



A PRACTICAL APPROACH FOR THE PREVENTION OF CENTRAL LINE ASSOCIATED BLOODSTREAM INFECTIONS (CLABSI): A QUALITY IMPROVEMENT INITIATIVE

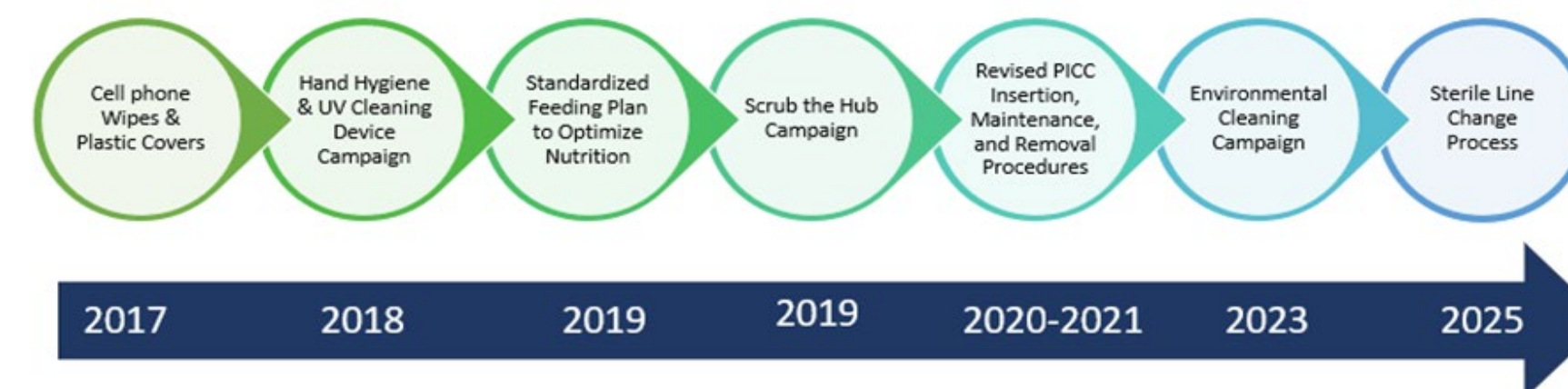
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Aim

To decrease infections, specifically incidences in the number of CLABSI infections in the Victoria General Hospital (VGH) Neonatal Intensive Care Unit (NICU).

