

# FACULTY OF NURSING



UNIVERSITY OF  
CALGARY

## Teaching Students to Administer Medications: Collaborative Supports are Critical

### NERC 2018

Twyla Ens MN, RN

Tammy Hnatyshyn MN, RN

Megan Kirkpatrick MN BComm RN

Andrew Estefan PhD RPN

- No conflict of interest for Twyla Ens or individuals on the research team

- Describe the background and methodology for the medication administration study
- Present the findings that students and instructors associated with effective teaching of medication administration in the clinical setting
- Provide recommendations for clinical instructors indicating how collaborations could benefit teaching medication administration to nursing students

The Taylor Institute for Teaching and Learning at the  
University of Calgary  
(Scholarship of Teaching and Learning Grant)

- Nurses are expected to administer medications safely
- Hospitalized patients are increasingly complex
- Student medication errors and near misses are occurring

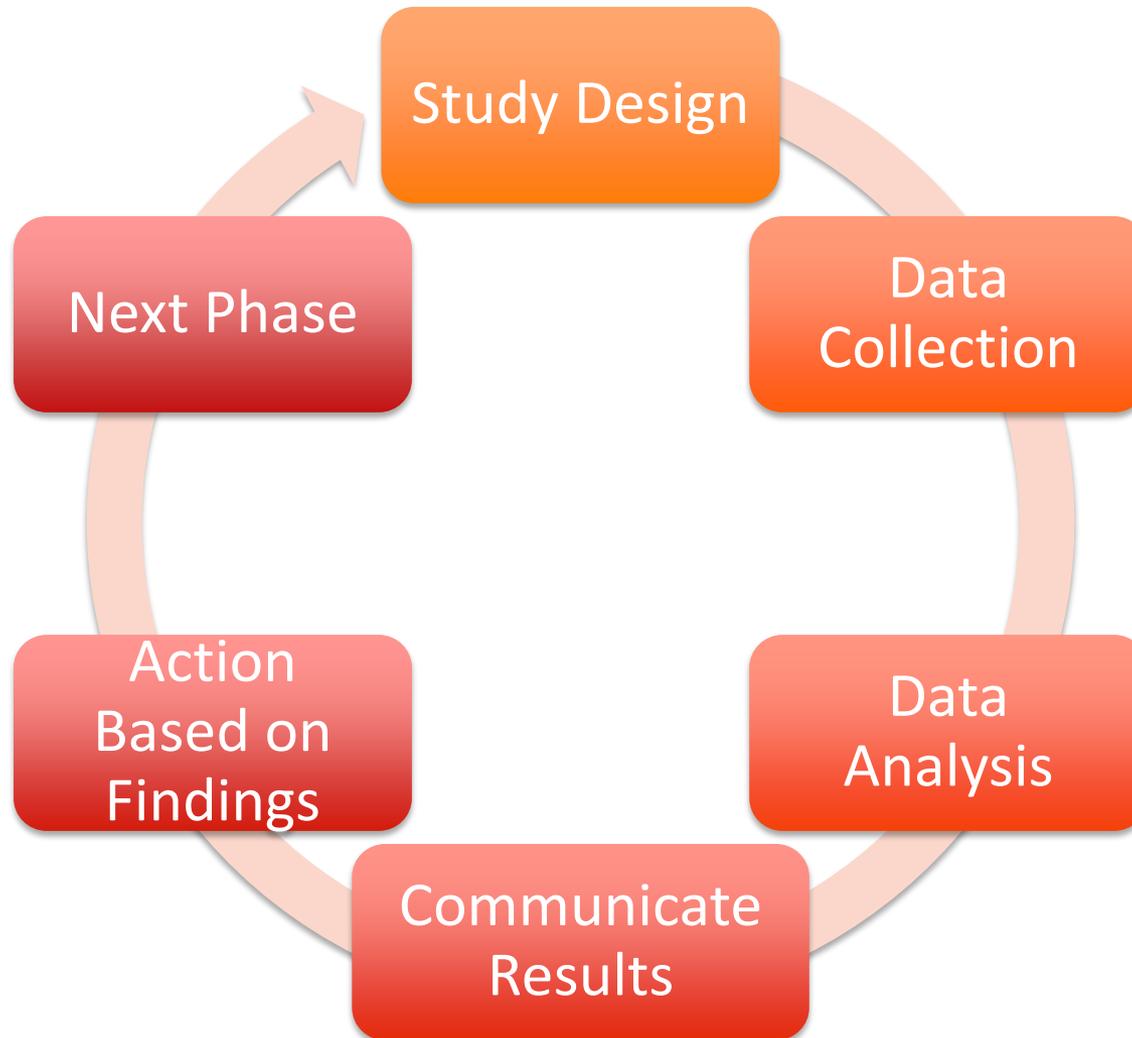
*Is there something in the clinical context that's complicating learning/practice?*

- Medication error rates from nurses in hospital are known
- Student nursing errors rates are poorly articulated (Sears, Goldsworthy, & Goodman, 2010) (Schneidereith, 2015)
- A greater understanding of students' and instructors' experiences is an important first step toward effective teaching (Bush, Hueckel, Robinson, Seelinger, & Molloy, 2015)

What medication administration teaching practices do student nurses find most effective?

