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Standardization of Code Cart Supply Management in a Post Acute Care Hospital

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Background

Within a unique pediatric post-acute care hospital, delays in restocking supplies post medical emergency, issues with overstocking supplies, and discovery of expired supplies was seen in code carts. Over a two-year timeframe, nine individual safety reports indicated insufficient or expired supplies in code carts across the facility. This facility serves a population of pediatric patients with complex medical needs including pulmonary rehabilitation, medication weaning, surgical procedures, therapy, and a specialized school. In 2023, there were 43 medical emergencies requiring use of one of the seven active code carts throughout the hospital. The code cart is essential to providing lifesaving patient care. The combination of infrequent use, lack of communication regarding interdepartmental roles, and a standardization deficit of restocking supplies led to this quality improvement project.

Code carts are essential to emergency management of patients, however there is a gap in the literature regarding code cart systemization. One integral component of code cart systemization is coordination between multiple departments (Pharmacy, Materials Management, Respiratory, and Nursing).

Objectives

The purpose of this initiative is to ensure that code carts are ready for use throughout the facility by creating a systematic interdepartmental process. This allows clear understanding of roles within departments minimizing miscommunications leading to delays or stocking issues.

1.Creation of ready-made drawers for easy replacement and management of expired or used equipment

2.Creation of algorithm defining expectations and roles of materials management, nursing, and pharmacy

3.Structuring system to ensure sustainability

Implementation Strategies

Defined key stakeholders (Nursing Leadership, Pharmacy, Materials Management, Respiratory Therapy)
Interdisciplinary committee reviewed code cart safety issues and identified high risk problems and potential solutions

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PDSA Cycle #1
Identified the need for a fully stocked back up code cart for immediate replacement after emergency use
Additionally, identified the need for five back up drawer inserts for each code cart drawer for easy exchange
Modeled the system based on pharmacy's use of seal drawers to monitor timely restocking of used or expiring supplies

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Created photo map and schematics of items in each code cart drawer, to ensure accurate replacement by Materials Management
Materials Management maintains: one fully stocked back up code cart and five sets of back up drawer inserts
Each drawer insert was sealed in plastic and labeled by Materials Management with an expiration date sticker indicating the soonest expiring item

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Created Code Cart Restocking Process Algorithm #1
Developed log sheets to track expiration dates. Logs are maintained by both Materials Management and Nursing
Utilized a verification system completed by nursing of monthly audits to ensure accuracy between code cart drawer expiration stickers and the dates indicated on the log sheet

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Identified deficits in the process:
Misalignment between the timing of Materials Management and Nursing code cart checks
Inconsistency of replacement with back up code cart or individual drawer inserts when restocking after a code
Challenges with maintaining five sets of back up drawers

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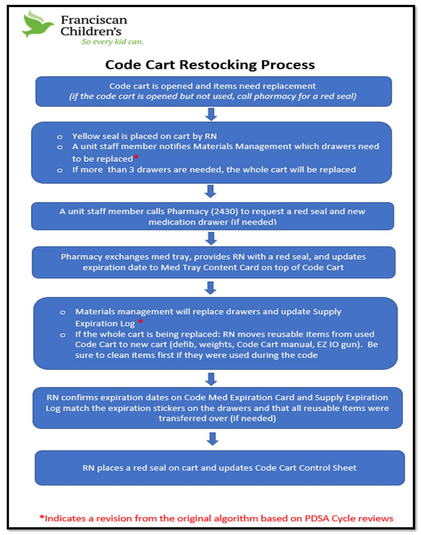
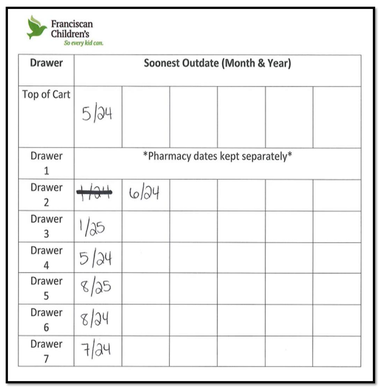
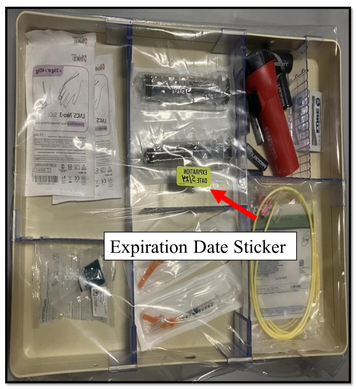
PDSA Cycle #2
Code Cart Restocking Process Algorithm was updated
Shifted from full code cart replacement to individual drawer replacement after emergency use. Established a protocol to trigger replacement of full cart if 3 or more drawers are used during a code.
Standardized timing between Nursing and Materials Management for supply drawer updates
Reduced the number of back up drawers stocked by Materials Management from 5 to 3 due to supply chain issues





Drawer	Soonest Outdate (Month & Year)					
Top of Cart	5/24					
Drawer 1	*Pharmacy dates kept separately*					
Drawer 2	~~1/24~~	6/24				
Drawer 3	1/25					
Drawer 4	5/24					
Drawer 5	8/25					
Drawer 6	8/24					
Drawer 7	7/24					



Outcomes

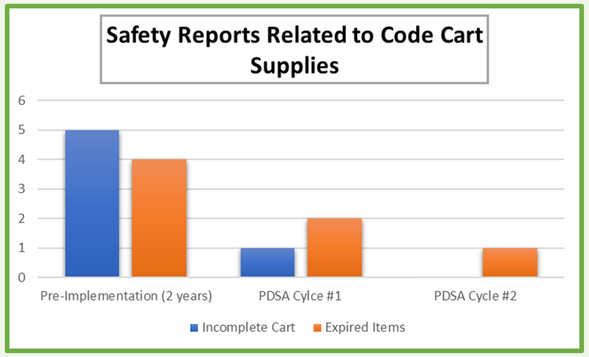
Overall, safety reporting of the forementioned issues has decreased.

Following PDSA Cycle #2:

- No incomplete code carts identified in the safety reporting system
- 75% reduction in incidence of expired supplies
- 30-minute turn-around time of supply replacement has consistently occurred

Unintended Outcomes:

- Eliminating the need for nurses to complete monthly code cart check of supplies has led to nursing becoming less familiar with code cart contents
  - Addressed by Nurse Educators reviewing a mock code cart, allowing hands-on exposure to code cart supplies on the patient unit multiple times annually



Implications

The implementation of a standardized process for stocking code carts provides a system for departments to effectively communicate and ensure patient safety and staff preparedness when concerning medical emergencies and code cart supplies.

References

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