



# Academic-clinical service partnerships are innovative strategies to advance patient safety competence and leadership in prelicensure nursing students

Brigit VanGraafeiland, DNP, CRNP\*, Elizabeth Sloand, PhD, CRNP, FAAN, JoAnne Silbert-Flagg, DNP, CRNP, FAAN, Kelly Gleason, RN, BSN, Cheryl Dennison Himmelfarb, RN, PhD, FAAN  
Johns Hopkins School of Nursing, Baltimore, MD

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## ABSTRACT

Nurse-graduates today must be prepared to practice in a complicated healthcare system with numerous safety challenges. Although patient safety and quality competencies are a priority in nursing education, effective strategies for applying this knowledge into practice are needed. To meet this challenge, the Helene Fuld Leadership Program for the Advancement of Patient Safety and Quality at Johns Hopkins School of Nursing has developed an academic-clinical service partnership. Students are assigned to mentored, quality improvement projects in which they complete 100 hours over 2 semesters. This partnership links the Fuld Fellows with an interprofessional network of Johns Hopkins Medical Entity clinical Quality Improvement leaders. The partnerships have led to manuscripts, professional job opportunities, and quality networking for both our students and mentors. Our strategic, academic-service partnership has improved student knowledge of patient safety principles and promoted nursing competence in patient safety with the development of future patient safety and QI nurse leaders.

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## Background

The current U.S. health care system is complex and fragmented with an increasing level of patient acuity resulting in an unacceptable number of medical errors and death. In 1999, the Institute of Medicine (IOM) released a landmark publication titled *To Err is Human:*

*Building a Safer Healthcare System* (IOM, 2001). The publication was a call to action for all factions of the health care system, including medical and nursing education, to address significant quality improvement (QI) deficits. The most common deficits and types of errors are diagnostic, treatment and preventative related, and communication failure. Therefore, the IOM quality initiative suggests six aims to address patient care and

\* Corresponding author: Brigit VanGraafeiland, School of Nursing, Johns Hopkins University, 525 N. Wolfe St, Baltimore, MD 21205.

E-mail address: [bvanga1@jhu.edu](mailto:bvangra1@jhu.edu) (B. VanGraafeiland).

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error prevention: (a) it should be safe, (b) patient centered, (c) timely, (d) efficient, (e) effective, and (f) equitable (IOM 2001). Breakdowns in the quality of patient care are multifaceted and calls for integrated strategies at the environmental level, among health care systems, and at the intersection between the patients and the clinicians. Errors are usually the result of deficits in systems, processes, and human factors (IOM, 1999).

In 2008, the American Association of Colleges of Nursing (AACN) responded to this call and revised the *Essentials of Baccalaureate Education Essentials for Professional Nursing Practice* to include the knowledge, skills, and leadership in QI and patient safety as an essential outcome of all baccalaureate nursing programs (AACN, 2008). In 2011, the AACN revised the *Essentials of Master's Education in Nursing*, to include QI and safety in all masters nursing programs (AACN, 2011). With the revised essentials in mind, the Johns Hopkins School of Nursing critically appraised the curriculum and noted a deficit in content regarding patient safety and QI.

## Introduction

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Identifying effective teaching strategies to support the application of knowledge into practice have been a challenge in nursing education. Nurse graduates today enter a complicated health care system with high patient acuity and complex health care needs. Consequently, nurses routinely encounter safety challenges, making safety-quality competencies a critical focus of nursing programs. Embedding the principles of patient safety in the curriculum is important, but the application of the learning is needed to demonstrate competency. For example, there is much in the literature on nurses' "speaking up" when there is a potential risk to patient safety. As nurse educators, we can lecture to this, but our students need opportunities to apply what they have learned in the classroom into the clinical area. The Helene Fuld Fellowship in Patient Safety and Leadership for the Advancement of Patient Care Quality and Patient Safety at Johns Hopkins University School of Nursing (Fuld Program) has implemented an academic-service partnership to meet this challenge. The goals of the program are to provide (a) broad, evidence-based, QI and patient safety training; (b) practical QI and patient safety experience; and (c) mentoring to bridge the gap between theory and practice. To meet these goals, faculty members developed a service-based learning program that provides students with additional, advanced coursework in the principles of QI and patient safety. As part of the program, selected nursing students work with expert mentors who are leading interprofessional QI or patient safety teams within a health care setting.

