

Safe by Standard: Transforming Medication Management in the PACU
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Introduction: Controlled substance errors pose significant risks in high-acuity settings like the Post-Anesthesia Care Unit.

Identification of the Problem: At Walter Tower 3 PACU, 18 incidents of unsecured narcotics and six medication administration errors were reported between August 2024 and early 2025, revealing gaps in medication storage, narcotic wasting, and staff education.

QI Question/Purpose of the Study: This project aimed to reduce medication errors and improve nurse adherence to controlled substance handling protocols in the Walter PACU by implementing standardized narcotic storage and targeted education on narcotic wasting over six months.

Methods: All registered nurses in Walter Tower 3 PACU at Houston Methodist Hospital participated.

- Standardized Storage: Workstations on Wheels were equipped with labeled, color-coded drawers designated for narcotics to ensure consistent storage.
- Targeted Education: Structured training on narcotic wasting procedures, documentation, and diversion prevention through in-service sessions and online modules.
- Goal Setting: Time to waste goal of 45 minutes. Time to return goal of 60 minutes.

Outcomes/Results:

- Achieve 100% compliance with WOW storage standards
- Reduce narcotic-related medication errors by $\geq 20\%$
- Improve quiz scores by $\geq 20\%$, with $\geq 90\%$ passing post-education
- Decrease narcotic waste documentation errors by $\geq 25\%$
- Achieve $\geq 85\%$ nurse satisfaction and confidence in protocols
- Secure approval for an additional Pyxis machine in an open PACU area to facilitate timely medication disposal without leaving patient sight

Discussion: Data collected through weekly WOW audits, pre- and post-education quizzes, incident reports, and nurse satisfaction surveys. Weekly detailed pharmacy reports tracked every controlled substance pulled, the nurse involved, time it took to waste and return medications, percentage of integrated wastes, and weekly average unit statistics. Weekly statistics helped to track progress of time to waste/return goals and identify potential barriers. Descriptive statistics summarized compliance, quiz scores, error rates, and satisfaction. Data currently trending towards goals in both disposal timing and nurse satisfaction.

Conclusion: Standardized narcotic storage combined with targeted education improved medication safety and nurse adherence in the PACU. The sustainability plan supports ongoing maintenance and scalability in similar clinical settings.

Implications for perianesthesia nurses and future research: Interventions will be integrated into PACU standards of practice, with annual refresher training, monthly audits, leadership support, and incorporation into quality improvement initiatives to ensure long-term adherence.