What influences medication errors and near misses?

What strategies might improve student learning and experience related to medication administration at the University of Calgary?



- 3<sup>rd</sup> & 4<sup>th</sup> Year nursing students & clinical instructors
- Nov 2016 – Jan 2017
- Surveys and 1 focus group

Students

Survey  
n = 77

Instructors

Survey  
n = 11

Focus Group  
n = 3

Participants ranked the impact of various factors (e.g. noise or being interrupted) in the survey on:

## LEARNING

### Ranking Options:

- Very negative impact
- Somewhat of a negative impact
- No impact
- Somewhat of a positive impact
- Very positive impact
- No answer



## PATIENT SAFETY

### Ranking Options:

- Very negative impact
- Somewhat of a negative impact
- No impact
- Somewhat of a positive impact
- Very positive impact
- No answer

## INSTRUCTORS

Both students and instructors agreed that promoting learning and patient safety was most highly impacted by instructors

Students stated supportive instructors had these characteristics: clear expectations, quizzed students about medications, gave demonstrations of medication administration and provided prompts (common medication list for clinical setting and template for medication cards).

**My instructors have been very specific about doing 3 checks; these have helped me to catch mistakes before they happen.**

Students who were intimidated by their NI would be less likely to ask for support and put the patients' safety at risk.

Overall, the nursing instructor had the biggest impact on learning safe medication administration. Having an instructor who could teach in a positive manner was helpful. It did not help my learning when an instructor was unapproachable or intimidating.

I also enjoyed being quizzed by instructors about what medication I was giving because it allowed me to utilize and strengthen my critical thinking skills.

It is particularly helpful to receive a "common medications for the unit" list prior to the start of clinical so that I am familiar with some of the meds.

## PEERS

- Students ranked peers as second most valuable influence
- Students valued peers for: to further their thinking, to build their critical reasoning and thinking
- Instructors did not rank peers as valuable as students. This is an interesting area to explore further in future studies.

## STAFF NURSES

Students: valued the contextual factors nurses added to medication administration, how nurses helped link medication with patient concepts.

Instructors: valued nurses for helping out students but were concerned about teaching students unsafe shortcuts.

Poor communication between student and staff nurses was the leading cause of medication errors.

Having patient instructors, staff, and peers has the most impact on learning medication administration as it decreases the pressure I feel as I complete the task.

I was supposed to administer IV meds but there were a lot of IV lines. I was about to administer the med but the nurse asked me if I looked at the compatibility. It wasn't compatible, so I used another IV line.

## COLLABORATION:

Student with Instructor

Student with Peers

Student with Nurse

These relationships provide  
various  
pieces to the complexities of  
learning  
about medication administration



- Students learning about medication administration and patient safety are closely linked.
- Faculty members should find teaching strategies to link students with their peers and nurses as resources
- Building collaborative skill sets in students can provide future interprofessional opportunities

- Asensi-Vicente, J., Jimenez-Ruiz, I., & Vizcaya-Moreno, F. (2017). Medication errors involving nursing students: A systematic review. *Nurse Educator*, Advance online publication. Doi:10.1097/NNE.0000000000000481
- Baker, G. R., Norton, P.G., Flintoft, V., Blais, R., Brown, A., Cox, J.,... Tamblyn, R. (2004). The Canadian adverse events study: The incidence of adverse events among hospital patients in Canada. *Canadian Medical Association Journal*, 170(11), 1678-1686. <http://doi.org/10.1503/cmaj.1040498>
- Bush, P., Hueckel, R., Robinson, D., Seelinger, T., & Molloy, M. (2015). Cultivating a culture of medication safety in prelicensure nursing students. *Nurse Educator*, 40(4), 169-173. doi:10.1097/NNE.0000000000000148

- Harding, L. & Petrick, T. (2008). Nursing student medication errors: A retrospective review. *Journal of Nursing Education*, 47(1), 43-47.  
<https://www.ncbi.nlm.nih.gov/pubmed/18232615>
- Schneidereith, T. (2015). Seeing through Google glass: Using an innovative technology to improve medication safety behaviors in undergraduate nursing students. *Nursing Education Perspectives*, 36(5), 337-339.  
doi:10.5480/15-1653
- Sears, K., Goldsworthy, S., Goodman, W. (2010). The relationship between simulation in nursing education and medication safety. *Journal of Nursing Education*, 49 (1), 52-55.
- Valdez, L., Guzman, A., & Escolar-Chua, R. (2012). A structural equation modeling of the factors affecting student nurses' medication errors. *Nurse Education Today*, 33, 222-228. doi:10.1016/j.nedt.2012.01.001