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How a Lean Hospital Reduces CLABSI rates

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Objectives

Describe the upward trending and action planning taken to reduce Central Line Associated Blood Stream Infections

Understand the Lean methods applied to impact CLABSI rates

Describe results of quality improvement efforts and next steps

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Salem Hospital

- Marion County – 320,000 people
- Polk County over Willamette River
- 454 licensed beds
- Primary & Specialty Clinics
- One of busiest ED in the state of Oregon
- Services Provided:
  - Orthopedic/Neurosurgery
  - Cardiac
  - Bariatric
  - General Medical/Surgical
  - Telemetry
  - Oncology
  - OB/GYN
  - ENT
  - Endoscopy

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How we got to CLABSI as an Improvement project.

Oct 2013-March 2014 Improvement Project

- Fo ertion bundles
- Fo entified CL

Nov 2014 sa each month after.

- CL ying different roo

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Lean Methods Applied

Fish Bone, Process Flow, and Action Planning

Insertion

Infection Work-up for a patient with a CL

High-risk patients

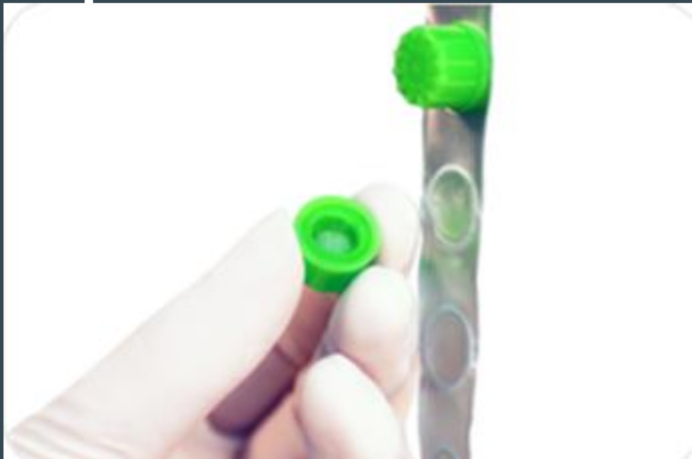
Oncology best practice

Roadmap for CLABSI Recommendations & Action Plan – June thru September 2015

Owner: Brenda Bublitz	June					July					August					September				
Action Plan	6/1-6/5	6/8-6/12	6/15-6/19	6/22-6/26	6/29-6/30	7/1-7/3	7/6-7/10	7/13-7/17	7/20-7/24	7/27-7/31	8/3-8/7	8/10-8/14	8/17-8/21	8/24-8/28	8/31	9/1-9/4	9/7-9/11	9/14-9/18	9/21-9/25	9/28-9/30
PLAN – Development of Test-of-Change																				
Presentation to QOC with decision on medical staff accountability for daily assessment of need. Recommendation for CLABSI to become a QOC	6/5																			
Validation of algorithm for venous access devices	6/5																			
Education to Common Ground about blood culture order ch		6/8																		
Validate the standard work with CVCU/ICU/PICC Team: 6/8-6/26																				
Standard work completed for "No Lines Leave Critical Care"			6/15																	
Clinical Education to build CBT and education plan for July roll out: 6/15-6/30																				
Communication to all nursing units regarding the roll out of the standard work: 6/23-6/30																				
Education at nursing huddles and in weekly notes about maintenance standard work: 6/24-6/30																				
Change blood culture order in Epic to reflect phlebotomy only blood culture draws: 7/1-7/31								Go Live:												
Create midline catheter option in Epic – Drop down in LDA: 7/1-7/31																				
Venous access protocol allowing PICC RNs to choose an alternative device if the patient does not qualify for PICC based on agreed upon EBP								7/15												
Change PICC order to include protocol, new limitations, and clinical indications: 7/1-7/31																				
Curos Cap implementation							7/7													
Maintenance CBT roll out to all staff nurses including ANMs - Completion due by 7/31																				
Competency education and return demonstrations for Skills Validators (all ANMs from Adult Health & Critical Care): 7/13-7/31									Started 7/20											
Skills Validators deployed to units to validate skills of RNs on the floor: 8/1-8/31. Completion											Goal: 25%	Goal: 50%	Goal: 75%	Goal: 90%	Goal: 100%					
Training for Power Glide insertion to PICC team & IV Therapy RNs: July & August																				
DO – Test of Change																				
Operationalize standard work on all nursing units																				
Operationalize Power Glide midline catheters																				
CHECK – How Are We Doing?																				
Quality & Safety tracking on Strategy Deployment																				
Quality & Safety tracking on Strategy Deployment																				
ADJUST – Identification of Barriers or Problems																				

