

Reducing CLABSI Adult Inpatient Oncology: Our Nursing Experience

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Education/Safety/Outcomes

MEDICINE *of* THE HIGHEST ORDER



Our Inpatient Oncology Units:

Blood and Marrow Transplant

Surgical Oncology

Medical Oncology

Hospice and Palliative Care

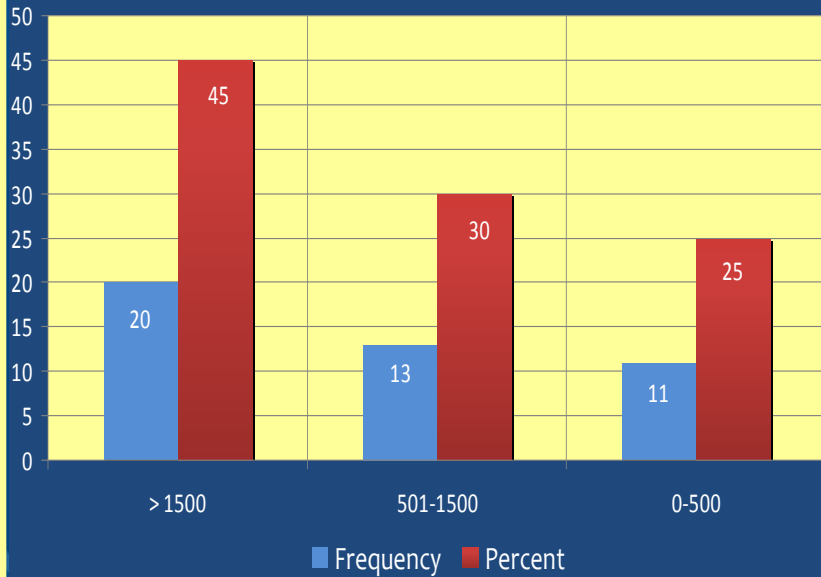
MEDICINE *of* THE HIGHEST ORDER



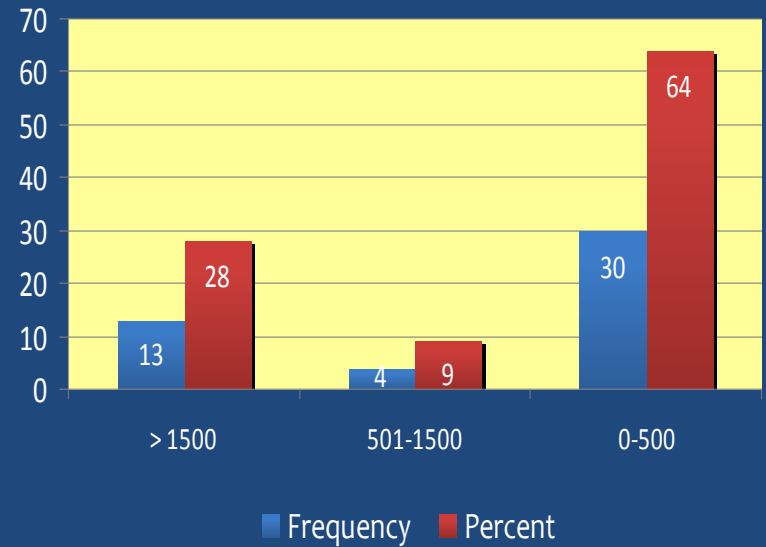
UNIVERSITY *of*
ROCHESTER
MEDICAL CENTER

