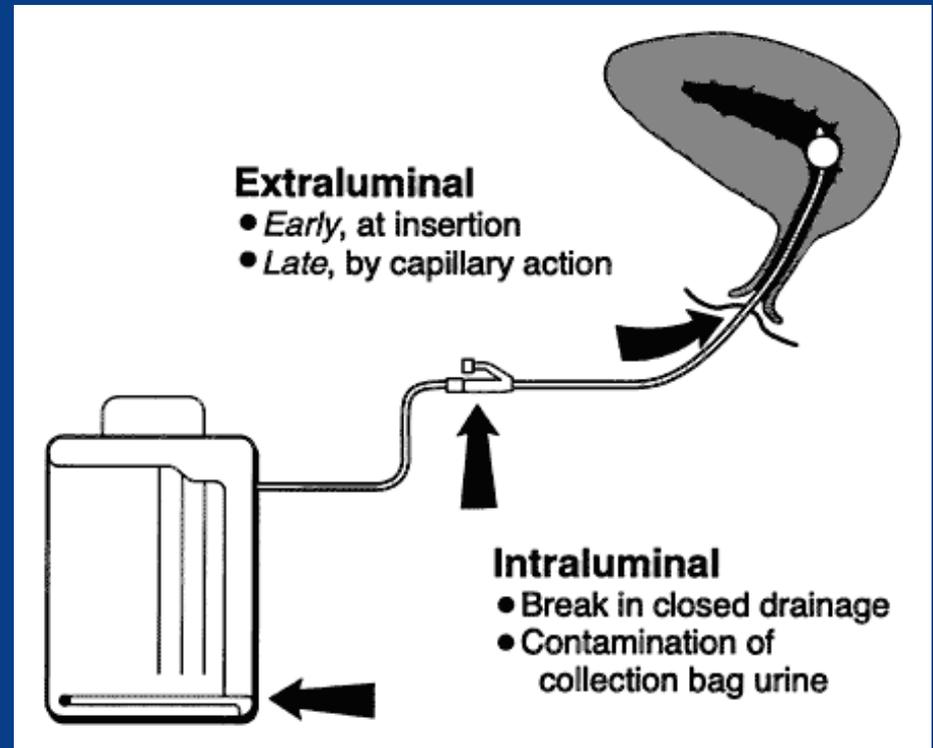


Figure from: Maki DG, Tambyah PA. *Emerg Infect Dis* 2001;7:1-6

PREVENTION STRATEGIES

1. Insert catheters only for appropriate indications.
2. Consider using an alternative.
3. Perform hand hygiene.
4. Insertion limited to trained personnel.
5. Use aseptic technique and sterile equipment.
6. Secure catheter after insertion.
7. Maintain a closed drainage system.
8. Maintain unobstructed urine flow.
9. Do not clean periurethral area with antiseptics.
10. Assess daily and remove unnecessary catheters.

PREVENTION STRATEGY #1

- Insert catheters only for appropriate indications.



WHEN IS APPROPRIATE?

- **Examples of appropriate indications:**
 - patient has acute urinary retention or bladder outlet obstruction
 - need for accurate measurements of urinary output in critically ill patients
 - perioperative use for selected surgical procedures
 - to assist with healing of open sacral or perineal wounds in incontinent patients
 - patient requires prolonged immobilization
 - to improve comfort for end of life care if needed

WHEN IS NOT APPROPRIATE?

- **Examples of inappropriate uses:**
 - as a substitute for nursing care of the patient or resident with incontinence
 - as a means of obtaining urine for other diagnostic tests when the patient can void voluntarily
 - for prolonged postoperative duration without the appropriate indications
 - structural repair of urethra/contiguous structures
 - prolonged effect of epidural anesthesia, etc.

PREVENTION STRATEGY #2

- Consider using an alternative to an indwelling urinary catheter.



CAN AN ALTERNATIVE BE USED?

- External catheters: Consider as an alternative in cooperative male patients without urinary retention or bladder outlet obstruction.
- Intermittent catheterization: Consider as an alternative in patients with bladder emptying dysfunction or spinal cord injury.
 - Consider using a portable ultrasound device to assess urine volume and reduce unnecessary catheter insertions.

PREVENTION STRATEGY #3

- Perform hand hygiene.



