Evaluating Outcomes of safeMedicate E-Learning Solution in a Baccalaureate Nursing Program: A Pilot Study

> Alexandra Duke, DNP, RN-BC, CEN, CHSE, CNE, CNEcl, EBP-C Patricia Stewart, DNP, APRN, CPNP, CNE



## Learning Objectives

- 1. Highlight creative approaches using QI & EBP in an academic setting.
- 2. Describe the approach for piloting safeMedicate in a baccalaureate nursing program.
- 3. Understand the lived experience of nursing faculty piloting the safeMedicate program.

#### Introductions – Project Team

Alexandra Duke, Associate Professor ABSN Program Patricia Stewart, Associate Professor ABSN Program, Simulation Coordinator

## Project Objectives

- Evaluate numeracy competence among first-semester accelerated and first-semester traditional students in a Foundations of Nursing course.
- 2) Explore the lived experience of faculty who piloted safeMedicate.
- 3) To determine if differences in healthcare numeracy competence exist among ABSN and traditional BSN learners.

### Project Timeline



### Sample

n=47 Traditional BSN Studentsn=38 ABSN Studentsn=2 Faculty (1 ABSN + 1 BSN)Spring 2021 Semester

## Setting– Mary Inez Grindle SON

- Private Liberal Arts
- Gainesville, GA
- Norcross, GA
- BSN-2 years
- ABSN-4 consecutive semesters





# Cultivating a Spirit of Inquiry – Step O



Importance for continuous quality improvement to evaluate outcomes. Concern with lack of formal processes for product integration. Lack of standardization with teaching med math for first-semester learners.



## Clinical Questions – Step 1

- 1. How does a modified Future Nurse Curricular Model impact calculation competence at the end of a 15-week Foundations of Nursing course?
- 2. Are there differences in calculation competence among ABSN and TBSN students who complete a modified Future Nurse Curricular Model in a 15-week Foundations of Nursing Practice course?
- 3. What is the lived experience of nursing faculty to facilitate learning using a modified Future Nurse Curricular Model in a 15-week Foundations of Nursing Practice course?



## Search for Evidence – Step 2

- •CINAHL
- PubMed
- •ERIC
- ProQuest
- •JBI EBP



#### Critical Appraisal Synthesis – Step 3

- 1. Synthesis Evaluation Table
- 2. Levels of Synthesis Table
- 3. Rapid Critical Appraisal
- 4. Articles for Inclusion



## Implementation – Step 4

- Pilot safeMedicate
- Identified Barriers to Implementation
- Developed Implementation Plan and Process
- Met with key stakeholders:
  - 1. SON Faculty
  - 2. SON Leadership (Undergraduate Chair)
  - 3. External Stakeholders



## Outcome Evaluation – Step 5



## Analysis Plan

- Intra-program change:
  - Final Math Scores
  - NCLEX-RN Results

- Inter-program comparisons:
  - Final Math Scores
  - NCLEX-RN Results
  - Education & Work Experience

## Student Feedback

#### Post-Course Student Questionnaire

- 1. The safeMedicate program was easy to navigate (1–strongly disagree, 5– strongly agree)
- 2. I feel confident in applying dosage calculation concepts to my nursing practice (1-strongly disagree, 5-strongly agree)
- 3. I would recommend the safeMedicate program for future student use. (Categorical, Yes/No)
- 4. Please share any additional comments about the safeMedicate program. (Open-Ended)

### Faculty Feedback and Integration

#### Post-Course Faculty Questionnaire

- 1. Describe your overall experience teaching with the safeMedicate program? (Open-Ended)
- 2. Would you recommend this product for future courses? (Categorical, Yes/No)
- 3. What process did you use to facilitate student learning using the safeMedicate program? (Open-Ended)
- 4. Describe any positive or negative experiences teaching with the safeMedicate program? (Open-Ended)
- 5. Please share any additional comments about the safeMedicate program. (Open-Ended)

#### Calculation, Conceptual, Technical Competence

\*Data analysis is ongoing

#### Pre-Implementation (Fall 2020 ABSN)

	ABSN	BSN
Final Math Scores	M= <mark>89.47</mark> SD=8.26	Not Available

#### Post-Implementation (Spring 2021 ABSN & BSN)

	ABSN	BSN
Final Math Scores	M=96.25	M=92.94
	SD=6.47	SD=9.24



### Disseminate & Sustain – Step 6

• Formal follow up with SON faculty and leadership.

• External dissemination efforts.

• Rapid PDSA cycles moving forward.

## Lessons Learned & Next Steps

- Time needed for planning and set up.
- Training for faculty product champion is key.
- Consider strategies for onboarding students across programs.
- Consider strategies for providing student feedback and remediation processes.
- Continue program for ABSN and new ELM students.
- Possible involvement of Clinical Instructors.
- Continuous rapid PDSA.

#### References

Available upon request



## Questions?