

Evidence Based Strategies to Reduce Central Line Associated Blood Stream Infection in the Intensive Care Unit at Johns Hopkins Aramco Healthcare

مرکز جونز هوبكنز

أرامكو الطبي

Johns Hopkins

Aramco Healthcare

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Introduction

Central line associated blood stream infection (CLABSI) is a common problem among intensive care unit patients. CLABSI develops due to the presence of Central Venous Catheters (CVC).

CLABSI can negatively affect patients and healthcare organizations.

- Mortality
- Cost
- Length of Stay

Objective

Improve quality of care of patients with a central line in the Intensive Care Unit at Johns Hopkins Aramco Healthcare

Methods

Modification of Central Line Insertion and Maintenance Bundles

- Clinician adherence with insertion and maintenance bundles – Audit, Spot Check
- Monitor CLABSI rate

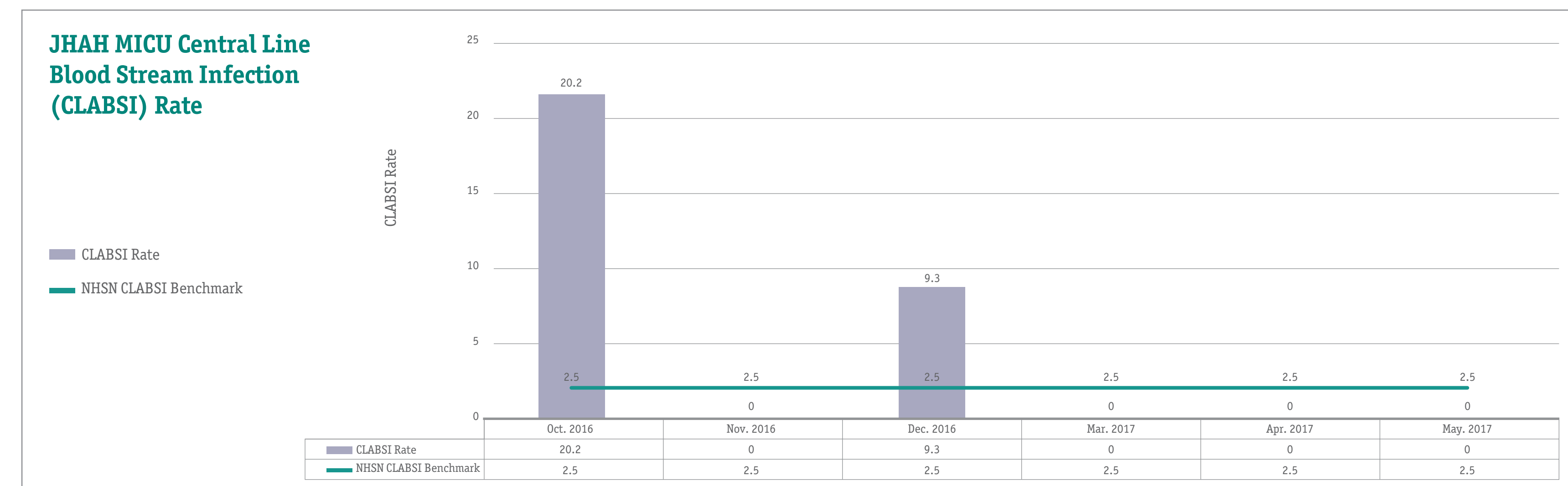
Formulate an Interprofessional Healthcare Team

- Standardization of central line care – Audit, Spot Check
- Conduct Unit-Based In-service for CLABSI Prevention