HAND HYGIENE

- Essential to the prevention and control of healthcare-associated infections.
 - Transmission of pathogens most often occurs via the contaminated hands of health care workers.
 - There is substantial evidence that hand antisepsis reduces the transmission of pathogens and the incidence of HAI.
- WHO Guidelines on Hand Hygiene in Health Care

HAND HYGIENE

■ When?

- Perform hand hygiene immediately before and after insertion or any manipulation of the catheter device or site.
- In general hand hygiene should be done....
 - Before:
 - patient contact
 - donning gloves when inserting a central vascular catheter
 - inserting urinary catheters, peripheral vascular catheters, or other invasive devices that do not require surgery
 - After:
 - contact with a patient's skin
 - contact with body fluids or excretions, non-intact skin, wound dressings
 - removing gloves

HAND HYGIENE

■ How?

■ Handrubs

- Apply to palm of one hand, rub hands together covering all surfaces until dry.
 - volume: based on manufacturer



■ Handwashing

- Wet hands with water, apply soap, rub hands together for at least 15 seconds.
- Rinse and dry with disposable towel.
- Use towel to turn off faucet.



PREVENTION STRATEGY #4

- Insertion of catheters is limited to trained personnel.



HAVE YOU BEEN TRAINED?

- All employees working directly with indwelling urinary catheter (UC) should have:
 - periodic (yearly) in-service training regarding the techniques and procedures for UC insertion, maintenance, and removal
 - education about CAUTI, other complications, and alternatives to indwelling UC
 - performance feedback on the proportion of UC placed that meet criteria and other aspects related to catheter care and maintenance

PREVENTION STRATEGY #5

- Use aseptic technique and sterile equipment.



ASEPTIC TECHNIQUE AND STERILE EQUIPMENT

■ Insertion:

- Use sterile gloves, drape, sponges, antiseptic/sterile solution for periurethral cleaning, and a single-use packet of lubricant jelly.

■ Manipulation:

- Use Standard Precautions, including the use of gloves and gown as appropriate.

- All equipment should be easily accessible and bundled together if possible.

PREVENTION STRATEGY #6

- Properly secure the indwelling catheter.



SECURE CATHETER

- Properly secure the indwelling catheter after insertion to prevent movement and urethral traction.
 - If possible, bundle securement device with other catheter materials to ensure it will be used each time.

PREVENTION STRATEGY #7

- Maintain a closed drainage system.



MAINTAIN CLOSED DRAINAGE SYSTEM

- If breaks in aseptic technique, disconnection, or leakage occur, replace the catheter and collecting system using aseptic technique and sterile equipment.
- Consider using urinary catheter systems with pre-connected, sealed catheter-tubing junctions.
 - Also consider using a system with a urometer pre-attached.
- Changing catheters or drainage bags at routine, fixed intervals is not recommended unless infection, obstruction, or compromise of closed system occurs.

PREVENTION STRATEGY #8

- Maintain unobstructed urine flow.



MAINTAIN UNOBSTRUCTED URINE FLOW

- Keep the catheter and collecting tube free from kinking.
- Keep the collecting bag below the level of the bladder at all times but off of the floor.
- Empty the collecting bag regularly using a separate, clean collecting container for each patient.
 - Avoid splashing, and prevent contact of the drainage spigot with the nonsterile collecting container.

PREVENTION STRATEGY #9

- Routine hygiene is appropriate.



CLEANING MEATAL AREA

- **Routine hygiene is appropriate**
 - **Cleanse the meatal surface during daily bathing or showering.**
- **Do not clean the periurethral area with antiseptic solutions to prevent CAUTI while the catheter is in place.**

PREVENTION STRATEGY #10

- Assess Daily. Remove unnecessary catheters.