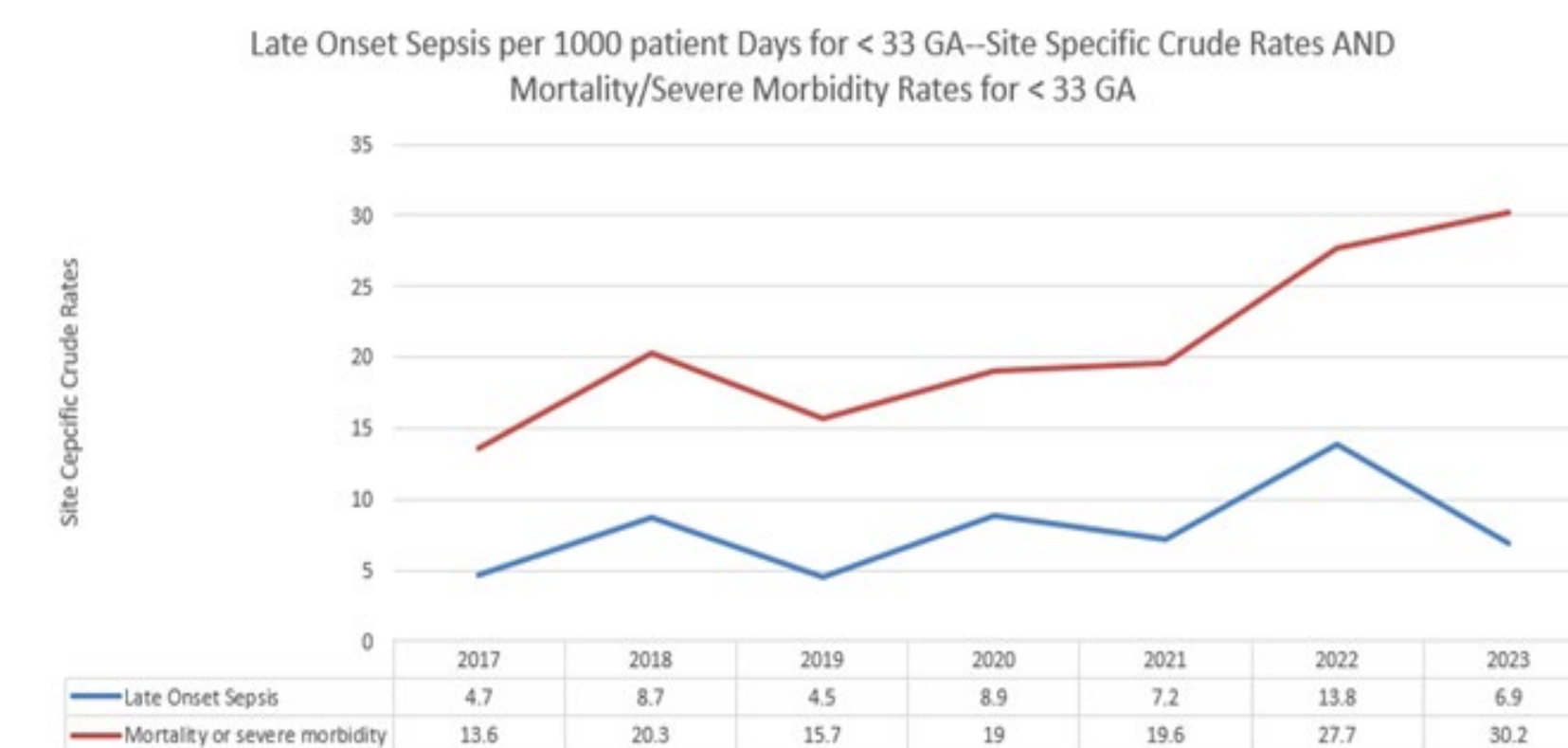
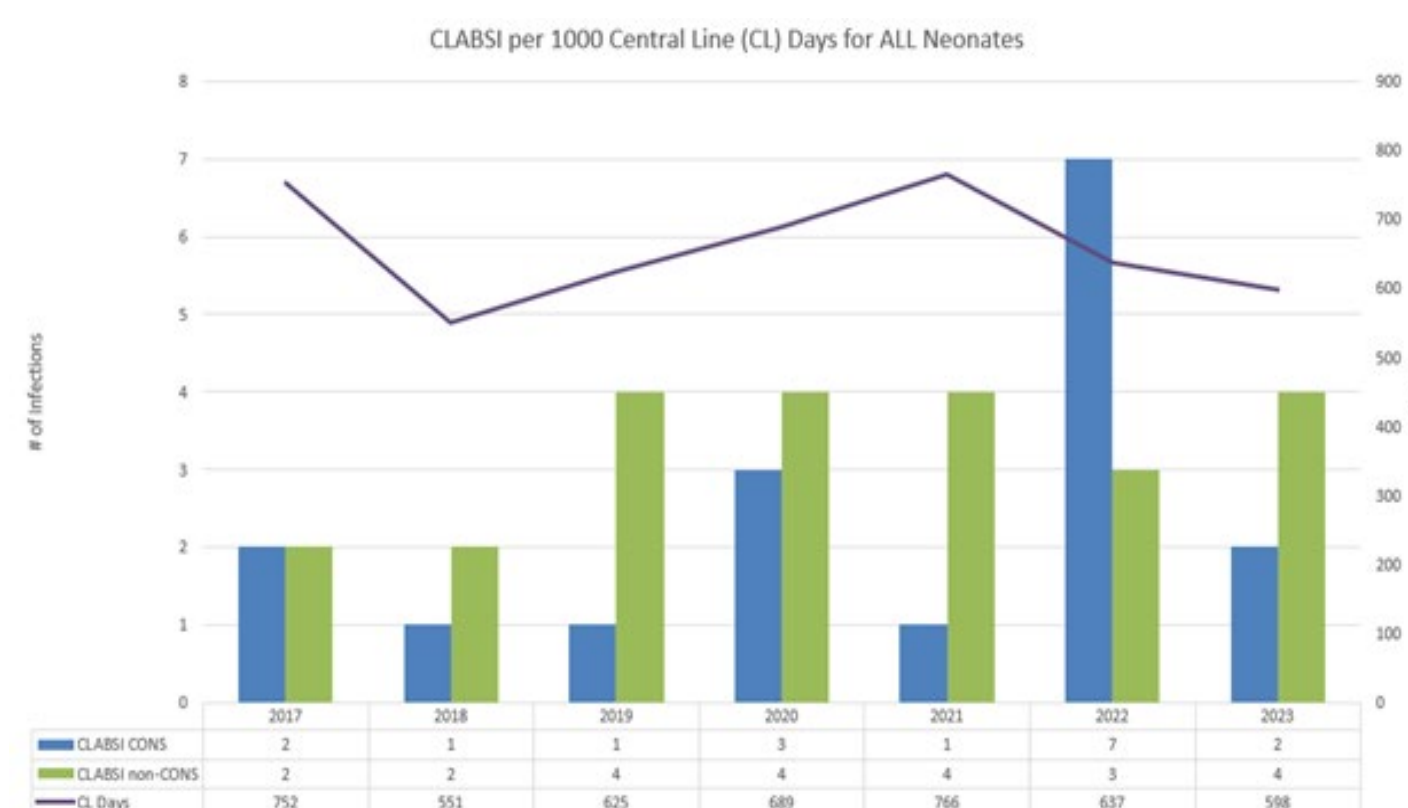
PDSA Cycle / Change plan



