University of Rochester Department of Pediatrics
Pediatric Fellowship Programs
Quality Improvement Project

Trainee Name:	**Nathan Minkoff**	**Date Submitted:**	

Project Title: **Improving the frequency and quality of Pediatric Gastroenterology Fellow led teaching**

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Introduction:

AIM: Complete at least one fellow led lecture per week >70% of weeks, have a score of "satisfied" or better > 70% of the time, and improve the in training exam scores by >10% between 3/29/2019 and 3/1/2020.

Methods: I completed 3 PDSA cycles, the dates and changes are summarized below.

PDSA 1. 3/29/2019 – 7/1/19 The intervention will be that pediatric and combined internal medicine and pediatrics residents on the pediatric gastroenterology inpatient service i.e. Team 3 (and sometimes on team 2 depending on availability) will receive a 20-50 minute lecture by Dr. Minkoff on a topic related to Pediatric gastroenterology, in addition to teaching provided by the attending and other fellows. The frequency of teaching and satisfaction with the lectures was monitored. Each Monday an email was sent out to establish a date and time for the talk depending on the expected availability of residents (ie when they had clinic) as well as attachments to the email with suggested readings related to the topic, as well as a survey hosted on "surverymonkey.com" which asked them about the frequency of the teaching they had received and their satisfaction with this teaching, this was considered the baseline values as they occurred prior to any teaching given by Dr. Minkoff. Three lecture topics were offered: malabsorption, inflammatory bowel disease and hepatology. A total of 13 responses were collected. The percentage of resident responses as satisfied or better was 46%, and a lecture was completed on 77% of weeks on (10 lectures in 13 total weeks).

PDSA 2. 7/1/19 – 11/5/19 Based on feedback asking for 1) standardized time to be set for lectures, 2) to increase the number of topics in the talks, 3) my impression that no residents were reading the pre-lecture material, I did away with the Monday emails and made Friday at 2pm the set time. I added the following lecture topics: Nutrition/Failure to thrive, Overview of Pediatric GI, Rapid Fire Prep Questions. I also created separate surveys for 1st and 2nd year residents, so that we could track changes of how our PDSA cycle 1 have impacted responses of current PGY2s who were PGY1's prior to and during PDSA cycle 1, and differentiate them from new PGY 1s who started residency during PDSA cycle 2 or later. A total of 18 responses were collected. The percentage of resident responses as satisfied or better was 57%, and a lecture was completed on 76% of weeks on (13 lectures in 17 total weeks). There were only (4/18) 2nd year resident responses, while the majority were 1st year resident responses (14/18), so I decided against analyzing the 2nd year residents and 1st year residents separately.

