Assessing Resident QI Competency at a Community-Based Teaching Health Center: Translating Knowledge into Practical Skill by the Addition of an Experiential Curriculum Component

AAMC Teaching for Quality Project

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Objective

The purpose of this Teaching for Quality project was to develop and pilot a year long, experiential QI curriculum to assess resident confidence, knowledge and competence levels in quality improvement. By the end of the project, residents were expected to be able to:

- Define the IHI Model for Improvement
- Identify feasible QI project topics
- Design projects using a PDSA cycle
- Implement QI project at continuity clinic
- Measure project outcomes
- Apply learned concepts to future work

Outcomes / Results

Resident Project Titles:

- "Protocol to decrease the concomitant use of benzodiazepines and opiates at The Guidance Center"
- "Improving patient safety at a local Head Start program by increasing medication form compliance"
- "Probing for Trauma Symptoms Deliberately: Are psychiatrists asking the right questions?"
- "Improving infant well-check compliance by using reminder magnets"

Six residents completed the project year: 3 psychiatry, 1 family medicine, and 2 pediatric residents. Sample characteristics were representative of the total population of residents, and 50% were female. Improvement in mean confidence levels and quiz scores were seen in all participants (Table 1). The residents also completed a postactivity feedback survey which demonstrated perceived benefits in the activity (Figure 2).

Educational Design/Methods

The pilot curriculum was modeled after the USC Pediatrics QI Program, combining readings, assignments, and lectures with an experiential project component and further refined based off other studies’ findings (see Figure 1). After IRB approval was obtained, a workshop on quality improvement and project goals was held. A Google Classroom was developed to post readings and assignments. Residents completed a project planning tool modeled from the IHI, and project implementation began in August 2017. Resident progress was tracked by monthly check-ins, and all projects are currently in the “Do” or “Act” phase of the PDSA cycle (Plan, Do, Study, Act).

Data Collection/Analysis

Residents were asked to complete an anonymous pre and post project survey to measure confidence levels in QI concepts using a modified QICI tool and a 4-question quiz to assess resident knowledge. Post-project feedback was gathered by survey and exit interview. Pre and post confidence levels and quiz scores were calculated by the second author (SJW) using SPSS Version 25. Resident competency and project impact will be evaluated by faculty after projects are completed (rubric TBD).

Qualitative Feedback from Exit Interviews

- "Parents were appreciative of our efforts, but without addressing the social determinants they face, we weren’t able to measure an increase in compliance with well-infant care. Our next PDSA cycle will address transportation issues."
- "Working with a QI Team (~4 people) was very helpful – we had good communication and they helped in facilitation and measurement."
- "Change can take some time to see in larger organizations, due to facing resistance and push back. Education is key."

Discussion

This Teaching for Quality project demonstrated that residents at a community-based teaching health center can complete an experiential project in quality and safety at ambulatory rotation locations. Technology was utilized because it was predicted that barriers such as lack of time or the lengthy distance of clinics would be faced. It was found that these barriers also led to lower than predicted numbers of resident participation. Specifically, there were no participants from the internal medicine program and low participation generally from all programs. In addition to these challenges, another barrier faced was the lack of project support from one clinical site.

Despite these limitations, residents reported increased confidence levels in quality principles and performed better on knowledge based questions after participating in the project. Post-curruculum feedback indicated that residents perceived the activity to be beneficial and felt strongly that they are now prepared to complete quality projects in their future practice.

The next step to further improve this curriculum includes communicating with clinic sites to provide education on resident scholarly activity and quality improvement curriculum goals, with the aim of increasing support for resident projects and assuring resident success.

Conclusions and Implications

It is vital to train resident physicians in health care quality and safety to be best prepared for today’s changing health care environment, as evidenced by the incorporation of these principles into the ACGME common program requirements. Utilizing innovative methods to teach principles coupled with an experiential project component is an effective way to train residents in quality and safety. This study’s findings will be analyzed along with prior Teaching for Quality results to create an enhanced curriculum in quality and safety for the graduate medical education programs at Authority Health GME Consortium, a communitybased teaching health center in Detroit, MI.

References and Acknowledgement

2. "Resident Quality Improvement Program.” University of South Carolina School of Medicine, pediatrics.med.sc.edu/qi/qi.asp

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