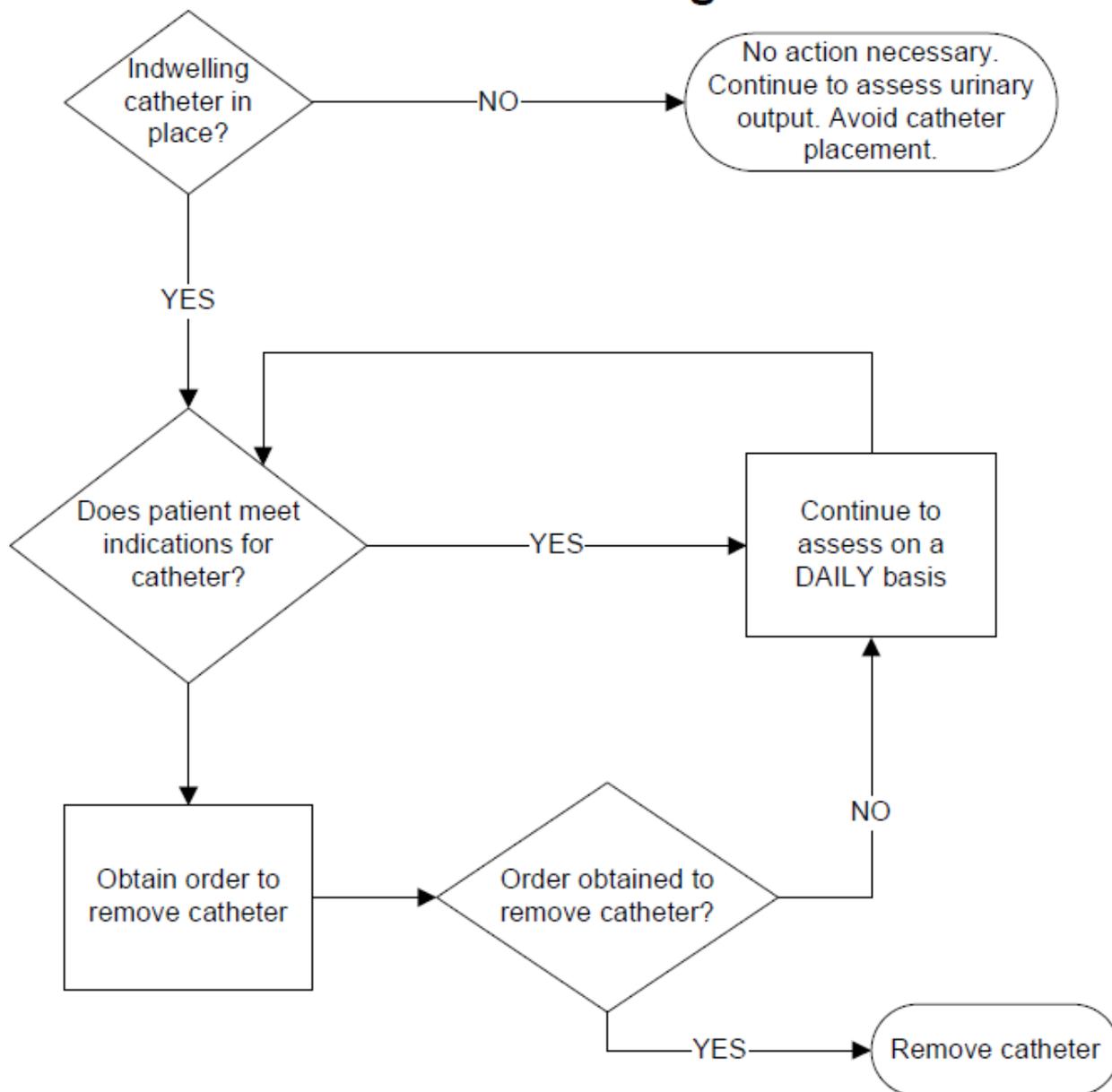
REMOVE ASAP!

- Remove unnecessary catheters.
 - Round daily on all catheterized patients.
 - If indications are not met, take steps to remove catheter or document reason if left in place.
 - contact physician for order to remove catheter
 - if nurse-driven protocol, remove catheter
 - Remove catheter within 48 hours following surgical procedure or document reason for extended use. (SCIP #9)

INDICATIONS FOR INDWELLING URINARY CATHETER

- Patient has acute urinary retention or bladder outlet obstruction.
- Need for accurate measurements of urinary output in critically ill patient.
- <48 hours post-urologic surgery or other surgery on contiguous structures of the genitourinary tract.
- To assist in healing of open sacral or perineal wounds in incontinent patient.
- Prolonged immobilization (e.g., potentially unstable thoracic or lumbar spine, multiple traumatic injuries such as pelvic fractures).
- To improve comfort for end of life care.

