

Background

ACGME QI requirements

- All residents must be involved with quality improvement (QI) activities during their training

Development of Pediatric Residency Academic Rotation

- Pediatric residents were not satisfied with opportunities for involvement in scholarly activity
- In response, our program developed a one month, mandatory academic rotation that occurs during the second year of residency as of July 2020

Academic Rotation Content

- Training on QI to aid with completing ACGME requirements
- Choose one additional area (leadership, education, and research) and complete three assignments from the chosen section
- During the rotation, residents develop a plan and timeline for completing assignments and future projects



Evaluation Objectives

To assess the impact of the rotation on residents' self-reported QI proficiency, competency based on ACGME milestones and motivation to pursue scholarly activities.

Research questions

In the short and long term, does a defined academic rotation for QI and other scholarly work:

- Improve resident self-rated proficiency in scholarly skills?
- Improve resident satisfaction with scholarly opportunities on the annual ACGME survey?
- Improve resident scholarly productivity?

Methods

- Pediatric residents participating in the academic rotation from July 2020 to March 2021 were invited via e-mail to complete pre- and post-rotation surveys in REDCap
 - Surveys were sent out one week before the rotation and one week after the rotation ended
- We conducted a Wilcoxon signed-rank test in Stata/SE 15 to compare pre- and post-survey responses for residents who completed both surveys (n=7)

Preliminary Results

- The majority of residents identified as female (57%) and white (57%) and 43% identified as Hispanic or Latino/a
- Residents reported an increase in their perceived QI proficiency across all 12 measures, with a statistically significant pre-to-post rotation increase in median scores for 9 measures (Table 1)

Table 1. Residents' Self-Rated Proficiency in QI skills, pre- and post-rotation

QI Measures ¹	Pre-rotation		Post-rotation	
	Median	IQR	Median	IQR
Identify a quality problem*	3	(2-3)	4	(4-4)
Develop and focus an aim related to a quality problem*	3	(2-3)	4	(3-4)
Identify outcome and process measures appropriate for a quality problem*	2	(2-3)	4	(3-4)
Identify changes in practice to improve processes and outcomes*	3	(2-3)	4	(3-4)
Demonstrate how to use several cycles of iterative change to improve processes and outcomes*	2	(1-2)	4	(3-4)
Formulate a data plan related to demonstrating that a change resulted in improvement*	2	(1-2)	3	(2-4)
Create an interdisciplinary improvement team and assign roles necessary for improvement success*	2	(1-3)	3	(3-4)
Perform a literature search to assist in your project or case report development and reporting	3	(2-4)	4	(3-4)
Write a manuscript or create a poster to communicate the methods, results, and implications of your scholarly work*	2	(1-3)	3	(2-4)
Present your scholarly work to an audience of your peers	3	(2-4)	3	(2-4)
Determine if an IRB is necessary for your scholarly work	2	(1-2)	2	(2-3)
Complete an IRB application for your scholarly work*	2	(1-2)	3	(2-4)

*P-value ≤0.05

IQR = interquartile range, 25th-75th percentile indicated

¹Self-rated on a scale from 1-Not Proficient to 5-Very Proficient

Preliminary Results

- There were some small increases in resident ratings for the ACGME QI milestone assessment question and in residents' reported motivation to pursue scholarly activities (Table 2)

Table 2. Changes in Resident Ratings of ACGME Milestone Assessments and Motivation to Pursue Scholarly Activities, pre- and post-rotation

ACGME Milestones ¹	Pre-rotation		Post-rotation		P-value
	Median	IQR	Median	IQR	
(MK1) Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems	3	(2-3)	3	(2-3)	0.16
(SBP3) Work in inter-professional teams to enhance patient safety and improve patient care quality*	3	(2-3)	3	(2-3)	0.16
(PBLI3) Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement	2	(2-3)	3	(2-3)	0.08
Motivation² Motivation to pursue scholarly activities during your residency	6	(3-7)	6	(5-9)	0.04

¹Rated from 1 to 5, except SBP3 which was rated from 1 to 4. ²Based on a scale from 0-Not motivated at all to 10-Extremely motivated. IQR = interquartile range, 25th-75th percentile indicated

Discussion

- The academic rotation offers a unique opportunity for residents to focus on their scholarly skills
- This preliminary, short-term evaluation from the first year indicates that residents perceive an improvement in their QI skills during the rotation and have increased motivation to pursue scholarly activities
- This evaluation will continue as more residents engage with the academic rotation, with plans for:
 - Additional longitudinal surveys to assess the longer-term impact of the rotation on the QI skill set and scholarly output
 - Use of aggregate, anonymous data from the annual ACGME and residency program surveys to assess trends in scholarly productivity and resident satisfaction with scholarly opportunities over time



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