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ABSTRACT:

To reduce the risk of necrotizing enterocolitis, a gastrointestinal condition that commonly affects pre-term infants, milk prepping and ensuring sterile practices is a vital step. The Centralizing Milk Prep project at St. Joseph's Neonatal Intensive Care Unit (NICU) aims to integrate a designated area for milk preparation, assess sanitization procedures, and introduce new training material to staff members. Student interns started by setting up a Key Driver Diagram which is a flowchart designed to outline factors that are subjected to change as well as implementing ideas for improvement in those areas. Then, interns assisted in minimizing risk through evaluating sterile practices and designing visual aids for the new staff role called Milk Techs. These materials aimed to reinforce communication among staff. Currently these materials are being implemented throughout the year of 2025 and their effectiveness will be assessed in minimizing errors in milk preparation and transportation by the timeliness of tasks completed and reduction of cases involving necrotizing enterocolitis.

METHODS:

- Collaborated on "Key Driver Diagram" (KDD) to identify ideas to test or change (see Figure 1)
- Global aim was identified as the goal for all NICU units in the Franciscan Health network
- Smart aim was identified as the specific goal for SJMC NICU
- Primary and secondary drivers was discussed as the specific factors affecting both aims
- Discussed with NICU staff to understand current milk preparation guidelines and available resources
- Designed materials specified for implementation