A review of our 2008 CLABSI BMTU and medical oncology unit: n=47

ANC at time of catheter insertion

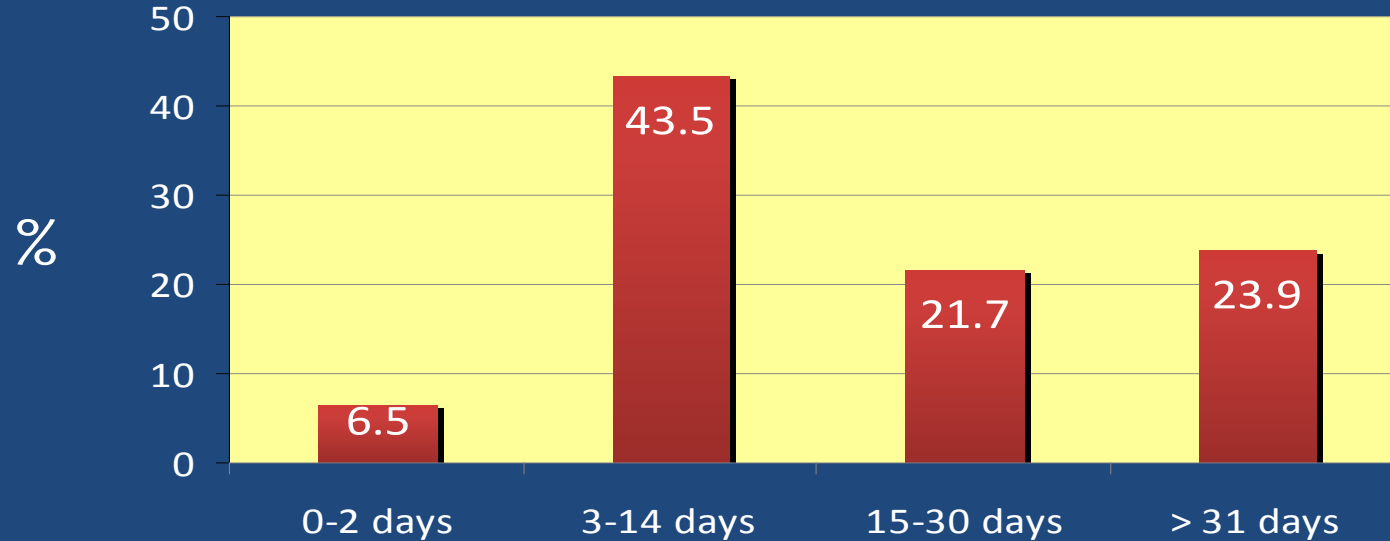


ANC date of CLABSI



A review of our 2008 CLABSI BMTU and medical oncology unit: n=47

Days from insertion to CLABSI



Introduction of the insertion & maintenance bundles: July 2008

July 2008 Central Line Update



The facts.....

- ⇒ More than 15% of all patients who require Central Venous Catheters (CVC's) have some type of complication, including infections.
- ⇒ The average cost to care for a patient with an CVC infection is \$45,000.
- ⇒ It is estimated that these types of infections cost our healthcare system \$2.3 billion annually.
- ⇒ Each year in the U.S., CVCs are estimated to cause 80,000 catheter-related bloodstream infection (CRBSI) and result in 28,000 deaths among patients.



- ◆ All nursing practice staff members are empowered to halt the insertion of a central line if all Central Line Insertion Bundle criteria have not been met.
- ◆ Unlicensed staff members are encouraged to relay concerns to the charge nurse or another member of the nursing staff.

Central Line Insertion Bundle

- Scrupulous hand hygiene.
- Full sterile drape (covers patient head to toe).
- Full barrier precautions (sterile gown & gloves, head cover & face mask).
- Skin prepped with chlorhexidine (unless contraindicated—see policy) and allowed to dry for appropriate amount of time to allow for anti-microbial activity to occur.
- Patient consent addressed.
- SMH 10909 Universal Protocol: Procedure Checklist & Note (or equivalent) completed.
- Avoid femoral insertion site in adults if possible.
- Assess patient need for central line daily.
- Discontinue central line ASAP if no longer indicated. (Requires provider order).



Central Line Maintenance Bundle

-Scrupulous hand hygiene.

- ◆ Before and after all contact including medication administration and site assessment



-Perform dressing change & site care using aseptic technique.

- ◆ Assess site & document q24 hrs/prn
- ◆ Scrub insertion site with chlorhexidine 2% for 30 seconds using repeated back & forth strokes and allow site to dry to ensure adequate anti-microbial activity (unless chlorhexidine contraindicated—see policy).
- ◆ Apply transparent semi-permeable dressing over insertion site & change dressing Q7days & prn.
- ◆ Apply gauze dressing over insertion site only with bleeding /oozing & change dressing q24h & prn.

-Replace dressing if damp, loosened or visibly soiled.

- ◆ Perform site care as described above each time dressing is replaced.



-When accessing the central line, use VIGOROUS FRICTION to "scrub the hub" or access device.