Staff knowledge – Pre & Post Test

Results

To reduce CLABSI rate of critical care patients with a central line

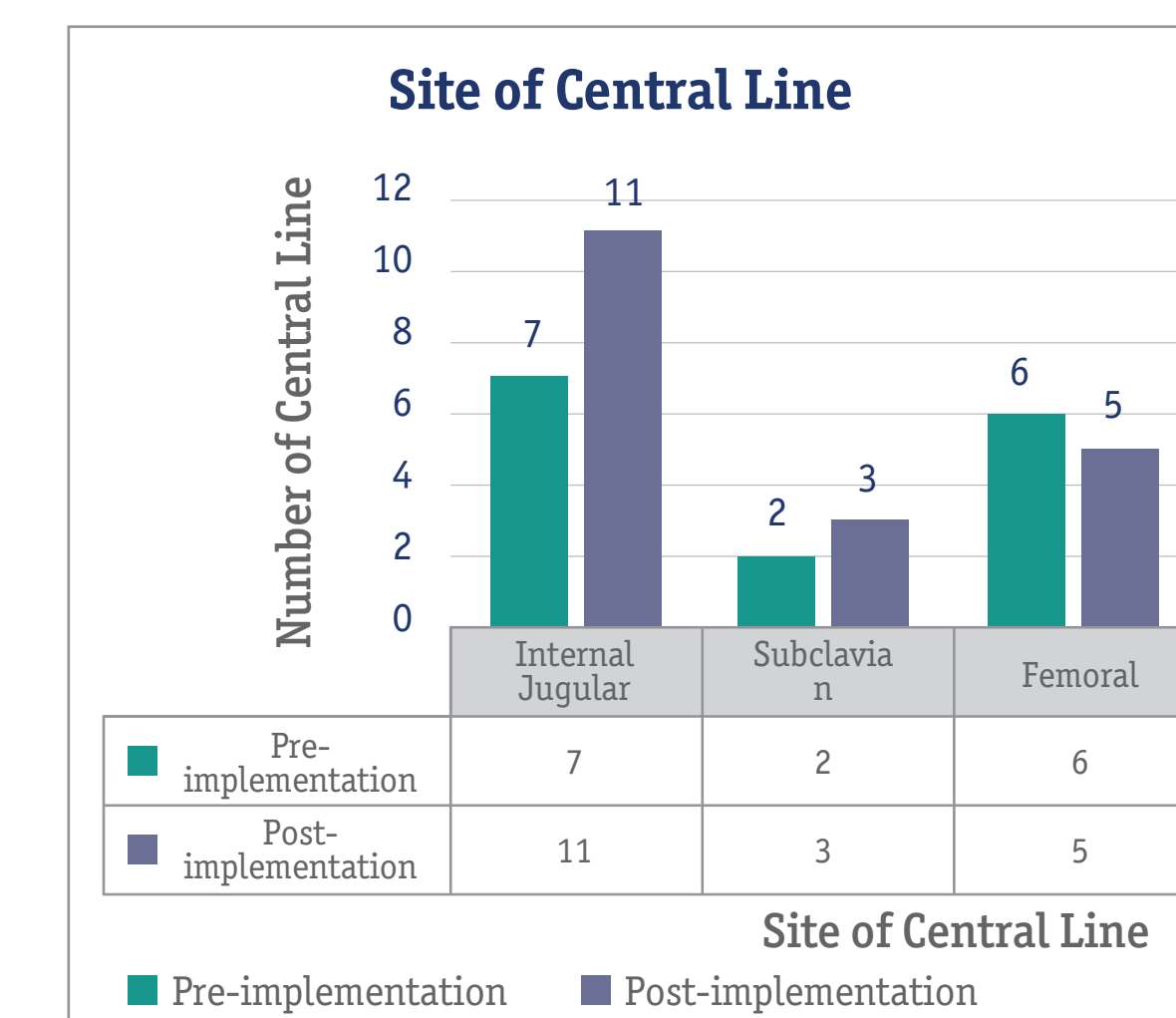


To increase clinician adherence with the insertion and maintenance central line bundles