## Curriculum

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The Fuld Program runs concurrently over three semesters in the prelicensure program. Twenty students are selected to participate following an application and interview process. The prelicensure students are all MSN (Entry into Nursing) students. They are second-degree students and come with diverse educational degrees and life experiences. Selected students are assigned to a mentor who is a patient safety expert within the partner institution and works closely with a Fuld Program faculty member who provides curricular guidance and is not the project mentor. The pool of mentors is very diverse and includes nursing managers, nursing leadership, clinical nurse leaders, physicians, fellows, residents, system and human factor experts, nursing directors, information technicians faculty from the school of nursing and medicine and bedside nurses. This strategic partnership allows the students to select a patient safety or QI project and commit 100 hr of project work over two semesters. QI and Patient Safety experts at the Johns Hopkins Medical Institutions and the Armstrong Institute for Patient Safety and Quality are invited to submit an application for a Fuld fellow to work with their project team. The mentor application includes project description and site, status of the project, whether it is in early development or data collection as well as potential role(s) for Fuld Fellow in the project.

Fuld Fellows are provided with a list of projects submitted by expert mentors and asked to rank their top three projects in order of interest to them. Fuld faculty members then match student preferences with available projects. Once students are assigned to a project, they meet with their mentor and project team to review the project and sign a contract that outlines their respective roles and responsibilities.

## Academic-Clinical Service Partnerships

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The partnership of Johns Hopkins Medical Institution, a 1,000 bed academic medical center, and the Armstrong Institute for Patient Safety, provides an infrastructure that oversees, coordinates, and supports patient safety and quality efforts across Johns Hopkins' integrated health care system. This alliance affords Fuld fellows the opportunity to participate as an active member in an ongoing patient safety or QI project. This synergistic relationship has been extremely beneficial for our students and our health system partners. Table 1 outlines three diverse QI projects as exemplars and demonstrates the academic rigor and benefits to both the student and the partnering institution.

The first partnership linked a Fuld Fellow with an outpatient pediatric primary care office affiliated with the medical center. Within the context of an academic

**Table 1 – Examples of Academic-Clinical Partnerships with Key Deliverables**

Partnership	Population and Problem	Intervention	Deliverables
<p><i>Partnership 1: text messaging as a strategy to improve influenza vaccination rates in Latino pediatric patients</i></p> <p>Fuld students over four semesters and an Academic Pediatric Community Practice</p>	<p>Children with asthma and low rates of influenza vaccination coverage</p>	<ol style="list-style-type: none"> <li>1. A three-part text message developed in English and Spanish.</li> <li>2. Message sent to families of children with asthma diagnosis.</li> <li>3. Text message included education about influenza, reminder to get the vaccine, and a CDC video</li> <li>4. Follow up phone calls to families</li> <li>5. Project revised and replicated in year 2</li> </ol>	<ul style="list-style-type: none"> <li>• Some children received vaccine who may otherwise not have received it.</li> <li>• Manuscript submission with Fuld student, mentor, faculty, and site medical director</li> <li>• Two poster presentations: local Patient Safety Summit and Sigma Theta Tau International nursing conference.</li> </ul>
<p><i>Partnership 2: breastfeeding support group</i></p> <p>Fuld fellows (5), School of Nursing faculty and obstetric hospital nurses</p>	<p>To keep the hospital designated as a Baby-Friendly Hospital initiatives need to be ongoing and requires breastfeeding mothers be provided or referred to breastfeeding support following hospital discharge. The hospital provides a breastfeeding support group. Comparison of group setting of breastfeeding support in a hospital setting and individual consultation in primary care office.</p>	<ol style="list-style-type: none"> <li>1. Submit a grant to support the study.</li> <li>2. Obtain IRB approval</li> <li>3. Implement the project in both settings.</li> <li>4. Survey designed and administered to participants.</li> <li>5. Design a data collection system</li> <li>6. Collect and analyze data</li> </ol>	<ol style="list-style-type: none"> <li>1. Each Fuld fellow is a coinvestigator on the IRB approved project</li> <li>2. An internal grant (\$10,000) funded the project</li> <li>3. Each Fuld fellow presented a poster at Patient Safety Summit on the progress of the project to date.</li> <li>4. Two Fuld fellows were coauthors on a journal article</li> </ol>
<p><i>Partnership 3: telephone app for adolescents to help them understand resources available after sexual trauma</i></p> <p>Fuld student and Forensic Nurse Examiners at an urban health care system.</p>	<p>Women and men who have been victims of trauma do not always report their trauma. Studies show they may be more likely to seek care if they knew of all the resources available.</p>	<p>Focus groups and online surveys to review app for content, clarity and usability</p>	<ol style="list-style-type: none"> <li>1. BMORES SAFE Mobile app launched.</li> <li>2. It is free to download.</li> <li>3. &gt;500 downloads of app so far</li> <li>4. Currently working on revising app to meet specific populations and groups</li> </ol>

