Decreasing Donor Breast Milk Waste in the Neonatal Intensive Care Unit: A Lean Process Improvement Project

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**BACKGROUND:**

**AAP Policy Statement**

Breastfeeding and use of Human Milk: “The potential benefits of human milk are such that all preterm infants should receive human milk. If mother’s own milk is unavailable despite significant lactation support, pasteurized donor milk should be used.”

- Use of donor breast milk has been shown to decrease:
  - Morbidity
  - Nosocomial infections
  - Necrotizing enterocolitis
  - Length of hospital stay
- April 2013 – a donor breast milk program was implemented at MWHC NICU.

**PROBLEM:**

From September 2016 – November 2016, between 17-43% of thawed donor breast milk was discarded, approximately $3,100 worth of donor breast milk.

**PROJECT AIMS:**

1. Decrease percent of discarded thawed donor breast milk to ≤10%, one month after implementation of the new process.
2. Reduce pharmacy daily donor breast milk process flow from 10 steps to <5 steps.

**SOLUTION:**

- An interdisciplinary team was created and LEAN principles were used to identify process areas for improvement.
  
  **LEAN Principles**
  - A systematic approach to the identification and elimination of waste and non-value added activities.
  - Process maps - used to visualize the process and pinpoint deficiencies leading to overproduction.
  - Waste observation sheet – used to evaluate for 7 different types of waste:
    - Transport (moving products that are not actually required to perform the processing)
    - Inventory (all components, work in process and finished product not being processed)
    - Motion (people or equipment moving or waiting more than is required to perform the processing)
    - Waiting (waiting for the next production step)
    - Overproduction (production ahead of demand)
    - Defects (resulting from poor tool or product design creating activity)

**OUTCOMES:**

- Percent waste of thawed donor breast milk dropped from 43% to 1.5%.
- Cost of discarded donor breast milk dropped from $1170 to $50.

- Pharmacy Involvement
  - Prior to implementation, pharmacy staff was completing 10 steps daily, including thawing, re-bottling, re-labeling and delivering twice daily.
  - Post implementation, the process was simplified to 2 steps weekly = a potential workload savings of approximately a 0.5 FTE.

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