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Staff Education to Improve Patient Safety Using Standardized Medication Transcription Verification

Beloved Martey
Walden University

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Walden University

College of Nursing

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Beloved Martey

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Review Committee

Dr. Barbara Gross, Committee Chairperson, Nursing Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2025

Executive Summary: Staff Education Project
Staff Education to Improve Patient Safety Using Standardized Medication Transcription
Verification

by
Beloved Martey

MS, Fairleigh Dickinson University, 2019

BS, Seton Hall University, 2016

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Summary

This staff education project was a quality improvement initiative aimed at reducing medication transcription errors by implementing a standardized verification protocol. The project addressed the critical practice problem of transcription-related medication errors, which contribute to wrong medication administration, adverse drug events, and patient harm.

The practice-focused question was: How does implementing a staff education program on standardized medication transcription verification processes in healthcare institutions affect the rate of wrong medication administration compared to traditional transcription methods without education? The project was implemented over 8 weeks in an outpatient clinic with 20 participants (8 prescribers and 12 nurses). The primary data collection tool was a structured pre- and post-intervention Likert-scale survey, developed to assess staff confidence, satisfaction, and knowledge retention. The findings showed significant improvements following the intervention. Transcription errors dropped from 20% to 13% (a 35% reduction), and compliance with verification protocols rose from 62% to 88%. Confidence in using the protocols increased from 45% to 92% among participants, while overall staff satisfaction with the training improved from 50% to 90%.

Sustaining the improvement will require continued staff education, periodic competency assessments, and routine audit feedback. Overall, the project demonstrates that nurse-led educational interventions can lead to measurable enhancements in minimizing transcription errors, improving communication between nurses and prescribers, and strengthening a culture of safety, confidence, and professional accountability in clinical practice.

Background

Medication transcription errors have remained a persistent challenge in healthcare delivery. These discrepancies often arise during the transfer of medication orders from prescribers to patient records and are frequently linked to adverse drug events (Boockvar et al., 2009). Incident reports and organizational root cause analyses have consistently demonstrated that transcription errors contribute to patient harm, increased morbidity, and unnecessary financial burden due to extended hospital stays and litigation (Tsegaye et al., 2020). According to reports by Ntani & Sangha. 2024; Ratnapala et al. 2022; Braithwaite et al. 2020, they also revealed that transcription processes in many healthcare organizations lack standardization, rely heavily on manual practices, and fail to include consistent verification steps.

Systematic reviews further indicate that standardized verification training and the use of technology such as electronic medical records and barcode systems significantly reduce transcription and administration errors (Naseralallah et al., 2023; Tolley et al., 2022). These findings are consistent with the Johns Hopkins Evidence-Based Practice (JHNEBP) Model used in this project, which determined that the intervention had good, consistent evidence and was low risk for implementation.

The practice-focused question guiding this project was: How does implementing a staff education program on standardized medication transcription verification processes in healthcare institutions affect the rate of wrong medication administration compared to traditional transcription methods without education? The evidence supporting this practice change is robust, comprising clinical guidelines, peer-reviewed studies, and consensus recommendations. According to the synthesis of evidence, the strength of support for standardized verification

protocols is good and consistent, with a low associated safety risk. After analyzing this, it was justified to develop a staff education project to reduce transcription-related medication errors, aligned with national patient safety standards.

Staff Education Project Development

The intervention consisted of a structured staff education program designed to equip nurses and prescribers with standardized transcription verification strategies. The educational intervention included a PowerPoint presentation facilitated by the investigator and a staff education discussion form completed by participants during and after the session. The content emphasized transcription accuracy, common causes of errors, and practical application of cross-checking protocols using real-world scenarios.

Preimplementation data included baseline transcription error rates and staff survey results assessing knowledge and confidence. The survey instrument (a 10-item Likert-scale questionnaire) was administered before and after training to measure changes in knowledge, satisfaction, and perceived competence. Postimplementation data were collected using compliance audits, follow-up surveys, and incident reports to assess behavioral and outcome improvements.

Results

Transcription-related errors decreased from 20% at baseline (23 errors in 115 orders) to 13% postintervention (15 errors in 115 orders), representing a 35% reduction. Compliance with standardized verification protocols improved from 62% (71 of 115 orders) before intervention to 88% (101 of 115 orders) after intervention. Based on the postintervention survey, 92% of participants (11 of 12 nurses and 7 of 8 prescribers) reported increased confidence in applying

verification protocols, compared to 45% at baseline. Overall staff satisfaction with the training improved by 40 percentage points (from 50% satisfied at baseline to 90% satisfied postintervention).

