

Capstone for Impact Submission | GY2020

Project Title: Examining root causes of declining patient volumes in a primary care clinic.

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Branch: Patients and Populations

Path of Excellence: Health Policy

If this project can be continued by another UMMS student, please include your contact information or any other details you would like to share here:

Summary: Declining patient volumes affect the financial solvency of clinics and impact a residency program's ability to meet ACGME requirements. After scheduling changes were made in July, 2018, our clinic noted a decline in patient volumes. Clinic staff initially attributed the reduced number of patient visits to increased no-shows. Without data analysis, it may be difficult to determine the underlying cause of trends. Our work aims to determine the drivers of decreased patient volumes in clinic and create a predictive model to ensure appropriate resident scheduling to meet both clinic and residency program goals.

Methodology: A two year period of de-identified clinic data from 2017-2018 was analyzed. Data from January, 2017 – June, 2018 was compared to data from July 2018-December, 2018 during which time a drop in patient volume was noted. The no show rate was calculated for each quarter by comparing the number of scheduled visits to the number of completed visits. Number of visits per provider per clinic session was averaged for each quarter. Number of clinic sessions per provider per month was calculated and averaged for each quarter.

Results: The number of patients scheduled in clinic dropped from an average of 3,600 visits per quarter to 2,500 visits per quarter after July, 2018. The no-show rate remained steady at 20-24% throughout the period of interest. After July, 2018, providers saw 10% fewer patients per clinic session and were scheduled in clinic 20% less per month.

Conclusion: The decline in patient volume after July, 2018 was largely driven by a decrease in the number of visits per provider per clinic session and a decrease in the number of clinic sessions per provider each month. The no-show rate after July, 2018 remained stable compared to prior quarters. Based on our predictive mode, the clinic would need to schedule residents for 8-12 half days per month to meet or exceed previous patient volumes.

Reflection/Impact Statement:

You may use the following questions to guide your reflection:

1. How did the process of conducting this research confront any limitations of your prior thinking?
2. Who could potentially benefit from this CFI project over different timescales and how?
3. What actions will you take afterwards to continue the momentum of this project, and maximise the likelihood of the identified benefits being achieved?
4. What advice would you give to another student completing their CFI?

This project helped me learn intuition isn't always accurate. The clinic staff perceived an increased rate of no-shows and believed this was driving the decline in patient volume. Once we analyzed the data, we realized it was actually due to clinician scheduling changes. This clinic has limited resources to serve its patients and had not determined the underlying cause of declining patient volumes, they could have invested significant time and resources addressing no-shows when it wouldn't have addressed the root cause. This project also helped me better understand the complexities of clinic staffing and scheduling. There are many factors at play including resident schedules, ACGME residency requirements, advancing patient slots per resident by experience, staffing ratios of preceptors and MA's, and utilization of NP's or PA's. All of these factors affect the number of patients the clinic can serve in a day and the costs incurred by the clinic to pay staff. This project is useful for anyone involved in clinic scheduling and seeks to maximize the number of patients served by the clinic and make cost-efficient staffing decisions. Our methods could be used to predict changes in patient volumes based on proposed staffing models to ensure continued financial solvency before implementing changes. It can also be used to predict whether residents would meet ACGME requirements for ambulatory visits based on proposed schedule changes. We have provided our collaborators with tables to predict changes in patient volumes based on scheduling changes to obviate the need for reanalysis. After completing this project, I have continued to be involved in the Med ECG group to learn more consulting skills that I can apply to future projects.

One piece of advice I would give to another student working on their CFI is that projects often don't go according to plan. Since we were originally consulted regarding no show rates, we thought there would be a qualitative aspect to our project involving stakeholder interviews. Clarifying that addressing declining patient volumes was the main goal was crucial to determining the appropriate analysis. Because we didn't need to conduct interviews, our project was completed faster than anticipated.