

# Nursing Student Medication Errors: A Need for Change in Teaching Methods

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## Introduction

- Newly graduated nurses are expected to be proficient in independent MA
- Students are seldom provided opportunities for independent practice of MA
- Independent practice can be offered in safe settings like simulation
- Systems issues are common in healthcare environments and increase risks for medication errors
- Systems issues, such as interruptions, are seldom addressed adequately or routinely in prelicensure nursing curricula

## Methods

- Within-subjects/cross-sectional design
- Two-site study - East and Midwest US universities
- Individual simulation - required independent MA to two patients
- One MA condition was interrupted; other MA condition was uninterrupted
- Quantitative data on MAEs collected via direct observation
- Qualitative data collected via semi structured interviews during debriefing sessions

## Sample

- Senior baccalaureate nursing students
- Convenience sample - 36 participants
- 94.4% Female; 75% Caucasian
- Ages ranged between 21 and 51 years; median age 23 years

MA = Medication Administration  
MAE = Medication Administration Error

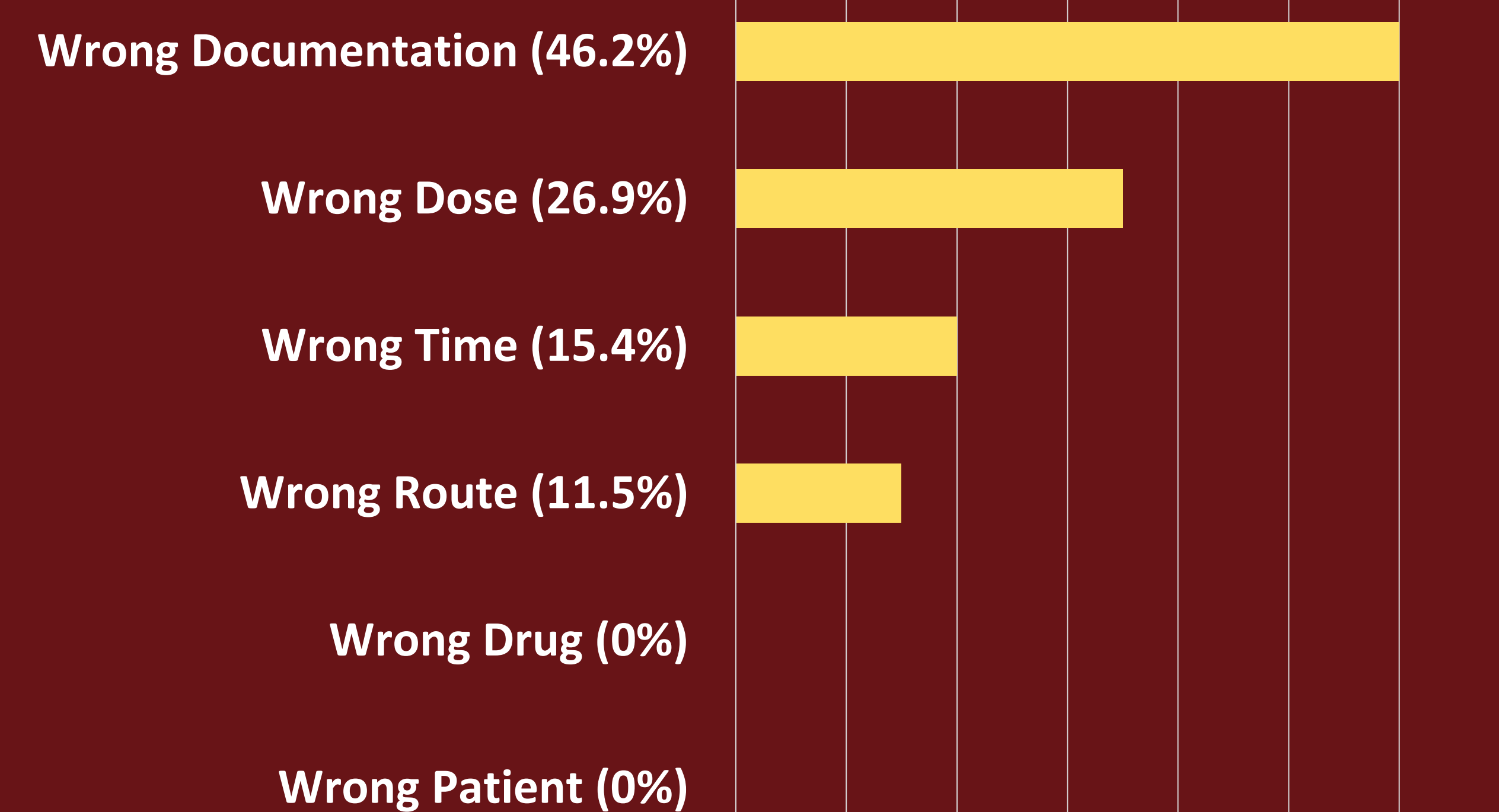
## Quantitative Results

30.6% participants made at least one MAE

26 total MAEs made

72.7% made multiple types of MAEs

No significant difference ( $p=0.713$ ) between interrupted and uninterrupted conditions



Frequency of Medication Administration Errors by Type (N=26)

## Qualitative Results

Participants reported:

- the study provided their first opportunity for independent MA
- lack of independent practice and the interruption led to making errors
- they rechecked the entire medication process after the interruption ceased
- a need for education/practice with interruptions

## Recommendations

- Deliberate practice (Owen et al., 2017) of independent MA in safe, realistic settings such as simulation
- Inclusion of systems factors, such as interruptions, in teaching methods (Latimer, et al., 2017)
- Scaffold systems factors into various educational modalities used to teach MA
- Research on pragmatic strategies to manage interruptions

## Conclusion

- Changes needed in MA teaching methods
- Students require opportunities to engage in safe deliberate independent practice with MA
- Interruptions and other systems issues should be incorporated into teachings/simulations to better prepare students for complex work environments
- Evidence of how interruptions can be managed both safely and pragmatically is warranted

## References

- Latimer, S., Hewitt, J., Stanbrough, R., & McAndrew, R. (2017). Reducing medication errors: Teaching strategies that increase nursing students' awareness of medication errors and their prevention. *Nurse Education Today*, 52, 7-9.
- Owen, M.I., Coburn, C.V., & Amar, A.F. (2017). Implementation of deliberate practice as a simulation strategy in nursing education. *Nurse Educator*, 42(6), 273-274.

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