pediatric clinic, the Fuld student collaborated with the clinic medical director on a QI project to increase the influenza vaccine rates among children with asthma. This project involved the use of text messaging to remind families to have their children vaccinated. A three-part text message in either Spanish or English was sent to families. The messages asked the caretaker about whether the child had received the vaccine and gave basic education about the vaccine. It also included an entertaining educational video from the Centers for Disease Control. The message was interactive and gave caretakers instructions about scheduling an appointment to receive the influenza vaccine. The following year, a second Fuld Fellow continued the project and worked with the mentor to strategically improve the program. One key improvement was clarifying and simplifying the messages with a change in the reading level from grades 7 to 3. Also in the second year, the texting campaign was started earlier in the influenza vaccine season and the messages were sent in the preferred health care language as identified in the electronic medical record. Influenza vaccine rates were examined for each of the 2 years.

The second partnership involved a hospital breastfeeding support group. Baby-Friendly Hospital certification, a goal of the hospital, requires hospitals to provide or refer new mothers to a source of breastfeeding support following discharge after their child's birth. The hospital provides a breastfeeding support group to breastfeeding mothers. This QI project explored whether maternal satisfaction was better when breastfeeding support was provided in a group setting as compared with support offered through individual consultation. Over the course of 2 years, five Fuld Fellows participated in this QI project. The students assisted with the design and implementation of the IRB approved study. Under faculty guidance, the Fuld Fellows obtained grant funding, implemented the project, and contributed to data analysis. Two students coauthored an article on preliminary findings of the project (Silbert-Flagg, Balbier, & Blakey, 2016). Of the three nursing students who have completed their

degree thus far, all obtained employment as maternal child or pediatric staff nurses.

The third partnership was between the Fuld Program and forensic nurses in an out-patient department. The nurses believed that victims of sexual trauma needed a user-friendly way to access critical information. Many case of sexual assault go unreported, which may be due to the lack of awareness of resources available (Kruttschnitt, Kalsbeek, & House, 2014). To address this gap, the expert mentor, project team, and Fuld Fellow developed a mobile phone app that was based on focus groups and online surveys of prospective users.

At the culmination of their participation, Fuld Fellows create a professional poster to display their project. These posters are presented at a Patient Safety Summit that occurs at the end of each Fuld Fellowship period. Faculty, staff, students, and the greater university community are invited to view the posters and discuss them with student presenters.

### Application of Project from Students' Perspectives

Fuld students gain hands on experience in all aspects of QI design through participation in interprofessional QI projects. This experience can be beneficial in obtaining an entry level nursing position to further their future career goals. Nurse graduates often have difficulties securing a position in a specialty field such as pediatrics or maternal child nursing without nursing experience. Participation in the Fuld Program gives them valuable supplemental experience in their chosen specialty as well as related contacts who can assist them upon graduation.