Importance

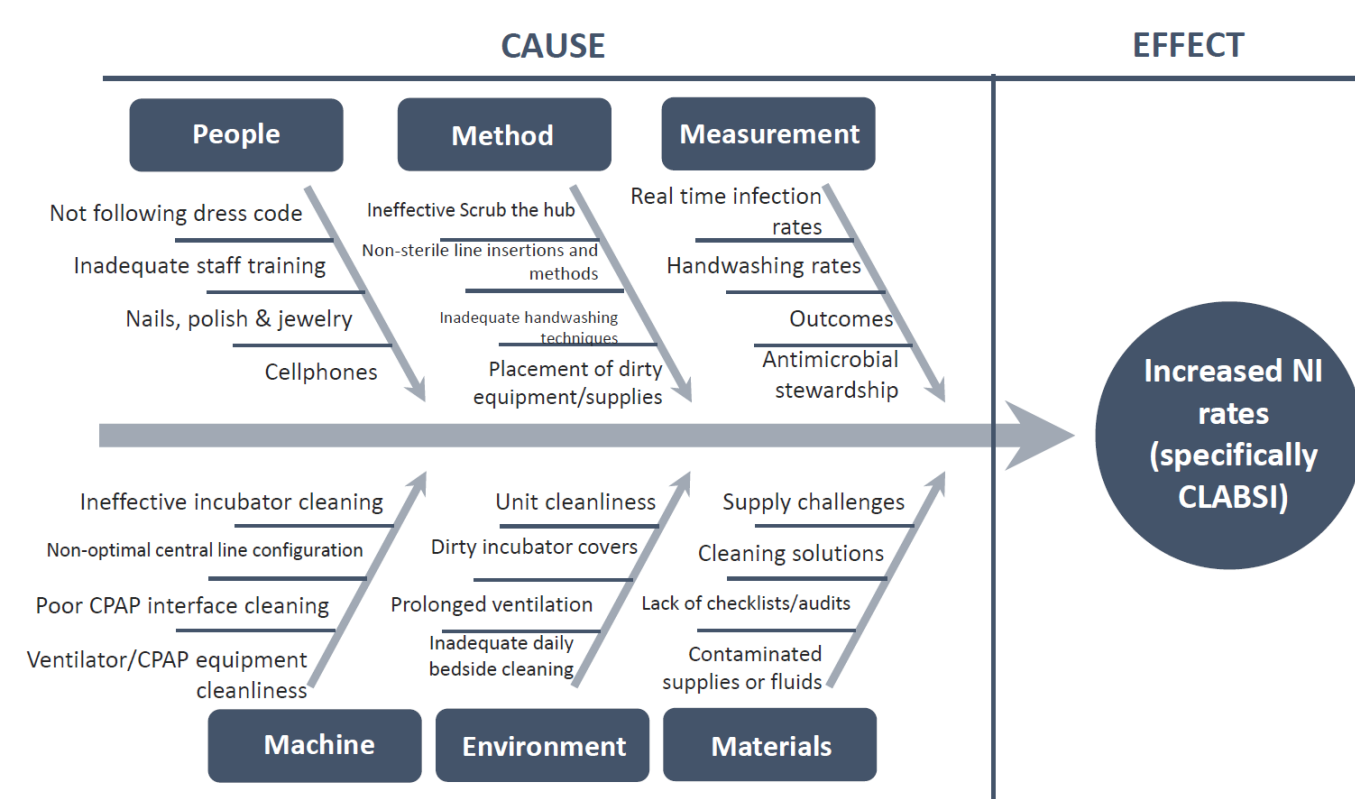
- CLABSIs are one of the most common invasive infections in neonates in the NICU and are associated with significant morbidity and mortality. Those infants who survive CLABSIs have prolonged hospitalizations resulting in worse neurodevelopmental and growth outcomes.
- The VGH NICU is a 22-beds tertiary care unit serviced by a multidisciplinary team.
- VGH NICU annual admissions are approximately 500/year.
- A review of our Canadian Neonatal Network (CNN) data has uncovered an increasing trend in our infection rates.
- In 2022, the CLABSI rates spiked to 10 incidents per 1000 central line days.
- In 2022, the VGH late onset sepsis crude rate spiked to 13.8—our highest rate since 2011.

