

Measuring Nursing Satisfaction with the Medication Administration Process

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Research scholarship funded by Newcastle University



Introduction

Medication errors contribute to as many as 22,000 deaths a year. Nurses play a key role in the administration of medications. They are considered to be the 'last link in the drug therapy chain' before an error potentially reaches the patient.¹ They perform a range of tasks such as checking the right dose, patient, route, medication and time (five rights) when administering a medicine.

New interventions are urgently needed to minimise the occurrence of medication administration errors.² Barcode medication administration (BCMA) technology can decrease administration errors by confirming the 'five rights' at the patient's bedside. This was found to be cost-effective and reduced administration errors by over 50%.³ MedEye is also a novel technology which also has the potential to reduce medication administration errors.

MedEye

- The device scans pills using computer vision algorithms prior to them being administered to patients at the bedside and cross-references the scan data with the patient's prescribed medication.



Nursing Satisfaction

- Medication administration consumes 40% of a nurse's time
- It is important to understand the impact of new technology on satisfaction and identify any potential problem areas



Aim:

This study aimed to measure nurses' satisfaction with the medication administration process before implementation of a new technology, MedEye.

Methods

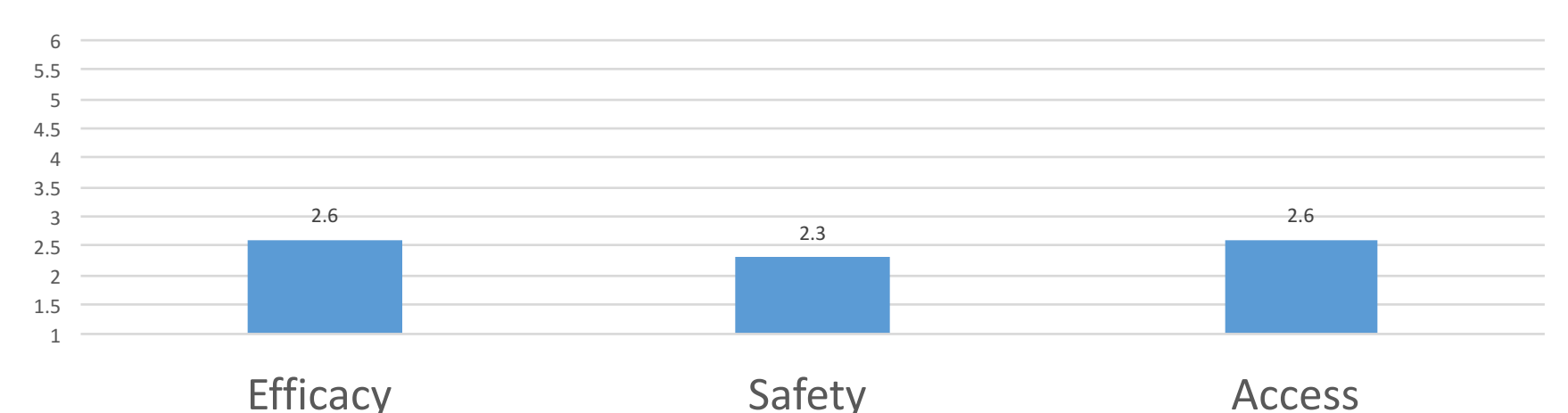
- **Site:** Large Hospital Trust in the North East of England, consisting of two separate hospitals. A previously piloted survey distributed to nurses in 16 surgical and medical wards.
- **Participants:** Nurses who provided direct inpatient care within surgical and medical wards including responsibility for medication administration.
- **Data Collection and Analysis of Nurse's Satisfaction**
- **Data Collection:** A member of the research team distributed ten surveys to each study ward over a six week period and collected the completed surveys personally.
- **Data Analysis:** Mean scores, average, percentages and standard deviations were calculated using SPSS (version 24). Three subscales were derived from the 20 items: safety, access and efficacy. A 6-point Likert rating system was used where score, **1 is "strongly agree" and score, 6 is "strongly disagree"**.

Results

Table 3. Demographic characteristics of survey participants (n= 119)

Variable	
Female, n (%)	110 (92.4)
Male, n (%)	9 (7.6)
Age, average (%)	25 and under (17.5), 26-35 (47.1), 36-45 (16), 46-55 (16.8), 56-65 (2.5)
Years since qualifying, mean (SD)	9.7 (12.2)
Years at the ward, mean (SD)	5.3 (6.0)
Staff nurses, mean (%)	96 (80.7)
Sisters, mean (%)	23, (19.3)

Survey Subscale Mean Scores



- Response rate: 74% (n=119)
- Nurses were **least satisfied** with pharmacy turnaround time (i.e., the time it took to receive medications from the hospital pharmacy) (average score 3.4) and the ease of spotting if the medication has been checked by other clinicians, average score 3.2,.
- Nurses were **most satisfied** with knowing where all the medications (average score, 1.9) are placed and the ease of following the 5 rights (average score, 2).
- Exterior factors influenced nurses satisfaction such as the ward environment and years of experience. E.g., Nurses aged 56 and over were less satisfied (average score 4) with the pharmacy turnaround time) than nurses aged 25 and under (average score 3).

Discussion and Future Considerations

- We found that nurses were generally satisfied with the existing medication administration process. Therefore, it is important that any new interventions do not reduce this satisfaction and do not hinder nurses carrying out their tasks.
- There were also areas for potential improvements, such as knowing where to locate a patient's own medications, communication with other clinicians and pharmacy turnaround times.
- Inadequate medication turnaround time is a serious issue that can compromise patient's safety. Tools that can reduce the turnaround time should be considered e.g., electronic medication requests and improved communication with pharmacy services.
- The ward environment can affect medication rounds and hospital policies should prevent disruptions during this time.
- Nurses will always have the biggest role in the administration process, hence it is important that any system implementation complements their job and autonomy.
- **Future work:**
- Explore the reasons for discrepancies in the data e.g., why older nurses were less satisfied with the pharmacy turnaround time compared to junior nurses and consider ways to improve turnaround time.
- Expand data collection across more wards and hospitals.

Acknowledgements: I would like to thank Newcastle University funder for supporting this study. I would also like to thank Dr. Slight and Dr. Tolley for their constant support.

References

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