

Quality Improvement Education and Systems Training (QUEST): a report of our pilot experience



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Background

- Growing evidence supports the need to teach future healthcare practitioners the fundamentals of patient safety and quality improvement (QI), but curricula rarely include opportunities to apply QI principles¹
- Robust curricular examples in the literature - gaps remain regarding sustainability, faculty development, aligning GME and UME curricula, and the social sciences implicit in QI and patient safety approaches
- Building on current interprofessional activities at the University of South Carolina and clinical partner Palmetto Health, we initiated a pilot program in 2017 to engage our learners in interprofessional health care improvement

Aim

- ✓ **Develop an experiential learning curriculum for future healthcare practitioners to:**
 - ✓ **Apply knowledge of QI principles**
 - ✓ **Develop team skills as a member of a healthcare team working towards shared QI goals**

Project Design

- An interprofessional group of students, educators, and clinical leaders planned the curriculum in 2017
- Models were intentionally explored from other institutions with a focus on an experiential approach^{2,3}
- We recruited 9 medicine and pharmacy students to participate
- Students complete QUEST in addition to their usual coursework



Figure 1: UofSC SOM Dean Dr. Les Hall, inspiring students during the QUEST kickoff workshop

QUEST Curriculum Overview

- QUEST is a 6 month collaborative that starts in the fall and culminates in a poster presentation at UofSC Discover Day in April – a university-sponsored showcase of research
- Kickoff: October
 - Completion of IHI basic certifications prior to Kickoff
 - 2 half-day workshops augment IHI modules
 - Students assigned to QI mentor and teams
 - Phase 1: October – January – Preparatory work in teams
 - Meet with QI team regularly
 - Patient shadowing encouraged
 - Checkpoint #1: January group meeting
 - Phase 2: January – March - Active improvement work
 - Perform PDSA cycle with team (or other component of improvement process)
 - Checkpoint #2: Individual and QI mentor check-ins
 - Final Presentation: April: Present at USC Research Forum Day

Table 1: Examples of QI teams. By placing students in existing healthcare teams with mentors, real-time guidance available

Mentors	Student Location	QI Topics
Julie Justo, PharmD	Antibiotic Stewardship	Respiratory PCR Panel Overuse
Cindy Merrow, RN	Emergency Dept	Sepsis Protocol
Phillip Prest, MD	Trauma Surgery	Surgery Clerkship
Mark Humphrey, MD; Morgan Adams, PharmD	Family Medicine	Smoking Cessation
Chris Goodman, MD	Inpatient Med-Surg	Patient shadowing

Results

Experience with QI

- ✓ **All 9 students completed work resulting in 6 poster presentations at the 2018 UofSC Discover Day.**

Quality Improvement Knowledge

- ✓ **QI knowledge improved as measured by the QIKAT-R⁴**
- ✓ **Increase of 0.5 point on 10-point scale**

Teaming Ability

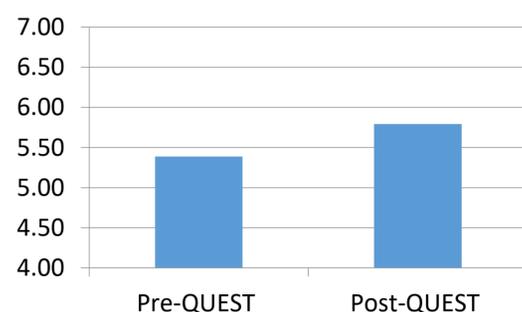


Figure 3: ISVS – 9B scores. The Interprofessional Socialization and Valuing Scale 9B is a 9-question tool that asks learners to rate aspects of their own teamwork in the healthcare setting. Each question is on a 7-point Likert scale. Results are summed and averaged.

- ✓ **Self-rated perception of teaming improved on ISVS-9B⁵**
- ✓ **Increase of 0.4 point on 7-point scale**
- ✓ **Gains in self-rating of team orientation were offset by reduced ability to clarify their own role in a team and team engagement with patients**

Evaluations

- ✓ **In standardized questionnaire, learners mostly chose “strongly agree” on benefits of QUEST**

Sustainability

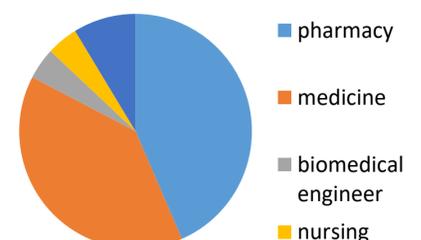
- ✓ **1:2 mentor-learner ratio utilized**
- ✓ **~4 hours required by mentors for learners in QUEST (beyond usual QI work)**

Lessons Learned

- Demonstrated feasibility of QUEST model – impacted QI knowledge with minimal time involvement from mentors
- QIKAT-R helpful, but may be time intensive with program growth
- ISVS helpful for evaluative purposes, results suggests need for:
 - Direct guidance within QI teams on student role clarification
 - Patient engagement enhancement in learning environment
- Small pilot generated natural enthusiasm

Next Steps and Future Direction

- For 2018-2019, ~25 students recruited
- Expansion of mentor pool
- Minor tweaks to model, applying lessons learned
- Recruit nursing students



- *Become a co-learning experiment in practice transformation³*
- *With further growth will need intentional faculty development*

References

1. Johl K, Grigsby RK. Engaging learners in health system quality improvement efforts. *Acad Med.* 2017;92:593–597.
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4. Quality Improvement Knowledge Application Tool – Revised. <http://www.squire-statement.org/index.cfm?fuseaction=page.viewpage&pageid=509>
5. Interprofessional Socialization and Valuing Scale <https://nexusipe.org/informing/resource-center/isvs-interprofessional-socialization-and-valuing-scale>