### Evaluation

Following completion of the mentorship period, Fuld Fellows and mentors complete an online evaluation of

**Table 2 – Mentor Evaluation of Fuld Fellow**

Evaluation Survey Questions	Strongly Agree N = 35 (%)	Agree N = 35 (%)	Disagree N = 35 (%)	Strongly Disagree N = 35 (%)
Mentoring experience has been satisfying	26 (74.2)	8 (22.8)	1 (0.3)	
Student's progress meets expectations	27 (77)	7 (20)	1 (0.3)	
The student demonstrated active involvement with the project team over the semester	31 (88.5)	4 (11.4)		
The student demonstrated effective listening over the semester	29 (82.8)	6 (17.2)		
The student demonstrated an improvement in his/her ability to receive feedback	25 (71.4)	10 (28.5)		
Student demonstrated an improvement in his/her ability to give feedback	19 (54.2)	16 (45.7)		
Student demonstrated growth in his/her ability to speak-up appropriately in a team	20 (57)	15 (42.8)		
Student effectively assumed assigned responsibilities	28 (80)	7 (20)		

their joint experience. Fuld Fellows are asked to provide a pre–post program evaluation. Pre–post program evaluation includes fellows' perceptions of patient safety competence at entry into practice, using the Health Professional Education in Patient Safety Survey and the Systems Thinking Scale (Ginsburg, Castel, Tregunno, & Norton, 2012). At the end of the program the mentors evaluate the Fuld Fellow's performance (Table 2). Mentors also evaluate their own experience with (a) the mentoring experience, (b) time commitment, (c) the extent and quality of Fuld Fellow involvement, and meeting expectations, and (d) the student's ability to be effective leaders and team members. In each of these categories, the majority of mentors strongly agree that the experience was positive for both academic and clinical partners.

## Discussion

The IOM competencies for nursing are critical elements of QI that should be threaded through prelicensure nursing curriculum. The Fuld program offers students the opportunity to gain in depth knowledge on patient safety principles and apply said knowledge through the participation with QI teams. The program affords students an experience rich in evidence-based practice and patient-centered care, QI and safety, teamwork and collaboration (Walrath, Immelt, Ray, VanGraafeiland, & Dennison-Himmelfarb, 2015). The partnership is one educational strategy to give prelicensure students the tools they need to contribute to continuous QI and patient safety within the health care system. The Fuld Fellow provides critical support and added capacity to their assigned organization to help with project implementation. This is a tangible benefit for the health system partners.

Due to the success of the Fuld Program, the Master Entry into Nursing (MEN) curriculum now includes patient safety and QI seminars, and the Quality and Safety Education for Nurses competencies have been integrated into the Professionalism for Nursing Health Care course. Future directions include examining the implications of having the Fuld program be utilized for our Advanced Practice to Doctorate of Nursing Practice students.

The health care system is a complicated and dynamic setting filled with high-acuity patients. These systems need high performance QI teams that promote safe, high quality care. Nursing students, organizations, and patients all benefit from nurse graduates who come armed with teamwork and collaboration knowledge and skills. Evidence has demonstrated that teaching health care quality and safety competencies to nursing students improves the culture of safety within the health care system (Ladden, Bednash, Stevens, & Moore, 2006; Tella et al., 2014)

## Conclusion

This innovative academic clinical partnership effectively promotes patient safety and QI concepts through active student involvement. The partnership has been a mutually beneficial program that has provided mentored learning opportunities for students and concrete support for clinicians and faculty involved in QI projects at Johns Hopkins. It has also promoted nursing competence in patient safety with the education and development of future patient safety and QI nurse leaders.

## Supplementary Materials

Supplementary material associated with this article can be found in the online version at [doi:10.1016/j.outlook.2018.08.003](https://doi.org/10.1016/j.outlook.2018.08.003)

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