Test of Change

1. Antiseptic impregnated caps
2. Daily CHG baths on all patients with central line.



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Progress

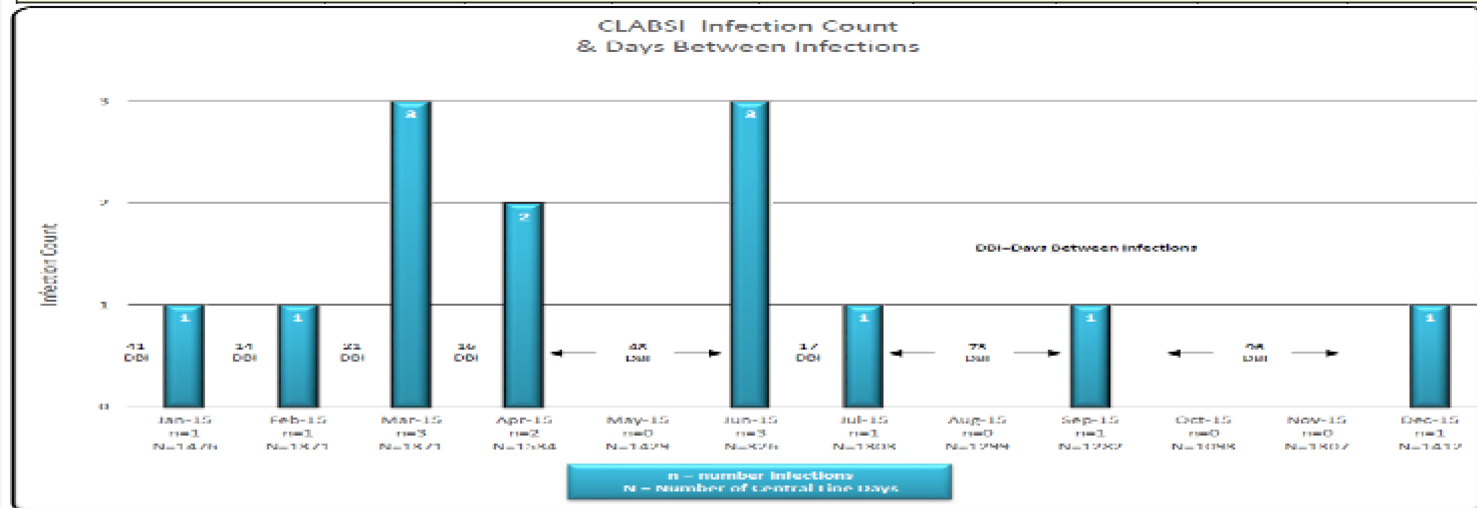
Central Line Associated Blood Stream Infections (CLABSI)

per 1000 Catheter (CL) Days through October 2015

Most Recent 8 Quarters: 92% of the units outperform the Magnet Mean > 50% of time

Magnet Reporting Period Apr 2012 thru Mar 2014: 88% of the units outperform the Magnet mean > 50% of time

Magnet Requirement: A majority of the units must outperform the Magnet Mean a majority of the time.



