Identification and Management of a GBS Outbreak in a Tertiary NICU

Angela Neish, Ashraf Kharrat, Janet MacAlpine, Collette Pryce-Jones, Gillian Chan, Angelie Seguban, Jennie Johnstone, Andrea Morillo, John Balcom, Yenge Diambomba
on behalf of the Nosocomial Infection Task Force

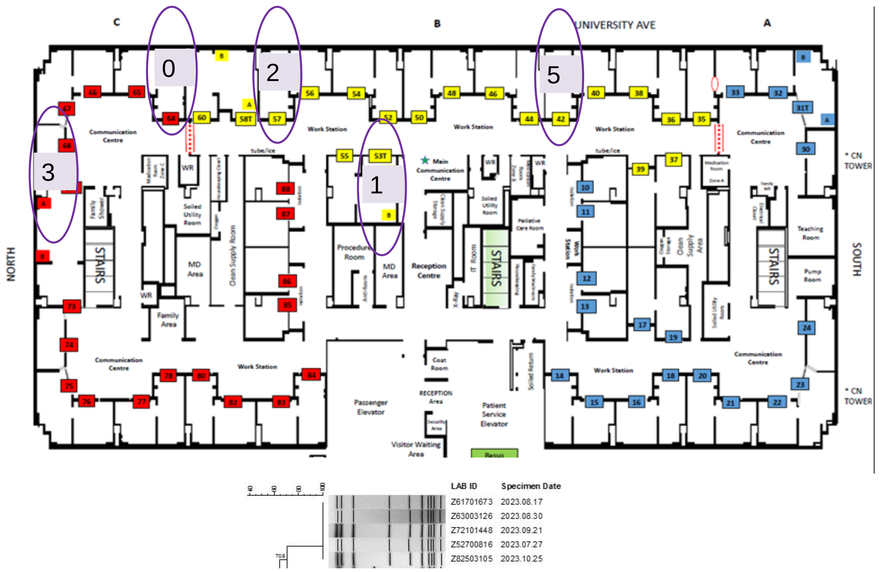
Mount Sinai Hospital
Sinai Health System
Joseph & Wolf Lebovic Health Complex

Background

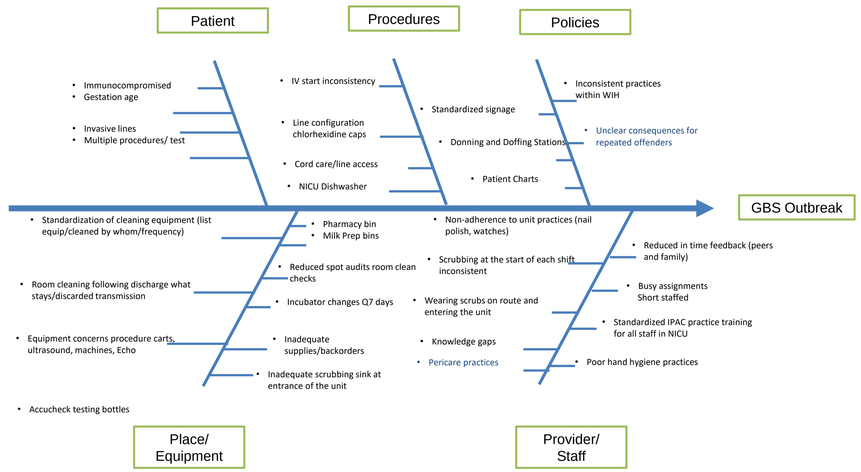
- Group B Streptococcus (GBS) is a common pathogen that causes early-onset sepsis, typically through vertical transmission.
- However, GBS can be implicated in late-onset sepsis, though healthcare-associated GBS infection is rare.
- From August 2023 to November 2023, MSH NICU identified a localized outbreak of 5 late-onset GBS of 2 different clusters.

Process Outline

- We employed several strategies to obtain both qualitative and quantitative data to explore the causes of this outbreak, including reviews of index cases and safety reports, and surveying front-line staff.
- A multidisciplinary stakeholders meeting was created to engage in root cause analysis, including:
  - MD, RN, RT, Pharmacy, Dietician, Service Assistant, Milk Prep, IPAC RN and MD, Social Work, Human Factors, Allied Health Senior Leadership, NICU RN and MD Senior Leadership



Root Cause Analysis



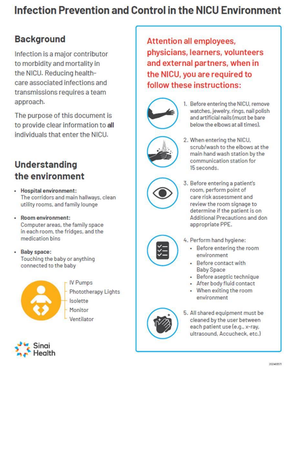
Current Practices and Barriers

- Bare below the elbow
- Gloves to be worn before accessing the line
- Scrub the Hub for 30s, dry for 5-10s
- Umbilical Cord Care plan
- Q96hour line change practices (prepped under laminar flow)
- Central Line Care plan on patient door and IV pole
- Moments of Hand hygiene/IPAC practices
- Clean vs. dirty end of bed
- Wiping down baby space prior to starting shift
- Wiping down equipment used between patients

- Short staffed and high patient acuity in the unit
- Product back orders
- High number of rotating staff
- Staff not complying with NICU practices
- Culture of the unit
- Leadership RNs not leading by example
- MDs/NPs not leading by example
- Lack of consequences for the staff not adhering to unit practices

Mitigation Strategies

- Update of protocols for daily and high-touch cleans
- Standardization of additional precautions signs and PPE donning/doffing practices
- ★ Improved hand hygiene compliance through infrastructure changes
- Review of terminal cleans and supplies to be discarded upon discharge
- Discontinuation of breast flange donation program



Ongoing Surveillance

- Doubling the number of monthly peer-to-peer audits required
- Practice Breach Alert process developed to correct breaches

Outbreak declared over Feb 2024