KEY DRIVER DIAGRAM

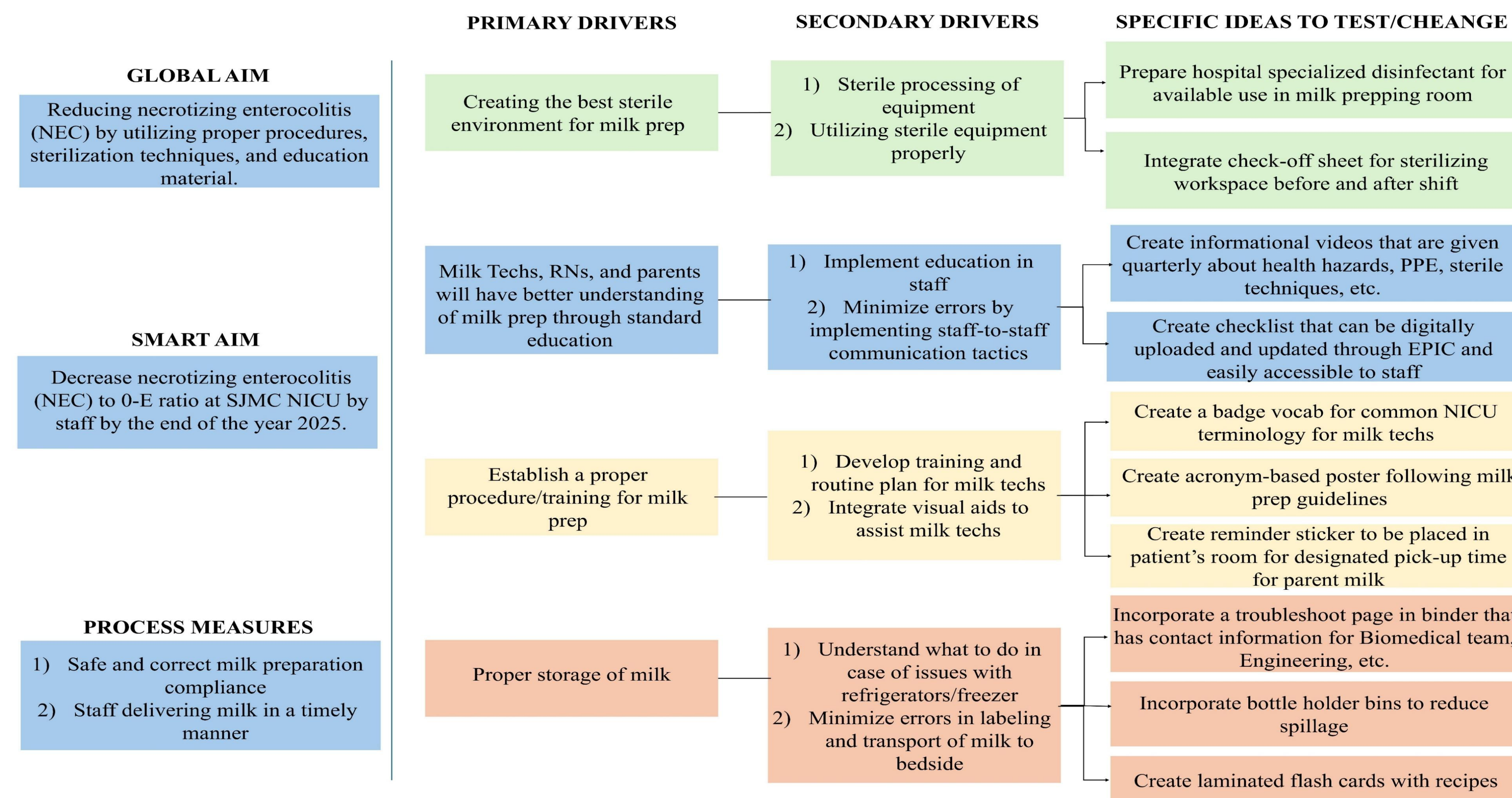


Figure 1. The Key Driver Diagram (KDD)

DELIVERABLES:

Materials created to improve workflow and reduce errors within milk preparation and transport:

- A room checklist (see QR code) and check-in sheet to improve record-keeping
- A badge card (see below) for common NICU terminology
- An acronym-based poster outlining the steps for milk preparation and transport
- A set of laminated flashcards with milk recipes for convenient access to preparation guidelines

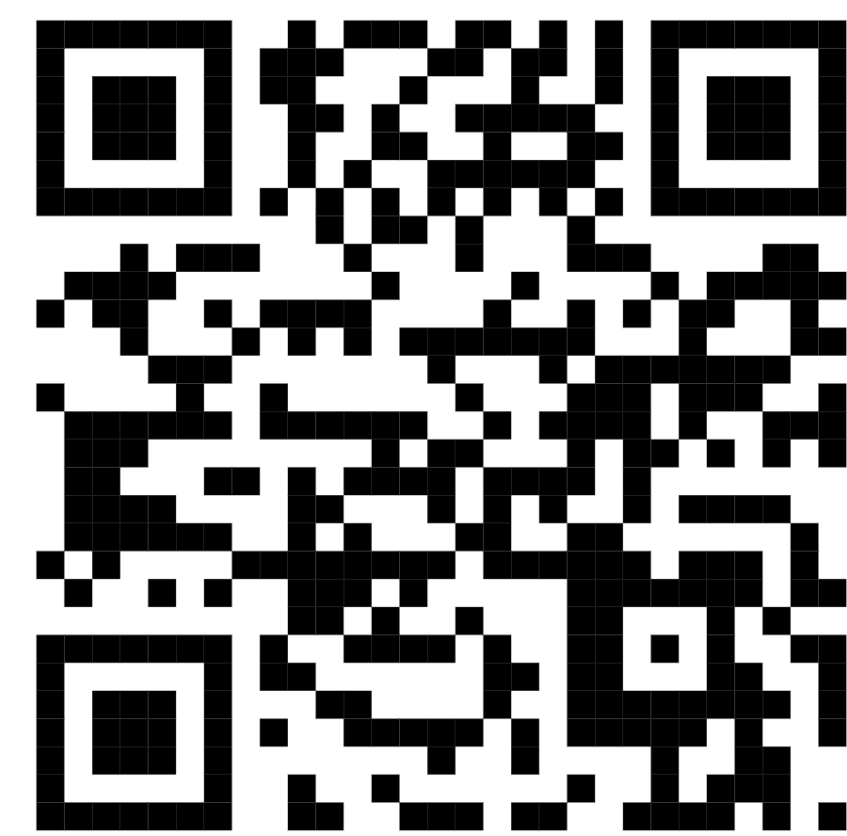


Figure 2. The NICU room checklist designed to record and keep track of milk transportation to different patient rooms. Milk techs or RNs can further write the recipe of the milk prepped, such as fortifier type and amount as well as the total volume of milk made. This will ensure regulatory compliance and improve accountability among staff.