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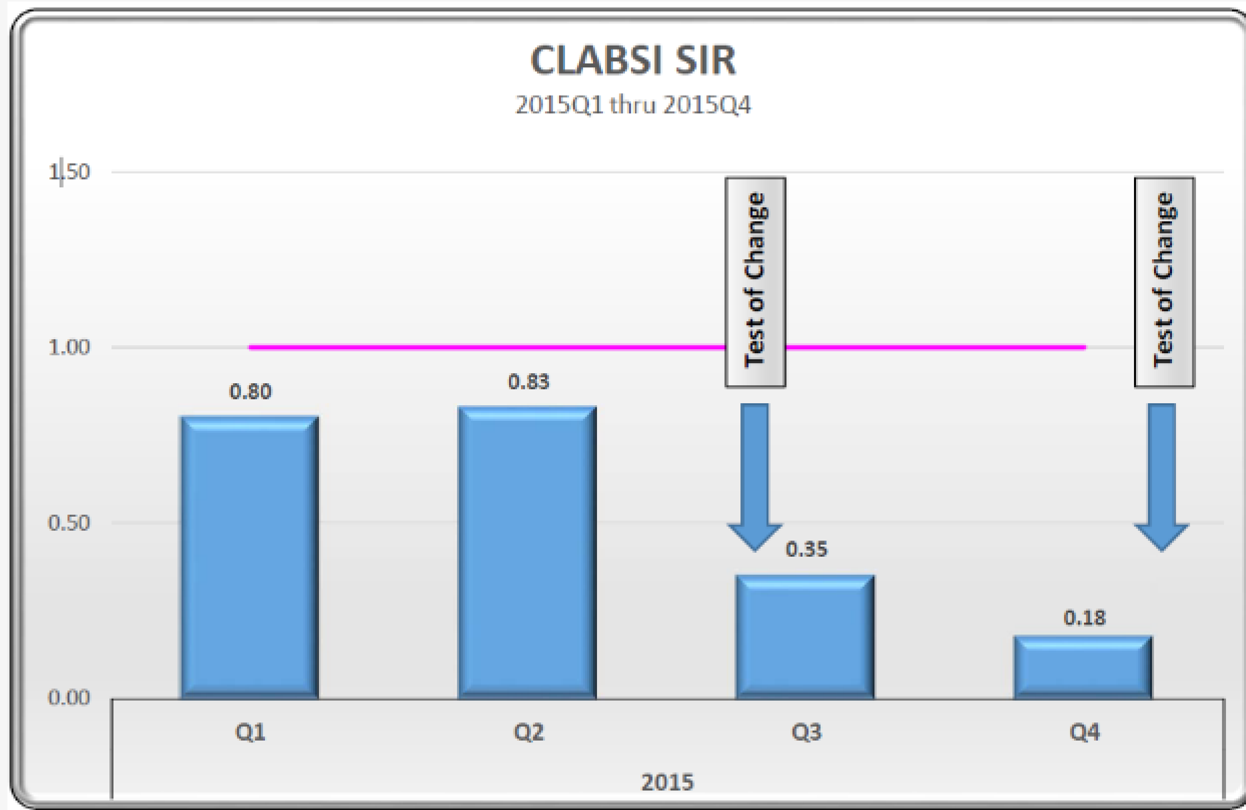
Our CLABSI Prevention Journey



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Infections by Quarter

		Device Days	Actual Infections	Expected Infections	SIR	P_value	SIRAll95CI
2015	Q1	4020	5	6.2	0.80	0.6607	0.293, 1.775
	Q2	3888	5	6.0	0.83	0.7257	0.304, 1.842
	Q3	3659	2	5.7	0.35	0.1001	0.059, 1.162
	Q4	3579	1	5.6	0.18	0.0289	0.009, 0.886

Significant decrease!

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Limitations

Quality Improvement Project

- Data collection was for external reporting, not purposes of research
- Limited data collection on the adherence to interventions
- Unable to determine if one, or a combination of interventions and increased focus contributed to the decrease in CLABSI.

Next Steps

Further research is needed to isolate if CHG baths, antiseptic baths or better adherence to maintenance bundle is the cause for decreased CLABSI rate.

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Thank You