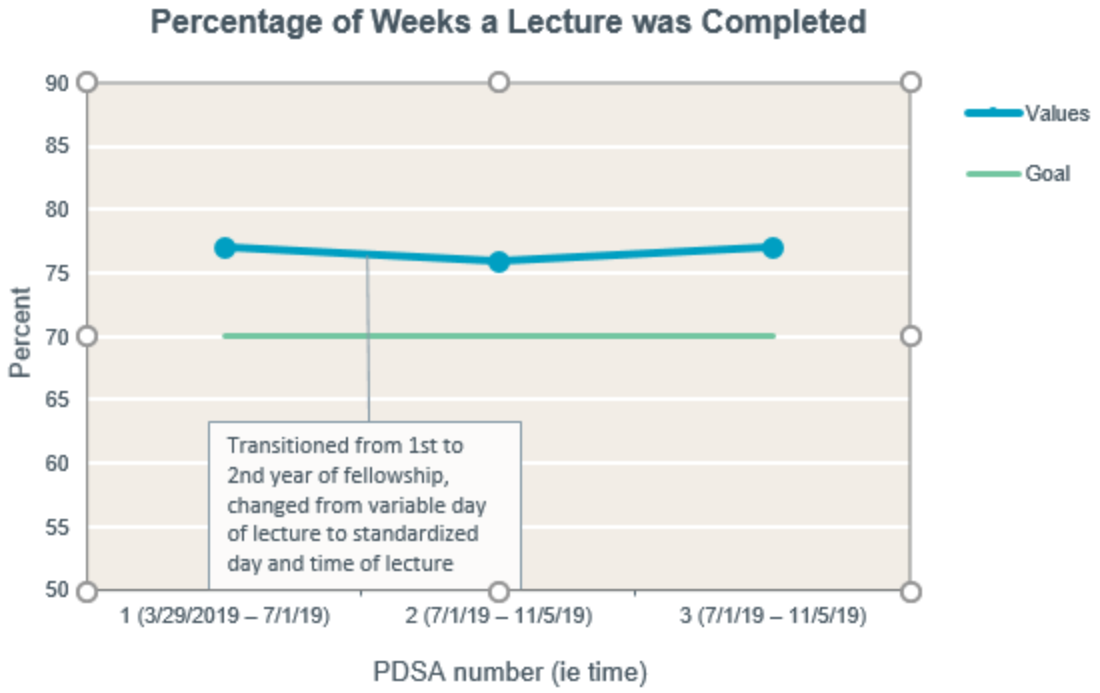
PDSA 3. 11/5/19 – 1/1/20 Upon reviewing the In-Training Exam (ITE) scores, I was struck by the poor scores within the field on Pancreas related disease. For PDSA 3, I created a lecture titled "GI aspects of the Pancreas" which I gave first as a lunch time lecture to all the residents present that day, and later to those rotating through the GI service as my weekly lecture. This was the only lecture offered during PDSA 3 in an attempt to reach all of the residents with this important topic they had done so poorly on during the previous year's ITE. I asked each resident to complete a before and after questionnaire which included rating their satisfaction with the lecture, and compared their pre/post-lecture comfort in diagnosing and managing disorders of the pancreas, as well as 2 questions to measure their knowledge acquisition from the lecture. A total of 22 responses were collected. The percentage of resident responses as satisfied or better was 73%, and a lecture was completed on 77% of weeks on (10 lectures in 13 total weeks).

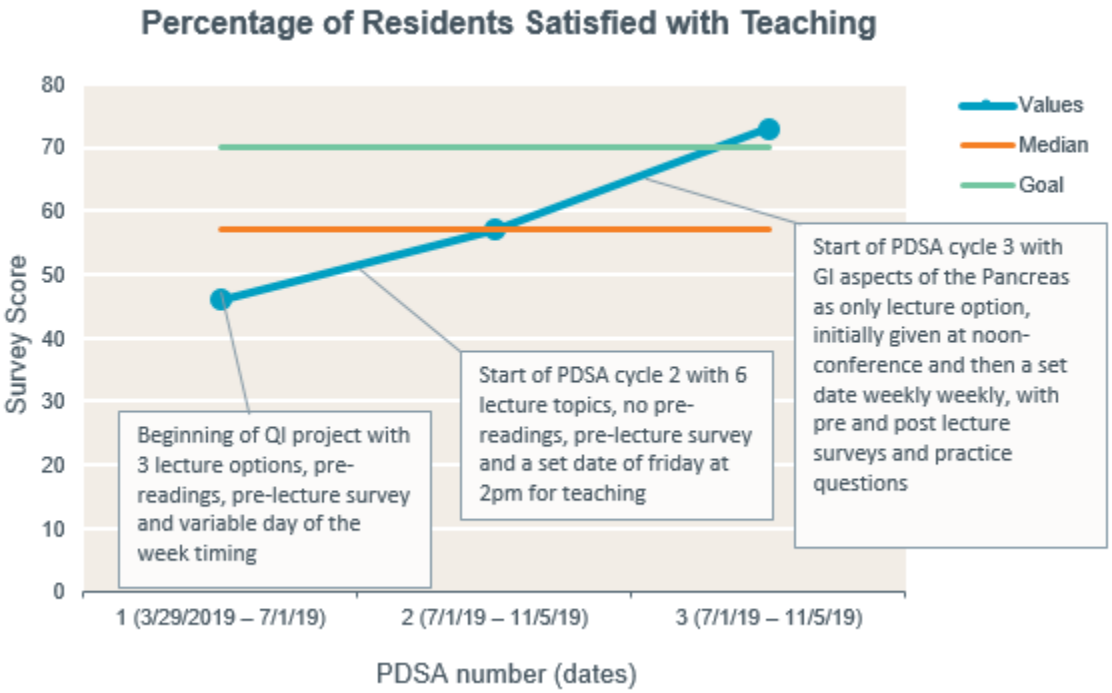
On an objective basis, the resident scores for pediatric gastroenterology related topics on the in training exam from 2018 was 64%. The average for the 2019 in training exam on this topic was 77%. This represents an increase of ~13%. A confounding factor is that the national average on the pediatric gastroenterology related questions on the pediatrics in training exam rose by 5 points in that time frame. The resident performance on the pancreas related sub-set of questions on the pediatric in training exam at our institution increased from an average of 27% to 77%. I do not have data to give context on how this compares to the change in the national average.