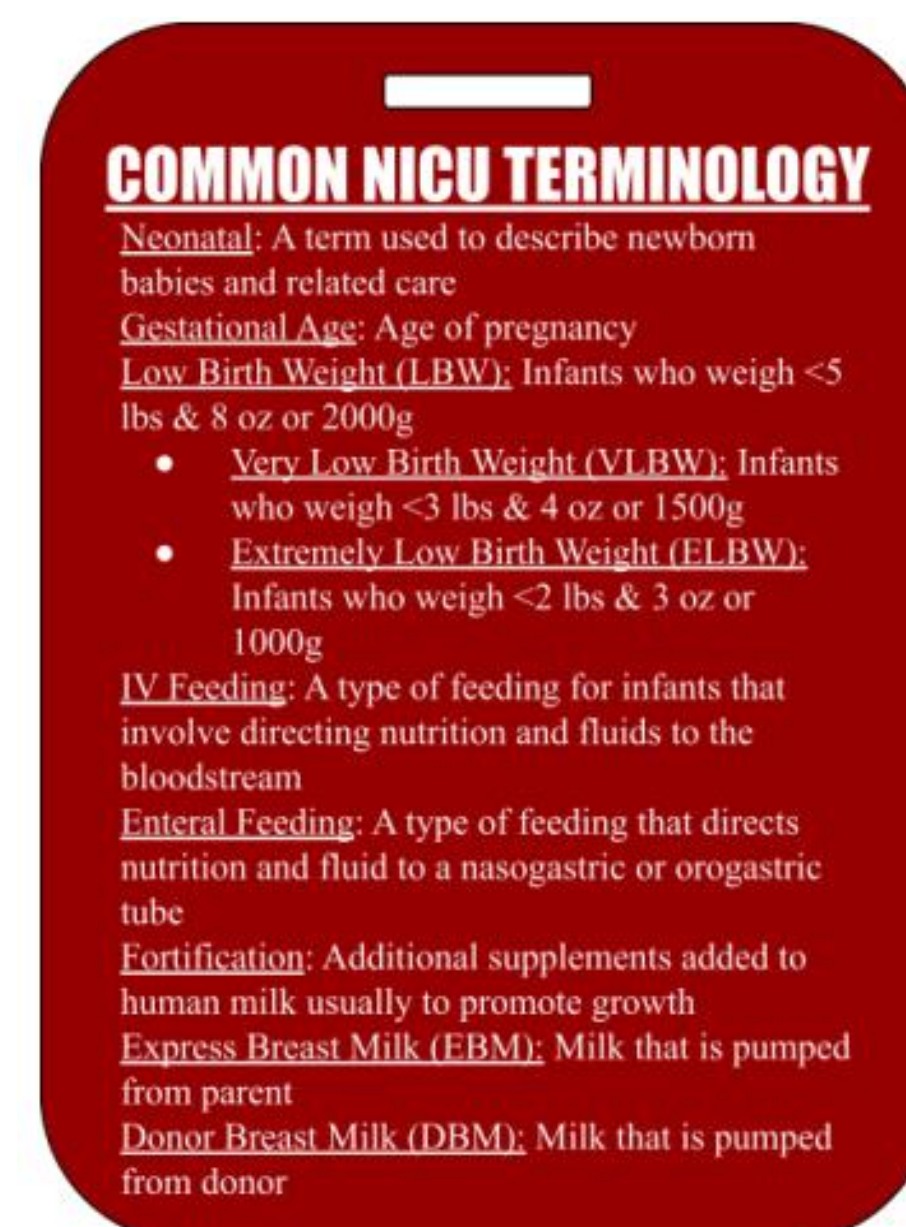


Figure 3. The badge card design focuses on common terminology often heard within the NICU. This card serves as a convenient aid for the new staff role, Milk Techs, who may not have previous medical experience. This will enforce proper medical language and assist with easing Milk Techs into their role and responsibilities.



Figure 4. The acronym-based poster is a visual aid meant to simplify the milk prepping and transportation process for new staff to remember as well as to integrate a double-checking process to prepare staff for the day. It is also meant to be placed within the milk preparation room for easy viewing.

EXPECTED RESULTS:

- Expected improvement on workflow among staff
- Improvement of transportation time of milk bottles from milk prepping room to bedside
- Enhance transitioning of Milk Tech in training and onboarding
- Improve accountability through regular audits by checklist sheets
- Increase of communication of staff and enhancing quality of care

DISCUSSION & CONCLUSION:

The Centralizing Milk Prep project at St. Joseph Medical Center in the NICU aims to improve the milk preparation and transportation process, along with enhancing staff communication and training. Because the current Centralizing Milk Prep project is still ongoing, there is still an integration process of the deliverables. Therefore, adoption of staff feedback and milk prep evaluation will occur through 2025-2026.

ACKNOWLEDGEMENTS:

I would like to express my gratitude to Medical Director at St. Joseph Medical Center (SJMC) NICU, Dr. Robin LaGrandeur as well as NICU Director at SJMC, Kim Deynaka. Also, I would like to thank NICU Regional Educator, Haley Archer and my capstone advisor, Dr. Saumya Sankaran. Special thank you to the NICU team of RNs, LPNs, and Dieticians at SJMC. Lastly, I would like to thank my project partner, Simranjeet Kaur.