

## Evaluating the Impact of Medication Boxes in Patients' Rooms on a Medical-Surgical Unit: A Nurse-Driven Intervention

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### Background

- 2 South is a 24-bed medical-surgical unit with a 9-bed overflow capability located at Sentara Albemarle Medical Center which is in rural Elizabeth City, North Carolina.
- Nurses on this unit have to walk to an Omnicell to retrieve patient specific medications (e.g. inhalers and creams).
- In an effort to save time a nurse may not return all medications to the Omnicell between doses, therefore the medication is left unsecured (e.g. in the nurses pocket, or at the bedside).
- Previous literature suggests that a medication box in the patient room provides a secure place for the nurse to store the medication (Figure 1).
- Boxes also reduce the amount of walking a nurse has to do to retrieve non-narcotic medications.



Figure 1. Medication box and its location within the patient room.

### Problem and Objectives

- An event occurred where a patient was inadvertently given another patient's inhaler.
- The two patients were on the same medication and the nurse who administered it, scanned the patient and medication prior to administration.
- The objectives for this project are to improve patient safety culture and nurse satisfaction, while decreasing time nurses spent away from patients and number of re-dispenses.
- It is hypothesized that installing medication lock boxes in patients rooms will significantly reduce the amount of walking nurses do per shift, and therefore prevent from potential medication errors.

### Methodology

- The rooms on 2 South were split in half with one side of the unit having boxes in the patient rooms while the other serves as a control group. The pilot is still ongoing.
- Sample consists of 22 nurses who wear 3 axis accelerometers to track their walking and log in steps in a unit walking log maintained by the Administrative Assistant.
- Pre-implementation the nurses were asked to take the Medication Administration System-Nurses Assessment of Satisfaction (MAS-NAS) Scale and the survey is planned for post as well.
- Inferential and descriptive statistics were performed.

### Results

- Preliminary results reveal a decrease in steps in those nurses who were assigned rooms with medication boxes (Figure 2) although that difference was not statistically significant.
- Nurses who had mixed assignments were not included in the comparison.
- Pre-satisfaction survey showed 40% of nurses requesting re-dispenses, while 15% rating the current system as ineffective.

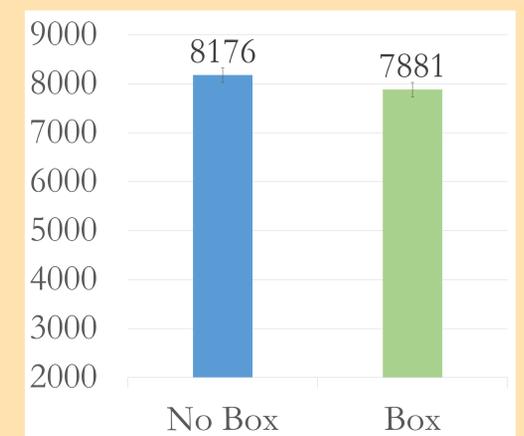


Figure 2. Number of steps taken by nurses with exclusively box room assignments vs. no box assignments.

### Conclusions

- The findings of this study are applicable to hospitals of all sizes and in all areas of the country and world.
- Improving nurse satisfaction and reducing time spent walking to Omnicell potentially decreased the risk of a harmful and/or life-threatening event.
- A larger sample size is needed to determine statistical significance.
- Future research should investigate the effect of the boxes on medication errors.

### Contact

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