Results: Discuss process and outcome measures. Include graphical display of results if applicable (i.e. run charts, control charts or bar graphs; annotated run charts can be helpful to show measures with improvement cycles over time).

Improving quantity, improving satisfaction, improving scores (Run chart of satisfaction scores?

The process of implementing a teaching program starts with having times set to complete the program, in order to meet the quantity goal I established. It was difficult to establish a baseline, of how often the residents were receiving pediatric GI lectures while on team 3, so instead of a goal to increase the quantity of lectures, I established what I felt to be a reasonable goal of completing one lecture more than 70% of weeks. In the first PDSA I contacted the residents on Monday to find out when their clinics were, and when would likely be the best day and time for teaching. I found that often I did not get a response, and we ended up having the teaching session whenever was convenient during the week, which worked reasonably well while I was the fellow on the inpatient service the majority of weeks through the end of PSDA 1. PDSA 2 started July 1st, which is when I transitioned from being the first year fellow to a second year fellow with less inpatient service time, so I established Friday at 2pm as the standard time for teaching. This made timing less variable and helped to maintain meeting my goal of completing a lecture ~70% of weeks, despite the change in my responsibilities. I continued this through PDSA 2, as it worked well.


Percentage of Weeks a Lecture was Completed
90
85
80
75
70
65
60
55
50
Percent
Values
Goal
Transitioned from 1st to 2nd year of fellowship, changed from variable day of lecture to standardized day and time of lecture
1 (3/29/2019 – 7/1/19)
2 (7/1/19 – 11/5/19)
3 (7/1/19 – 11/5/19)
PDSA number (ie time)


Percentage of Residents Satisfied with Teaching
80
70
60
50
40
30
20
10
0
Survey Score
Values
Median
Goal
Start of PDSA cycle 3 with GI aspects of the Pancreas as only lecture option, initially given at noon-conference and then a set date weekly weekly, with pre and post lecture surveys and practice questions
Start of PDSA cycle 2 with 6 lecture topics, no pre-readings, pre-lecture survey and a set date of friday at 2pm for teaching
Beginning of QI project with 3 lecture options, pre-readings, pre-lecture survey and variable day of the week timing
1 (3/29/2019 – 7/1/19)
2 (7/1/19 – 11/5/19)
3 (7/1/19 – 11/5/19)
PDSA number (dates)

Discussion: Reflect on lessons learned. How has completing this project influenced your insight on your current practice? How will you enhance your practice?

Teaching has been an aspect of medical training I have grown to value more and more as I progressed in my medical career. I think of it as a responsibility of every member of the medical team. I saw a need to further develop the frequency of teaching, range of topics, and particularly review areas of deficiency and high yield material within pediatric gastroenterology for our residents. These lectures have increased my own comfort with this material, allowed to connect the residents, and hopefully made a lasting impact on the knowledge base of these residents. I plan to continue to give these lectures regularly even after my formal QI data collection period has completed, at present times of week, so that the expectation is that a formal pediatric gastroenterology lecture topic will be reviewed by a fellow with the residents, even after my fellowship has completed.