NewYork-Presbyterian
Weill Cornell Medical Center

Driving Down to Zero: Preventing Medication Error with Use of Technology

May Saulan DNP, MSN, MPA, CNOR, AOCNS Megan Belknap BSN, CCRN Beth Taubkin MS, RN, CPAN

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Background

- The FDA receives **more than 100,000 reports of medication errors every year** in the United States.
- Leveraging the use of technology in identifying the right patient, right medication, right dose, right route has been proven to be an effective tool in reducing if not prevent medication error.[1]
- 2 Medication errors were noted on the Post Anesthesia Care Unit in 2021. Assessment of current practice revealed different practices in giving patient medication. Compliance with Barcode Medication Administration (BCMA) technology utilization were based on nurses' experience and availability of scanners. This prompted the Post Anesthesia Care Unit Practice Council and leadership team to look at their medication administration process

Preparation and Planning

•November 2021:
-Information gathering and assessment of current BCMA practices

•-In-service on policy/procedure, current metrics, expectations and best practice on medication administration with use of barcode scanners

November 2021: Collaboration with Pharmacy and Information Technology departments to resolve scanners and barcode issues

December 2021: 1:1 coaching & examination of barriers encountered by staff

January 2021: Recruitment/ Retention / Recognition Council celebrated and recognized accomplish-ments and transparency with current metrics

February 2022 to present Continuous medication and BCMA audit to ensure compliance

Findings

Top medication scanning non-compliance reasons documented by RNs:

1. Device Failure:

- Linear Barcode scanners incompatible with 2D barcodes
- Inconsistent use of Rover device or knowledge deficit on how to use ROVER

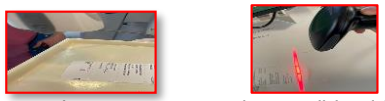


Fig 1: 2D Pharmacy Scanner (compatible with 2D barcodes) vs. Linear scanner on nurse's computer

2. Barcode Not Available:

- Multi-dose foil "blister packs" from pharmacy missing barcode

Fig 2: Before/After Intervention (No barcode on blister packs vs. barcode affixed to Omnicell bin)

3. Barcode Unreadable:

- Bulk quantity items packaged into single dose by hospital pharmacy not configured to Epic

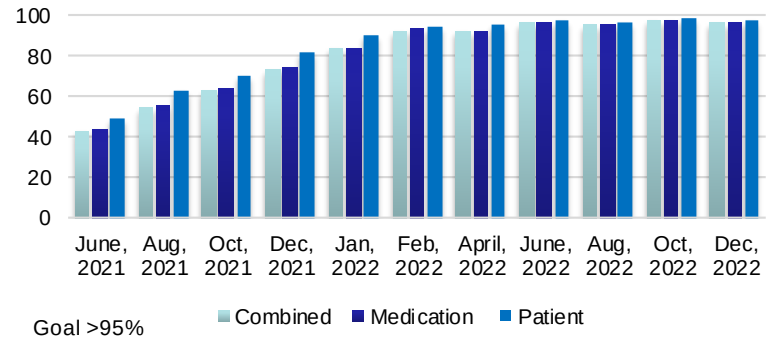
Fig 3: Hospital packaged meds identified by nurses as unreadable. Collaborated with Pharmacy/IT to determine and fix issue

References

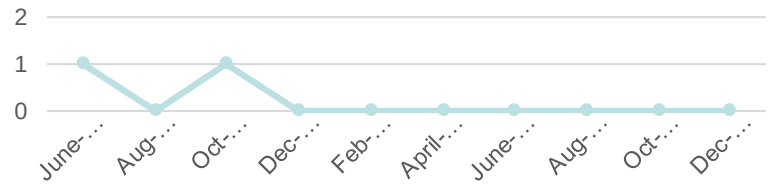
- [1]Center for Drug Evaluation and Research. (2019). *Working to reduce medication errors.* U.S. Food and Drug Administration. https://www.fda.gov/drugs/information-consumers-and-patients-drugs/working-reduce-medication-errors 1
- Naidu, M., & Alicia, Y. L. Y. (2019). Impact of Bar-Code Medication Administration and Electronic Medication Administration Record System in Clinical Practice for an Effective Medication Administration Process. Health, 11(05), 511.

Results

BCMA Compliance



Medication Error



Implications for Perioperative Nursing

- Promoting nurses' engagement with the use of BCMA technology is crucial to minimize workarounds in medication administration thus preventing drug-adverse events.
- Professional responsibility regarding the accurate and safe administration of medication must be emphasized.
- This project improved practices on BCMA and prevented medication error in perianesthesia area. The use of BCMA can be implemented in the Operating Room to reduce, if not prevent, all medication errors that are detrimental to the patient.