Impact of the Fuld Fellowship Program on Patient Safety and Competence and Systems Thinking

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Learner Objectives

• Describe the beneficial outcomes of a curriculum designed to build capacity in patient safety and quality leadership among pre-licensure nurses.

• Identify the competencies and skills needed to participate in patient safety improvement efforts.

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Background

• In 2010, the IOM report *The Future of Nursing: Leading Change, Advancing Health* called for nursing education to include development of leadership, teamwork and communication, quality care and system improvement competencies.

• In response, we developed an innovative curriculum for baccalaureate nursing students designed to advance nurse leadership in patient safety and healthcare quality.
Curriculum Innovation

• Program provides selected nursing students with a solid foundation in the science of patient safety, quality improvement (QI) and leadership skills.

• Program consists of:
  - 4 courses threaded throughout the Baccalaureate curriculum
  - 6-month, service-learning project
  - 3-day interprofessional intersession course
  - Stipends for fellows and mentors
Courses

• Course 1
  – Blended course that applies a systems approach to introduce Fellows to the science of patient safety and QI

• Courses 2-3
  – Blended Course
  – Fellows work 50-hours per semester with a mentor and interdisciplinary, patient safety or QI team in a Johns Hopkins clinical setting

• Course 4
  – Fully online, Fellows create a scholarly poster presentation and disseminate their project-based learning
3-day Interprofessional Intersession Course

• Nursing and medical students taught by interprofessional faculty

• Addresses the causes of preventable harm and evidence-based strategies for harm prevention

• Focuses on improving students’ teamwork and communication skills and system-based thinking
6-Month Service Learning Project

• Fuld Fellows engage in 50 service-learning project hours under guidance of a patient safety expert mentor

• Emphasis on synthesizing course learning through work as a quality improvement or patient safety project team member

• Mentors are leaders from across the Hopkins Health system, from primary care to ICU
Program Evaluation

• Process evaluation includes specific questions about course content, delivery, and attainment of learning goals for each course and at end of program, as well as project mentor / mentee evaluation of one another.

• Pre-post program evaluation includes fellows’ perceptions of patient safety competence at entry into practice, using the Health Professional Education in Patient Safety Survey (H-PEPSS), and systems thinking, using the Systems Thinking Scale (STS).

• Pre- and post- program scores for the H-PEPSS subscales and STS were compared using the Wilcoxon Signed-Rank Test.
Systems Thinking

![Graph showing STS scores for different cohorts and overall comparison.](chart.png)

- **Cohort I**: Pre-Program: 58, Post-Program: 62, P=0.003
- **Cohort III**: Pre-Program: 56, Post-Program: 60, P=0.04
- **Cohort IV**: Pre-Program: 60, Post-Program: 64, P=0.39
- **Cohort V**: Pre-Program: 62, Post-Program: 66, P=0.03
- **Cohort VI**: Pre-Program: 64, Post-Program: 68, P=0.48
- **Overall**: Pre-Program: 60, Post-Program: 68, P=0.001
- **Non-Fuld Overall**: Pre-Program: 60, Post-Program: 66, P=0.000
Patient Safety Competency at Entry into Practice: Comparing Mean Change for Fuld and Non-Fuld Students

Mean Change in HPEPPS Score

- **Teamwork:** P=0.067
- **Communication:** P=0.04
- **Managing Risk:** P=0.0087
- **Human Environment:** P=0.06
- **Recognize and Respond:** P=0.23
- **Culture:** P=0.04

Legend:
- **Fuld**
- **Non-Fuld**
Focus Group Feedback

• “Having the opportunity to delve deeply into a single project was incredibly valuable. Working with my mentors on a specific project gave me a unique opportunity to work on a real-world quality and safety issue, and to support an evidence-based practice project to improve the quality of care on the unit. The opportunity was much more rewarding than my other BSN classes, and I gained experience with project management and all of the issues surrounding working on a small team.”

• “The program was beneficial towards shaping me as a marketable future nurse. I do believe I will be more aware of quality improvement and safety issues than my co-workers and this will make me a leader in the workforce.”
Conclusion

• This innovative program is effective in facilitating learning and application of the patient safety champion role among pre-licensure nursing students.

• Fellows’ patient safety competence and systems thinking increased to high levels (or improved) after participation in the program, leaving them well-equipped as future leaders of patient safety and QI initiatives.

• This program can serve as a model for integrating quality and safety concepts into nursing curriculum.