CAUTI Removal Algorithm



CAUTION!

Count to 10 before you cath.

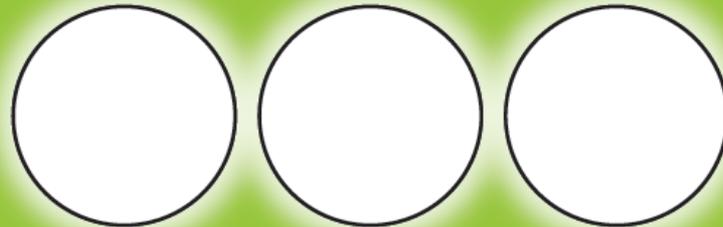
1. Insert catheters only for appropriate indications.
2. Consider using alternatives to indwelling urethral catheterization.
3. Perform hand hygiene!
4. Have you been trained? Insertion of catheters is limited to trained personnel.
5. Insert catheters using aseptic technique and sterile equipment.
6. Properly secure catheter after insertion.
7. Maintain a closed drainage system.
8. Maintain unobstructed urine flow.
9. Do not clean the periurethral area with antiseptics. Routine hygiene is appropriate.
10. Assess daily! Remove unnecessary catheters or document reason for extended use.

2 months ago

Last month

This month

CAUTI
rate



Number of infections/1000 catheter days = CAUTI rate



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Eliminate CAUTI:

One infection at a time

Appropriate Indications: *Does this patient need the catheter?*

- Ensure patient meets appropriate indications for catheter use and document reason.
- Consider alternatives to indwelling urethral catheterization.

Hand hygiene: *It starts with the hands.*

- Sanitize hands thoroughly with an alcohol-based hand rub or soap and water before and after catheter insertion or manipulation.

Insertion Technique: *Pay attention to detail.*

- Use sterile equipment including, sterile gloves, drape, sponges, and appropriate antiseptic solution.
- Use aseptic technique to insert catheter. If aseptic technique is broken, replace catheter and collecting system aseptically with sterile equipment.
- Use a single-use packet of lubricant jelly for insertion for each patient.
- Secure catheter to prevent movement and urethral traction.

Catheter maintenance: *Keep it neat.*

- Keep collection bag below level of the bladder at all times.
- Check tubing frequently for kinking.
- Keep drainage bag off the floor.
- Empty the collecting bag regularly.
- Maintain a closed-drainage system.

Catheter care: *Keep it clean.*

- Perform perineal care daily and after each bowel movement.

Catheter removal: *Get it out!*

- Assess patient daily for catheter need.
- Take steps to remove catheter when patient no longer meets indications.

Examples of Appropriate Indications for Indwelling Urethral Catheter Use

Patient has acute urinary retention or bladder outlet obstruction.

Need for accurate measurements of urinary output in critically ill patients.

Perioperative use for selected surgical procedures:

- Patients undergoing urologic surgery or other surgery on contiguous structures of the genitourinary tract
- Anticipated prolonged duration of surgery (catheters inserted for this reason should be removed in PACU)
- Patients anticipated to receive large-volume infusions or diuretics during surgery
- Need for intraoperative monitoring of urinary output

To assist in healing of open sacral or perineal wounds in incontinent patients.

Patient requires prolonged immobilization (e.g., potentially unstable thoracic or lumbar spine, multiple traumatic injuries such as pelvic fractures).

To improve comfort for end of life care if needed.

Eliminate CAUTI: **One infection at a Time**

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QUESTIONS OR COMMENTS?

■ E-mail: HAI_Program@doh.state.fl.us

■ HAI Program Website:

■ http://www.doh.state.fl.us/disease_ctrl/epi/HAI/HAI.html

■ References:

■ <http://www.cdc.gov/nhsn/pdfs/pscManual/7pscCAUTIcurrent.pdf>

■ Gould CV, Umscheid CA, Agarwal RK, Kuntz G, Pegues DA, and HICPAC. Guideline for Prevention of Catheter-associated Urinary Tract Infections 2009.
http://www.cdc.gov/hicpac/cauti/001_cauti.html

■ Joint Commission National Patient Safety Goal 07.07.01, 2011