The implementation of standardized transcription verification education resulted in significant improvement in both staff performance and patient safety outcomes. The overall transcription error rate decreased from 20% (23 errors) to 13% (15 errors), reflecting a 35% reduction. Compliance audits showed that use of the standardized verification protocol increased from 62% (71 orders) to 88% (101 orders). This improvement resulted in fewer adverse drug events being recorded during the monitoring period.

Staff feedback reinforced the quantitative findings. Surveys revealed that 92% of participants (18 out of 20 staff members) reported increased knowledge and confidence in applying verification steps, compared to 45% at baseline. Training satisfaction improved by 40 percentage points (from 50% to 90%). In addition, qualitative responses indicated that participants valued the clarity and practicality of the education, particularly the use of real case examples.

At the organizational level, this project site's quality monitoring system recorded a 25% reduction in incident reports related to transcription discrepancies during the project period. The integration of verification protocols into the electronic medical record supported sustainability by streamlining the process and reducing variability across prescribers and nursing staff. Limitations included staff resistance to new protocols and scheduling challenges for training sessions; however, these barriers were mitigated by leadership support, e-learning modules, and flexible delivery formats.

The limitations include that some staff initially expressed resistance due to change fatigue, and the limited training time posed challenges for participation. However, these barriers were mitigated through strong leadership endorsement, incorporation of e-learning modules for flexibility, and scheduling brief sessions during work hours. Another limitation was the limited baseline data on compliance rates; however, the quality improvement team leveraged existing audit tools to establish reliable measurements quickly.

The results demonstrate not only local improvements but also broader applicability. Healthcare organizations with similar challenges can adopt staff education initiatives to promote safer transcription practices and reduce medication errors across diverse clinical settings.

The staff knowledge and confidence survey used during the education sessions has been included in the Appendix to demonstrate the evaluation tool utilized for pre- and post-intervention data collection. This survey provided essential feedback on participants' understanding of standardized medication transcription verification protocols and guided continuous improvement of the staff education initiative.

Conclusions

The doctoral project successfully demonstrated that a staff education program focused on standardized transcription verification protocols reduced the incidence of medication transcription errors. The intervention was low risk, feasible, aligned with organizational priorities, and acceptable to staff and leadership.

The project produced several actionable outcomes. Education modules and simulation exercises were incorporated into the training curricula, audit tools were established to monitor compliance, and standardized verification steps were integrated into workflows.

Recommendations include maintaining annual refresher training, integrating compliance into performance evaluations, and expanding the use of electronic medical record systems for verification.

For nursing practice, the project emphasizes the central role of nurses in ensuring medication safety and underscores the importance of education in enhancing accountability. For healthcare organizations, the findings provide a scalable model for improving safety indicators and reducing preventable harm. On a broader scale, the project contributes to positive social change by reducing healthcare costs associated with errors, increasing equity through consistent safety practices, and fostering trust between patients and healthcare providers.

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Appendix

Staff Knowledge and Confidence Survey – Pre/Post Education

Purpose:

This survey is designed to assess staff members' knowledge, confidence, and perceptions regarding standardized medication transcription verification before and after participating in the education program.

Instructions:

Please indicate your level of agreement with each statement using the scale below.

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

#	Survey Statement	Pre-Intervention	Post-Intervention
1	I understand the steps involved in standardized medication transcription verification.	<input type="checkbox"/>	<input type="checkbox"/>
2	I can accurately identify potential transcription errors when reviewing medication orders.	<input type="checkbox"/>	<input type="checkbox"/>
3	I feel confident in	<input type="checkbox"/>	<input type="checkbox"/>

	applying the standardized verification protocol in my daily practice.		
4	I am familiar with organizational policies related to transcription verification.	<input type="checkbox"/>	<input type="checkbox"/>
5	I understand the potential patient safety risks associated with transcription errors.	<input type="checkbox"/>	<input type="checkbox"/>
6	I consistently double-check medication transcriptions before finalizing or administering medications.	<input type="checkbox"/>	<input type="checkbox"/>
7	The education and training provided	<input type="checkbox"/>	<input type="checkbox"/>

	improved my ability to prevent transcription-related errors.		
8	I believe the standardized verification protocol enhances patient safety and the quality of care.	<input type="checkbox"/>	<input type="checkbox"/>
9	I am satisfied with the education and training received on transcription verification.	<input type="checkbox"/>	<input type="checkbox"/>
10	I would recommend this training program to other staff to improve medication safety.	<input type="checkbox"/>	<input type="checkbox"/>

Open-Ended Questions:

1. What aspects of the standardized transcription verification process do you feel most confident about?
2. What additional support or training would help you further improve accuracy and confidence?
3. Describe one change you have made (or plan to make) in your practice to enhance transcription safety.