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Decreasing Perioperative Medication Errors with Standardized Labeling Education

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BACKGROUND

- Medication errors are sentinel events that contribute to preventable deaths in the United States up to 400,000 annually (Wahr et al., 2017).
- Perioperative medication errors account for 5.3% of all medication errors, and 70.3% of those errors are preventable (Wahr et al., 2017).
- The anesthesia provider is the only one involved in the medication process in the perioperative setting which removes the standard safety checks found in other settings.

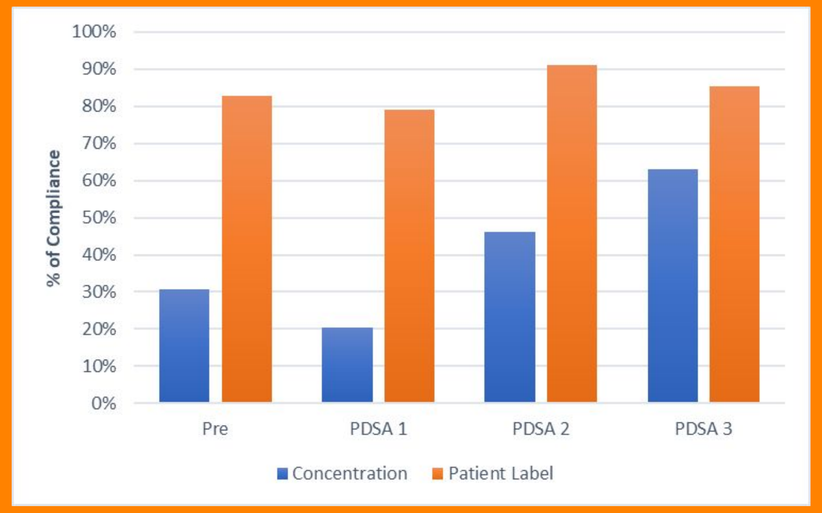
LOCAL PROBLEM

- Project site: Level I Academic Medical Center in the Southeast
- Participants: Anesthesia providers
- The project site had an increase in perioperative right-medication-wrong-patient errors with narcotic medications.
- Project goal: improve syringe labeling compliance among anesthesia providers to decrease medication errors and increase patient safety in the operating room.

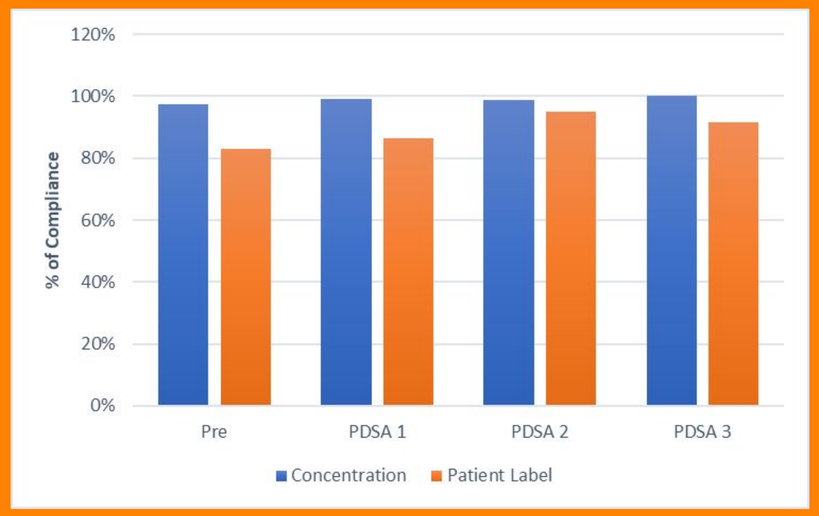
METHODS

- Framework: Evidence Based Quality Improvement Model
- Implemented module created by prior project team over three PDSA cycles.
- The project team collected physical syringe data to assess syringe labeling compliance with narcotics.
- The team collected pre-implementation data to assess a baseline, then collected post-implementation data after each PDSA cycle.

Statistical Results - Fentanyl



Statistical Results - Hydromorphone



Scan for Executive Summary and Reference List

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INTERVENTIONS

- PDSA cycle 1 - disseminated the educational module to the entire anesthesia department
- PDSA cycle 2 - displayed current syringe labeling compliance rates and its effect on patient safety in the visible pharmacy department window.
- PDSA cycle 3 - department leaders for each subsection of the anesthesia department emphasized the importance of syringe labeling for patient safety and disseminated the educational module

RESULTS

- Statistically significant increase in patient and fentanyl concentration labeling compliance.
- Statistically significant increase in hydromorphone patient labeling compliance.
- No change in hydromorphone concentration labeling due to prefilled syringes including the concentration on the syringe.

CONCLUSIONS

- The project team met its intended goal of improving standardized labeling compliance among anesthesia providers.
- During project implementation, no right-medication-wrong-patient errors occurred.
- Project aligns with project site's values, reduced healthcare costs, and improved the quality of patient care.
- More engaging forms of education were more effective.
- Recommendations: continued surveillance of syringe labeling compliance by pharmacy department, including the educational module as a yearly education requirement, and continued communication of compliance rates with anesthesia providers.