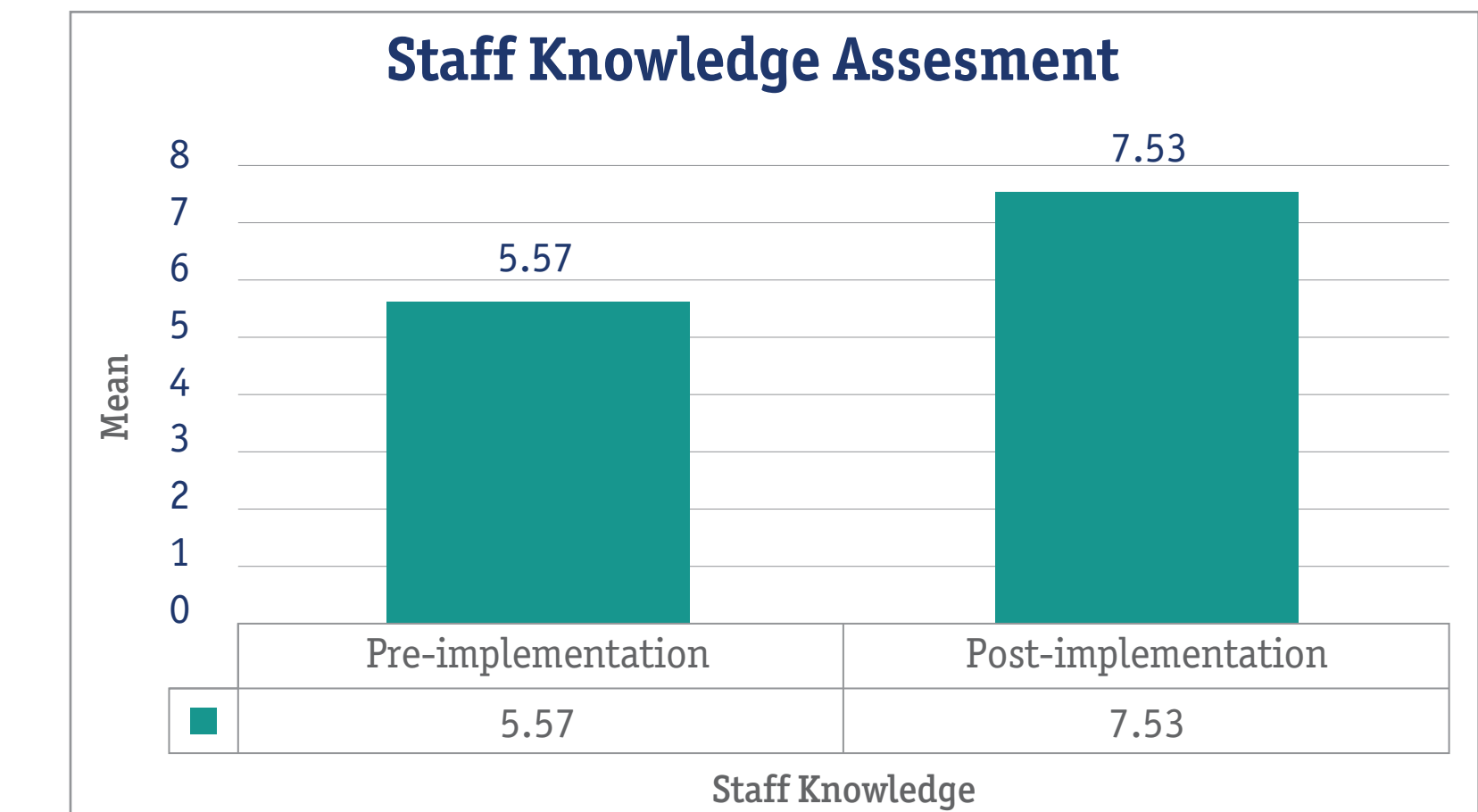
Staff Adherence to the Insertion Bundle Elements			
Elements	Pre Intervention	Post Intervention	p Value
El 1- Hand Hygiene	100%	100%	-
El 2- Sterile Field	100%	100%	-
El 3- Chlorhexidine	100%	100%	-
El 4- Drape	66.7%	100%	0.005
El 5- Ultrasound	66.7%	95%	0.028
El 6-# of insertion attempts	66.7%	90%	0.069
El 7- Securement Device	13.3%	80%	0.001
El 8- Post Insertion Care	60%	100%	0.002

To assess standardization of central line care among critical care staff

Spot Check Elements for Nurses n= 36			
Elements	Pre Intervention	Post Intervention	p Value
Dressing intact	78.9%	83.3%	0.688
Dressing dated	36.8%	83.3%	0.001
IV tubing dated	52.6%	83.3%	0.015
Clear IV tubing	78.9%	91.7%	0.178
Hub covered	21.1%	83.3%	0.001
Bio-patch	0	80.6%	0.001



To increase staff knowledge of central line care and infection prevention



Conclusion

- CLABSI infections decreased during project implementation period (CLABSI rate zero).
- Project demonstrated an increase in staff adherence to bundle elements (80% to 100% adherence to the insertion elements and 100% adherence to the maintenance elements).
- Education sessions provided insight for the staff on CLABSI prevention and central line care strategies.
- Staff knowledge increased significantly ($p < 0.001$) post project intervention period.
- Formulating an interprofessional CLABSI team was essential in central line care standardization ($p < 0.001$).
- Ongoing monitoring and auditing was performed to sustain the project result.

Bibliography

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