- ◆ Scrub with alcohol for at least 10-15 seconds with equal dry time, every time you make or break a connection.

-Tubing change at least q96hours or per policy.

- ◆ Change IV fluids & all access devices with tubing change, including stopcocks, extension tubing, blood saving devices, and needleless access devices.

-Flush all lumens per policy to maintain patency.

■ Drawing Blood Cultures from Central Lines

■ KEY POINTS:

- ◆ Scrupulous hand hygiene
- ◆ If needleless access device is attached to catheter hub, blood samples for culturing should be obtained through this device.
- ◆ Use vigorous friction to scrub the hub or needleless access device with alcohol for at least 10-15 seconds with equal dry time every time you make or break connection.
- ◆ Obtain waste and sample per policy.
- ◆ Flush central line per policy using "Push-Pause" technique to provide better catheter clearance.

The instrumental role of our unit Safety Nurses

First order of business:

Education roll out and verification of staff knowledge and adherence to recommendations

- Development of an observation audit tool
 - The safety nurses then evaluated the maintenance practices of each RN

Confidential QA
 University of Rochester - Medical Center
 STRONG MEMORIAL HOSPITAL - NURSING PRACTICE
Cancer Nursing Service
Central line care – observation audit

Reviewer: _____ Date Completed: _____

Patient #1 (ID # only) _____
 Patient #2 (ID # only) _____
 Patient #3 (ID # only) _____

Visually observe:	#1	#2	#3	TOTAL		Percent Compliance
				Y	N	
Needle-less access device care:						
The RN performed appropriate hand hygiene prior to preparing to access the line (needle less access device) for medication administration or blood sampling or changing the device?	Y N	Y N	Y N			
The RN scrubbed the access device for at least 10 seconds, and allowed equal dry time, before accessing the device?	Y N	Y N	Y N			
If changing the needleless access device: The RN scrubbed the port for at least 10 seconds, and allowed equal dry time, before applying the new device?	Y N	Y N	Y N			
Dressing change technique:						
The RN performed appropriate hand hygiene prior to preparing to change central line dressing?	Y N	Y N	Y N			
The RN donned clean gloves and applied mask prior to removing existing central line dressing? (<i>Mask in kit can be used or separate mask can be brought in to use prior to opening kit</i>)	Y N	Y N	Y N			
The RN discarded clean glove and applied sterile gloves before beginning site care and application of new dressing? (<i>Was sterility of gloves and kit contents maintained through dressing change?</i>)	Y N	Y N	Y N			
The RN scrubbed the site with CHG for 30 seconds and allowed site to dry prior to placing new dressing? *For those patients sensitive to CHG – please refer to P&P for recommended alternative.	Y N	Y N	Y N			
The RN maintained sterility of gloves/hands and items in the dressing change kit – for the duration of the dressing change procedure?	Y N	Y N	Y N			
TOTAL NUMBER						
PERCENT COMPLIANCE						

Number of correct responses _____ x 100 = % compliance
Total number of responses _____

Revised 1/10 mmm

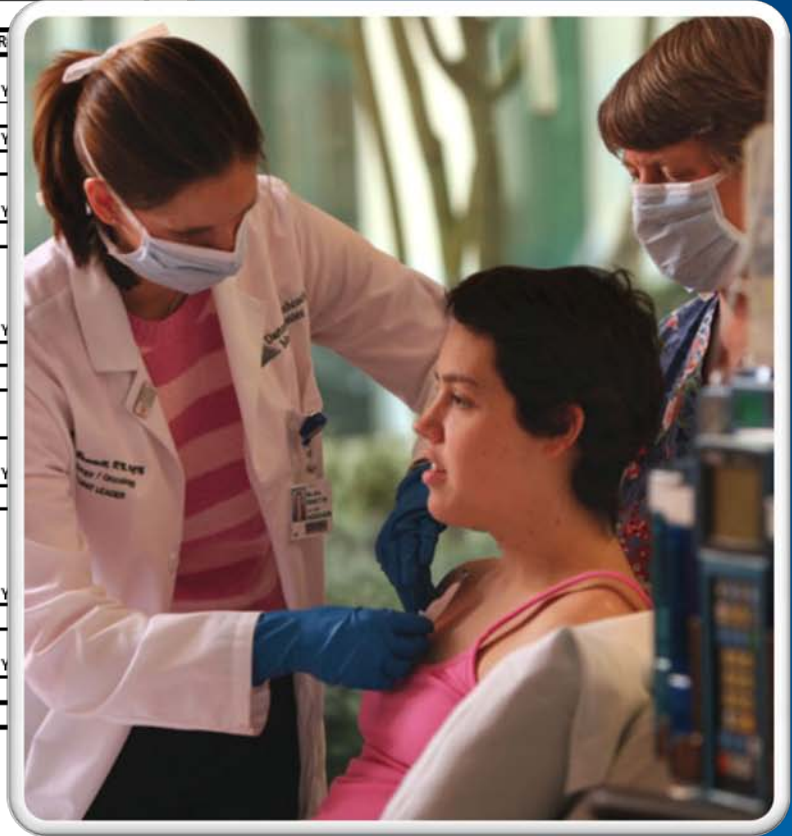
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**University of Rochester Medical Center/Strong Memorial Hospital
Nursing Practice
Confidential QA
Non- ICU Central Line Maintenance Audit Tool**