Data / Results



Driver Diagram or any other aspect of development of plan

FISHBONE DIAGRAM



Cycle 1: Environmental Cleaning Campaign: Roll out of standardized cleaning schedule for bedside spaces to be shared by nursing and housekeeping personnel. Both Late Onset Sepsis & CLABSI rates decreased by half between 2022 and 2023.

NICU SPACE & NOSOCOMIAL INFECTION PREVENTION

- Q-SHIFT BEDSIDE SPACE HIGH TOUCH SURFACES:** Minimal cleaning Q-shift with hospital approved disinfectant wipe: 1. Bedside counter, 2. Baby equipment: thermometer, stethoscope, monitor cables using alcohol, 3. Outer surface of incubator, 4. Monitor screens including ventilator dial and screen, 5. Computer screens, mouse and keyboard, 6. Bedside light switches, 7. Milk fridge surfaces, 8. Pump surfaces including feeding and IV pumps, 9. Milk warmer, 10. Clipboard and chart.
- Q-SHIFT OUTSIDE BEDSPACE HIGH TOUCH SURFACES:** Minimal cleaning Q-shift of the following surfaces with hospital approved disinfectant wipe: 1. Medication prep counter, 2. Medication fridge surfaces and handle, 3. Chair surfaces, 4. Provider's items brought from home: cellphone, pens, pencil, stethoscope
- INCUBATOR:** 1. Inside of the incubator must be wiped using water only, 2. Omnidoc/incubator Grille changed Q14 Days, 3. Humidity chamber changed Q7 Days, 4. Older solettes changed Q7 Days
- BEDSIDE CLEANLINESS CHECK:** 1. Inspect incubator, cot, or crib with each handle and ensure all tubing, leads, syringes or medical devices are not under the infant or bedding, 2. Ensure no milk/body fluid splatter on any bedside equipment, 3. Ensure bedside appears clean and dry
- DEEP GENERAL ROOM CLEAN:** Minimally done every 30 days for each room (Red/Blue/Green) when census permits: 1. Floors sanitized and scrubbed, 2. Walls and windows wiped, 3. Privacy screens wiped

Cycle 2: Just getting underway. Improvement includes: update of unit procedure, addition of second person to ensure sterile central line changes, and additional environmental cleaning prior to initiation of the line change process.

CAUTION Central Lines Need Additional Care

- 01 ALWAYS start with a BAG-to-BABY Check**
- 02 ALWAYS perform HAND HYGIENE before accessing the line**
- 03 ALWAYS SCRUB THE HUB vigorously for 30 seconds and allow to dry**

- Check the order
- Check the expiry date
- Check the IV pump programming
- ALL with 2nd RN

Trace the line from pump to set
Ensure connections secure/tight
Check the central line site and dressing

Lessons Learned / Next Stage/ Plan

- Involve bedside team members in the planning process.
- Constantly focus on getting better.
- Give credit where credit is due.
- Reporting and tracking is vital to understanding problems.
- Create a culture of no blame.