



MHA Lean Six Sigma Project Summary

INITIATIVE TITLE: *CLABSI Reduction in Oncology patients*

ORGANIZATION NAME: *SSM Health Cardinal Glennon Children's Hospital*

ELECTRONIC MED RECORD: EPIC

PARTICIPANT / CONTACT INFORMATION

Team Leader Name	Title	Preferred contact-type email address/phone#
Michelle Engle	Infection Preventionist	Michelle.engle@ssmhealth.com/314-268-2700X1506

DEFINE – Problem Statement & Goal

Compliance with daily recommended hygiene elements in our oncology patients needs to be monitored and improved. For example, the current BID oral care compliance is 47%. Our current Hem-ONC CLABSI rate is 2.486 compared to 2.002 for the SPS hospital average.

Our baseline defects were 198/765 opportunities. Our goal is to reduce the defects by 90% by August 2022. That is a reduction from 25% defects to 2.5% defects.

DEFINE - Initiative Scope

In Scope: oral care, patient ADL, bathing compliance for Oncology and BMT patients.

Out of Scope: Physician orders, blood culture collection technique, off service and hematology patients.

DEFINE –BIG Y

The Big Y : the number of compliant central-line and hygiene bundle elements met/total bundle elements.

Defect Definition: Individual bundle element not met*

Opportunity: Every bundle element every day

Individual bundle elements include:

- Central-line necessity documented daily
- Central-line dressing clean/dry/intact
- Cap changes documented
- Brush teeth BID documented (oral care)
- Antimicrobial bath documented
- Linen change documented

MEASURE - Data Collection / MSA

Our data collection method was chart audit and direct observation at the bedside. The MSA was done via an attribute analysis by conducting audits in unison and further defining any grey areas encountered, so that we can reproduce our results during individual auditing. The initial sample size was 30 patients, and when we determined we needed more data, it was increased to 181 patients.

ANALYZE - Critical Xs / Root Causes Identified

Bundle items in need of improvement:

Brush teeth BID documented- the patient has the ability to refuse, and nurses don't have an EPIC reminder to complete this task like a medication.

Antimicrobial bath documented- the patient has the ability to refuse, and nurses don't have an EPIC reminder to complete this task like a medication.

Linen change documented- the nurses don't remember to document.

IMPROVE - What was Implemented

RPIW conducted with various staff RNs, and as a result the following interventions were identified:

Oral care interventions:

- Dedicated education session in first few days of admission
- Start education in the clinic prior to admission
- Provide oral care kits in clinic
- Nursing driven order with twice a day oral care and including an antimicrobial rinse on the MAR

Bath Interventions

- Education with patient/family in first few days of admission
- Nursing driven order for patients with central lines to get a bath daily
- Create a script for nurses on approaching a patient for bath time/antimicrobial treatment time.
- Create patient education for refusals

Linen intervention

- Add linen change to the nursing driven CVAD order in the daily bath section as a reminder.

IMPROVE – What was Implemented

Below is a screenshot of our upcoming electronic orders for daily baths and BID oral care.

▼ Daily Skin Treatment Orders

All patients greater than the age of 2 months (corrected age* PMA) with central lines shall receive a chlorhexidine treatment on a daily basis
 Birthdate: 9/3/1976
 Current age 45 year old
 *Corrected age Missing required data.

Does Patient Have Any of the Following Conditions:

- Documented Allergy to CHG (chlorhexidine)
- Receiving Radiation Therapy
- Receiving Thio (chemotherapy drug)
- Has severe skin breakdown, rash, burns, or open skin wounds

Option 2 - Yes

Select for Oncology Patient

Oncology Patient Orders

Routine, 2 TIMES DAILY, First occurrence today at 1215, Oral care BID including: 1. brush teeth 2. rinse mouth 3. apply lip moisturizer

Mouth rinse options

Is the patient unable to swish and spit, or do they have mouth sores?

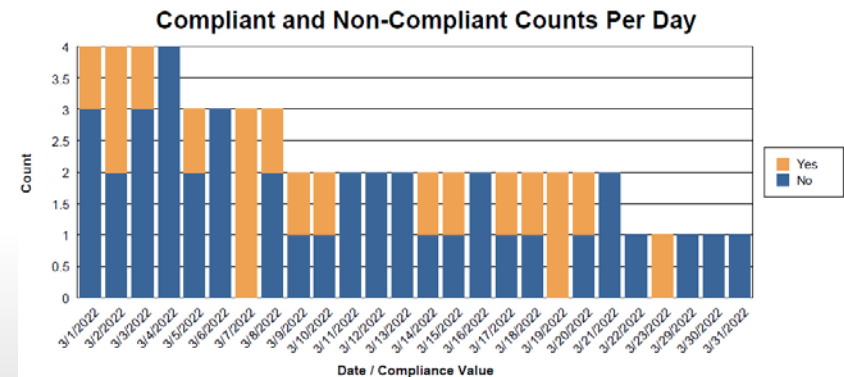
Yes

No

- chlorhexidine (PERIDEX) 0.12 % oral solution 10 mL
 10 mL, Swish and Spit, 2 TIMES DAILY (0800 AND 2000), First dose today at 1215, Until Discontinued
 15 mL oral rinse. Swish for 30 seconds and spit. Do not rinse, brush, or eat immediately after use.

IMPROVE – Results to Date

Below is newly developed Hygiene Compliance Report, showing our current state. We plan to run this monthly to measure our progress and improvements.



CONTROL – Next Steps

Plans for sustainment are to conduct audits of both chart and direct observation to provide feedback to staff and monitor for barriers and updates to our process as needed.

The project has been beneficial in identifying barriers to compliance and generating buy-in and enthusiasm from staff to work together towards a common goal of patient safety.

The roll-out plan is to work with our EPIC team to build order sets and alerts to prompt staff to complete bundle elements. Also, alerts to cue the Quality Nurse for awareness of new diagnoses and prioritize patient's education needs. The EPIC timeline go-live is projected to start June 1st, 2022, and we will follow the progress for 3 months post-change and projected completion is September 1st. If we meet further barriers during the EPIC rollout, we are prepared to extend the completion date as needed.

We will continue to manage the project as this is part of both of our job responsibilities.

OVERALL LESSONS LEARNED

Data collection can be subjective, and validation is essential to ensure consistent results.

How to use statistics to tell a story and send a meaningful message.

Although we were following best practices, we found that we needed to eliminate unnecessary steps and waste. By making it easier for staff to do the right thing, we will ensure efficient use of staff's time and achieve compliance.

We would not do anything differently because we learned from our mistakes.

NEXT PROJECT(S)

We are planning on applying this to improving patient discharge timing on the Hematology-Oncology floor. Also, reducing c-diff infection rates (Hematology-Oncology floor) by creating a bundle and monitoring compliance.

REWARD AND RECOGNITION

We would like to thank Michelle Romano (CNO), Mary Miller (Nurse Manager Hem-Onc), Dr. Hugge (Hem-Onc Quality Physician), Diane Klersy (Information Technology).