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Improving Bar Code Medication Administration

Medication errors are the most common cause of adverse events in hospitals. To reduce these types of errors, VHA pioneered the development of a bar code medication administration (BCMA) system. Nurses access BCMA software by using a laptop computer attached to a wheeled medication cart and linked by a wireless network to electronic databases. If the scanned medication bar code data does not match the patient's bar-coded wristband, the BCMA software alerts the nurse.

BCMA is currently used in all VHA facilities, but it is a relatively new technology with some unintended drawbacks. For example, there have been missed doses when nurses were unaware of the automated changes in medications, as well as reduced access to medication administration data for physicians. Investigators in this study collected and examined data on potential problems in using BCMA within VHA and proposed 15 practices to maximize the effective use of BCMA. Practices include:

- Developing a standing interdisciplinary committee (i.e., nursing, pharmacy, and computer support) that would implement and proactively conduct continuous improvement on the implementation and use of BCMA;
- Training all nurses on BCMA software, and cross-training pharmacists and select physicians;
- Displaying contact information to help resolve problems (e.g., clinical informatics staff that respond to help desk calls);
- Alerting nurses to new STAT orders;
- Replacing malfunctioning equipment during servicing;
- Scanning patients' wristbands and medications prior to administering medications to verify patient identity; and
- Replacing missing, inaccurate, or worn wristbands, especially for those in long-term care.

These recommendations are based solely on the BCMA system used in VA hospitals and may not apply to non-VA hospitals.

Patterson E, Rogers M, and Render M. Fifteen best practice recommendations to improve the effectiveness of bar code medication administration. *Joint Commission Journal on Quality and Safety* July 2004;30(7):355-65.

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