Practical Implementation of Nursing Science

Increasing Barcode Medication Administration in the Emergency Department Setting

PUBLISHED ABSTRACT

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Problem Statement: A lack of barcode medication administration (BCMA) compliance can lead to medication errors that result in patient harm. Issues leading to the lack of compliance in barcode scanning must be assessed and addressed, in order to promote and maintain BCMA compliance.

Aims: Barcode scanning has proven to be effective in preventing errors in medication administration, medication dosing, and unauthorized medication use. The aim of this project was to maintain optimal barcode scanning to promote safe medication practices in the emergency department (ED).

Approach: Starting in October 2021, the Mount Sinai Beth Israel ED in New York, NY, aimed to prevent errors in patient identification and medication administration by ensuring that barcode scanning was completed with fidelity. In collaboration with the pharmacy team and information technology (IT), the nursing staff worked to identify opportunities and improve BCMA compliance. A Plan-Do-Study-Act (PDSA) model was developed to create a guide and goals for the project. Initially, collaborations with the hospital pharmacy team were implemented to allow for medication profiling in the ED, which helped to facilitate safe medication dispensing from the start of the medication dispensing process at the Pyxis machine. Nursing leadership administered electronic surveys to the nursing staff in order to understand possible barriers for barcode scanning. Survey responses identified functionality issues with existing hardware, as well as a need for additional scanning capabilities in the ED. Based on survey feedback, IT collaborations were implemented to complete regular scanning device rounding to fix hardware issues that would create barriers in barcode scanning. The nursing staff was also provided with individualized rover phones that offered the capacity to scan barcodes at the bedside. Nursing staff were instructed to barcode scan each time they administered a medication to a patient. Nursing staff achieving 100% scanning compliance (based on compliance reports from the previous 24 hours) were sent positive reinforcement messages through group emails to highlight optimal practices that promote medication safety.

Findings: From October 2021 to November 2022 there was an increase in BCMA compliance for patient and medication scanning. In October 2021, compliance for patient scanning was 88% and medication scanning was 74%. In November 2022, scanning compliance for patients was 98%

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TO CITE THIS ARTICLE:
Soorma, K., O'Neill, A., Ramsay, A., Toth, A., Weisburd, S., Rivera, S., & Tejada, C. (2024). Increasing Barcode Medication Administration in the Emergency Department Setting. *Practical Implementation of Nursing Science*, 3(2), pp. 35–36. DOI: https://doi.org/10.29024/pins.84

and medication scanning was 95%. BCMA compliance remained above 90% for both patients and medications throughout 2023.

Conclusions and Implications for Clinical Practice: Increased BCMA compliance is attainable with the utilization of interdisciplinary collaborations, staff surveys, hardware capabilities, and routine positive reinforcement through group emails.

COMPETING INTERESTS

The authors have no competing interests to declare.

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Soorma, K., O'Neill, A., Ramsay, A., Toth, A., Weisburd, S., Rivera, S., & Tejada, C. (2024). Increasing Barcode Medication Administration in the Emergency Department Setting. *Practical Implementation of Nursing Science*, 3(2), pp. 35–36. DOI: https://doi.org/10.29024/pins.84

Submitted: 10 November 2023
Accepted: 01 March 2024
Published: 17 May 2024

Practical Implementation of Nursing Science is a peer-reviewed open access journal published by Levy Library Press.

Levy Library Press