Reviewer _____ Unit _____ Date _____

Dressing best practice standards	MR#			MR#			MR#			MR#
1. Central Line Dressing is intact and 100% occlusive.	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y
2. Date is present on dressing.	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y
3. The dressing has been changed within the last 7 days.	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y
4. Dressing site assessed by RN at least once per day as evidenced by documentation on flowsheet or within CIS clinical documentation.	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y
Intravenous tubing best practice standards										
1. All IV tubing is labeled with date	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y
2. All IV tubing is changed Q96 hours or per policy for particular fluid infusing (including all claves, fluid attached to that tubing).	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y
3. All unused IV tubing has a sterile dead-end cap on when not in use.	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y
Totals:										



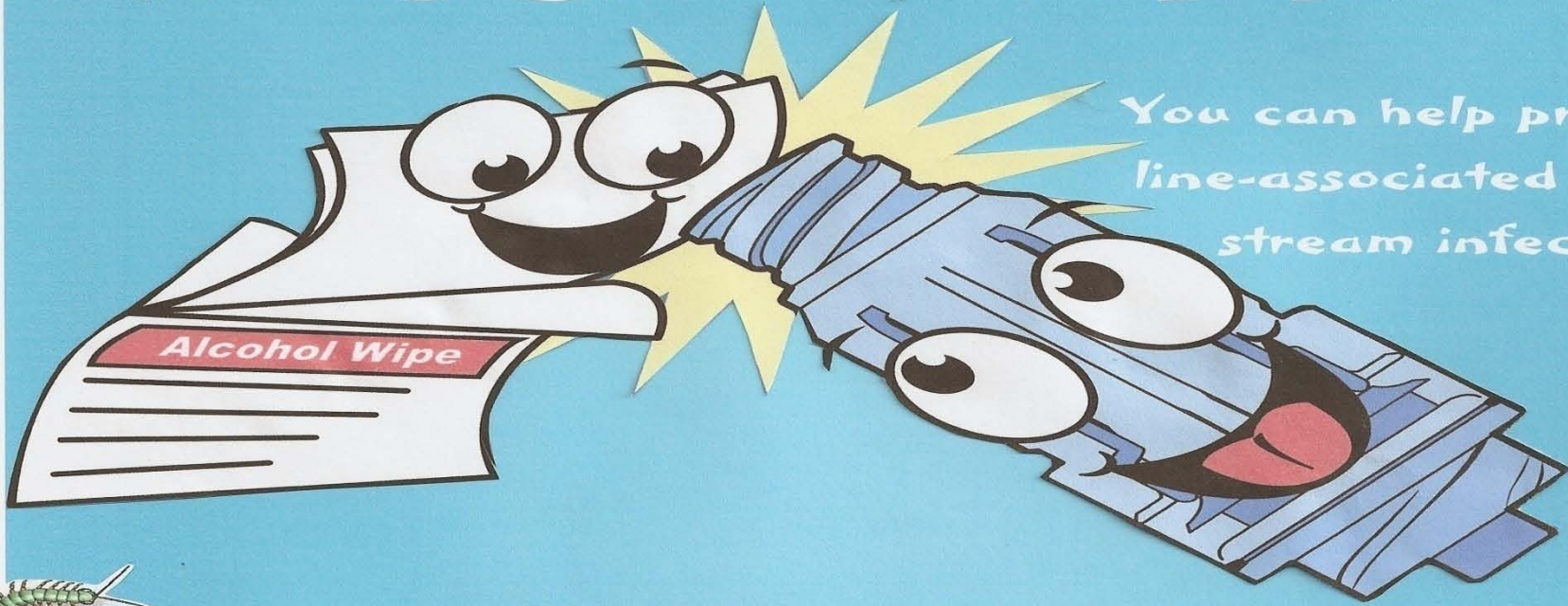
What could we do better?

