Background

- Milk preparation has traditionally been the responsibility of the bedside nurse.
- Evidence supports human milk feedings for the infants less than 1500 grams.
- NICUs have seen a surge in the number of babies getting human milk.
- Preterm infants require more protein and minerals such as calcium and phosphorous than what is found in human milk.
- Human milk needs additional fortification to meet the essentials for the VLBW population.
- The process of fortifying human milk requires mathematical equations, mixing of 1 or more additives, and specialized equipment for larger volumes.
- The complexity of adding multiple ingredients to human milk results in what we call Lacto-Manufacturing.

A literature search was conducted to establish what space requirements, personnel, and processes were needed.

Best practices were reviewed by the Academy of Nutrition and Dietetics, the American Society of Parenteral and Enteral Nutrition, and the Human Milk Banking Association of North America.

These were the guidelines that were utilized when operating the NICU Milk Room and employing Milk Room Technicians.

A baseline assessment was performed.

After completion of the baseline assessment, a timed study was conducted with nurses at the bedside preparing feedings.

The results are as follows:
1. 1.4 minutes/feeding to prepare at time of administration
2. 12 minutes when needed to thaw milk
3. 700 infant feedings were prepared and administered in a 24 hour period

The intent of this project was to determine if having a dedicated Milk Room was fiscally feasible for the NICU.

This project successfully demonstrated that the Milk Room and “Milk Techs” are necessary for cost saving and to manage all NICU feedings in the most safe and hygienic way possible.

We believe other NICUs can use the information we delineated with this project to decide if they can achieve similar results.

Purpose of the Project

The aim of this project was to determine if having a dedicated milk room and staff prepare feedings for the NICU was more cost effective in comparison to feedings being prepared at the bedside by the nurse.

The average nurse’s wage for this project was calculated to be $30/hr.

Results and Outcomes

Reviewing the 700 feedings per 24 hours it was determined:
1. 4 minutes x 700 aliquots = 2800 minutes/60min = 47 hours
   a. 700 aliquots = 87 babies
   b. 1/3 of these infant feedings were frozen and needed to be thawed
      i. 29 babies/24 hrs.
2. 12 minutes x 29 babies = 348 minutes/60min = 5.8hrs
   a. Nurses thawed enough at one time only for their shift
   b. 2 shifts/day = 11.6hrs (11.6 hrs. x 29 patients = $348 daily)
3. Total cost daily = $1798 in nursing salaries
4. Total yearly cost = $656,270 in nursing salaries

Implications and Conclusions

- The cost analysis and time study resulted in a decision to staff the Milk Room with specialized personnel titled Milk Room Technicians.
- NICU “Milk Techs” are high school graduates who receive focused training in the process of preparing human milk.
- Ten “Milk Techs” are now employed and work 40 hours per week.
- Personnel costs = $12.00 per hour = $249,600/year.
- Utilizing “Milk Techs” resulted in a savings of $ 406,670.00

Lessons Learned

- The intent of this project was to determine if having a dedicated Milk Room was fiscally feasible for the NICU.
- This project successfully demonstrated that the Milk Room and “Milk Techs” are necessary for cost saving and to manage all NICU feedings in the most safe and hygienic way possible.
- We believe other NICUs can use the information we delineated with this project to decide if they can achieve similar results.