Improve compliance with:

- Mask on before old dressing off
- Maintaining completely occlusive dressings
- Adherence to scrub times when accessing hubs
- Minimizing the number of times we accessed lines
- Changing entire infusion system (bag to catheter hub) at recommended intervals
- Proper flushing and proper technique for obtaining blood for blood cultures
- Patient education and patient involvement



BUG OFF!



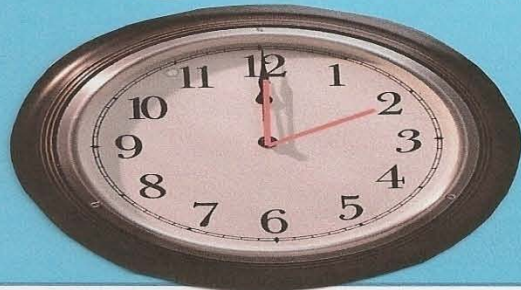
You can help prevent
line-associated blood
stream infections!



Keep the Bugs off! Remember to



“Scrub the Hub”



With Alcohol for 10 -15 seconds
with equal dry time

We need patients and families on the team

During central line and/or admission teaching – we ask our patients and families to help us in our efforts to prevent CLABSI.

How do they help?

Stop anyone that has not performed hand hygiene

- ✓Time us when we are scrubbing their hubs
- ✓Time us when we are scrubbing their site during dressing changes
- ✓Let us know if dressing has gotten wet or if it is loose/lifting
- ✓Daily bath or shower to reduce skin flora

Collaboration with our Physician and NP colleagues

Line selection

- Most appropriate type of line based on expected length of time central access will be needed
- Placing prior to chemo and neutropenia – WHEN POSSIBLE

Daily rounds

- Site assessment
- Is the line still needed?

Orders

- Proper orders for flushing (heparin/no heparin)
- Proper orders for blood culture

**Unified effort to minimize the number of times line is accessed and
de-accessed each day**

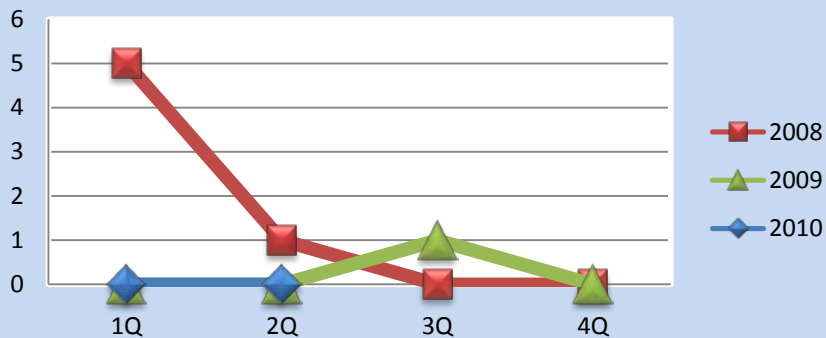
Investigate each confirmed CLABSI

Findings are reviewed with:

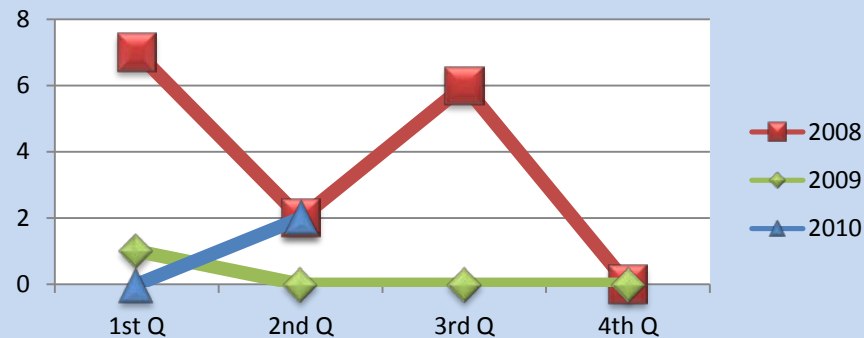
- Nursing leadership and nursing staff
- Attending team
- Any concern of other potential source for + BSI is discussed and evaluated with our Infection Prevention team

Inpatient Oncology CLABSI cases 2008 through 2010

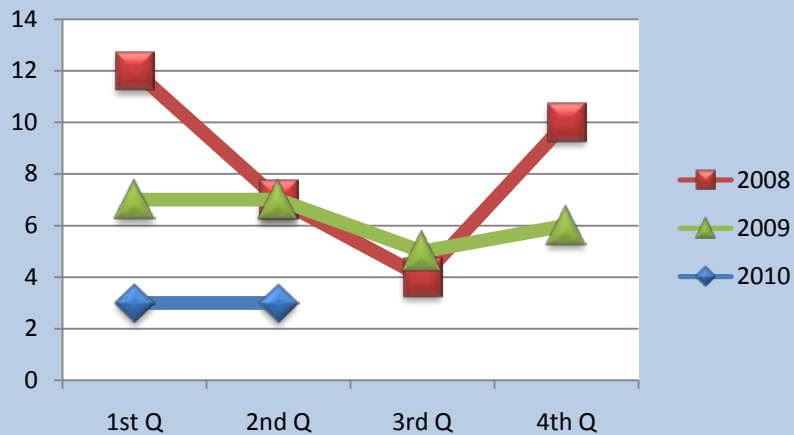
Hospice & Palliative care unit



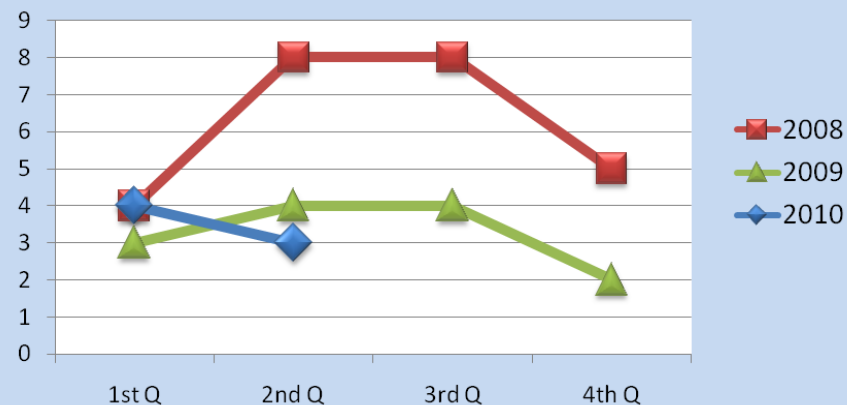
Surgical-Oncology Unit



Medical-Oncology



Blood & Marrow Transplant Unit

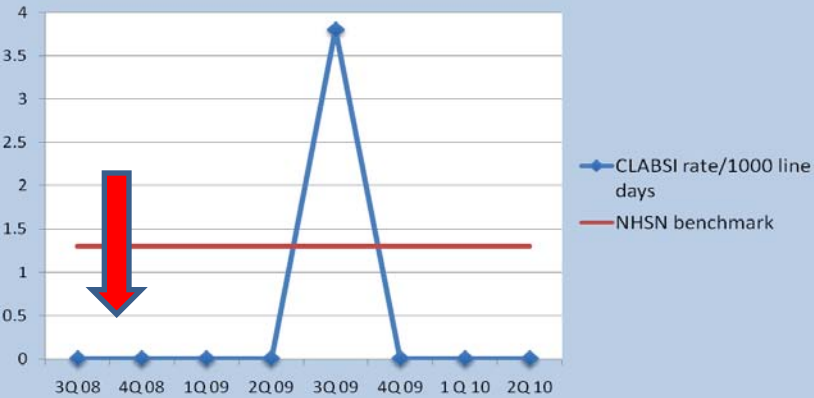


Inpatient Oncology CLABSI rates

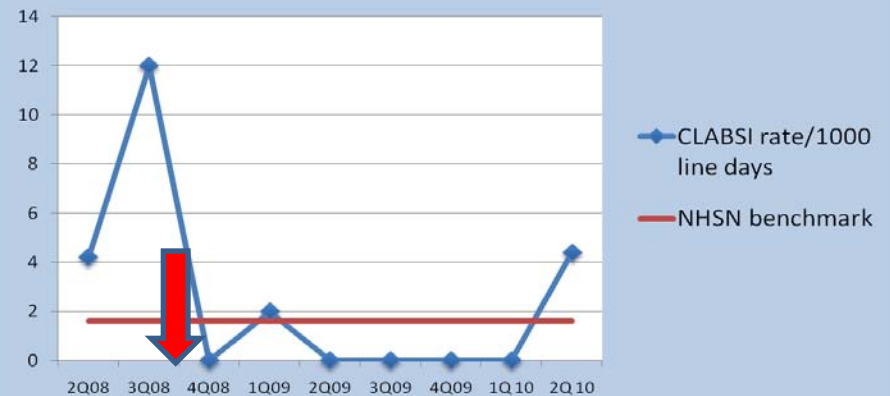


Central line bundles implemented

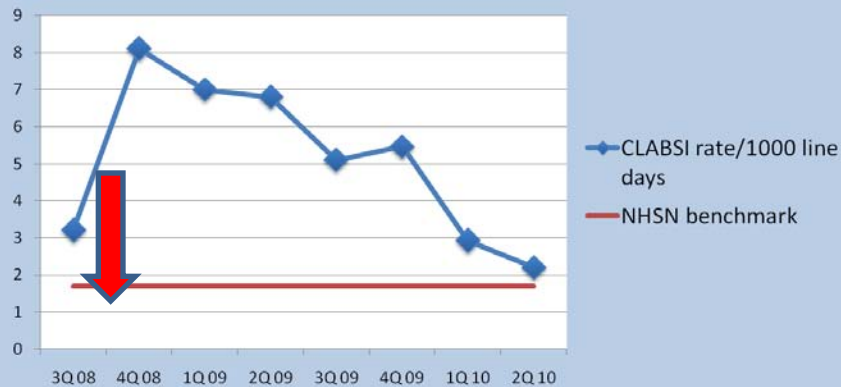
Hospice and Palliative care unit



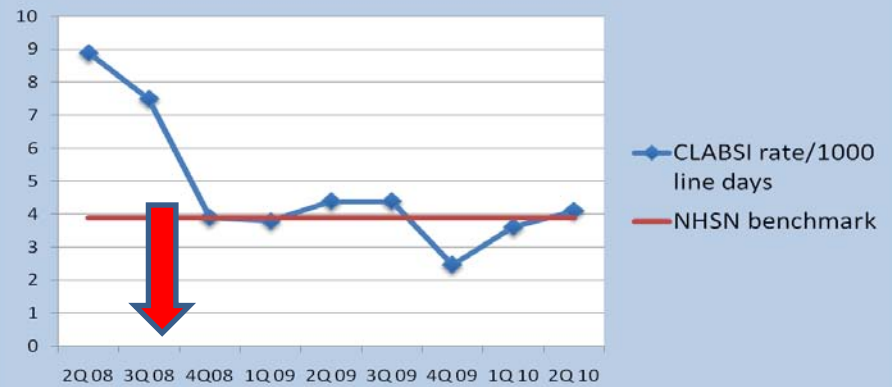
Surgical-Oncology



Medical-Oncology



Blood and Marrow Transplant Unit



We have a few questions...

- Best technique and solution for flushing lumens based on line type and needle-less access device (NAD) in use
- Most efficient type of NAD/mechanical valve
- Maintenance of optimal patency of all lumens
- Best technique for obtaining specimens for blood culture



What's next?

Evaluate potential benefits of two different products that have demonstrated ability to contribute to CLABSI reduction:

1. Neutral (zero) displacement NADs
2. Central line dressings with CHG disc or patch

For today...
Celebrate your contributions ~
they are already
improving patient outcomes!



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