

Improving the Patient Experience Through Operations at UPMC Shadyside

by

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Abstract

This essay follows the progress of three completed projects at UPMC Shadyside by Natasha Shah as an Administrative Resident working in Hospital Operations, addressing issues of public health importance. Through streamlining Gastrointestinal (GI) advanced procedures, the GI lab was able to increase the number of patients they were able to see per week. Through opening an Ophthalmology/ General exam room, patients can receive care faster by providing world class treatment for inpatients coming from the Oncology and other inpatient floors. Finally, this report discusses the continuation of the lymphedema clinic and tracking patient satisfaction through their experience with the multi-disciplinary clinic.

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1.0 Introduction

In February of 2023, I began my Administrative Residency at UPMC Shadyside while working to obtain a Master of Health Administration (MHA) degree at the University of Pittsburgh. The focus of my residency would be to impact patient experience through improving processes while working with different employees, looking at cost effectiveness, and creating education to inform of changes. While I worked on a myriad of projects throughout the time of my residency, this essay will focus on process improvement to maximize the patient experience. This includes increasing the number of rooms utilized in the GI lab, which can increase the number of patients seen and reduce the waiting time for an appointment, transitioning an old operating room (OR) to a general exam/ophthalmology room, which can improve the quality of care patients receive while an inpatient in the hospital, and improving patient satisfaction in the lymphedema clinic at UPMC Shadyside, by gauging which facets of the clinic need to be improved on. Through these projects, I hope to address what is at the core of patient satisfaction- patients feeling as if they are heard and being cared for. Through these projects, I developed the competencies of Communication, Systems Thinking, Analytical Thinking, Professionalism, Strategic Orientation, Human Resources Management, Accountability, Financial Skills, Leadership, Organizational Awareness, Performance Measurement/Process Improvement, and Community Orientation.

1.1 Project One: Improving the Patient Experience Through Increasing Appointments: A GI Lab Project

1.1.1 Problem Statement

At UPMC Presbyterian Shadyside, there was an upward of four months waiting time for patients to schedule procedures such as colonoscopies and endoscopies. There was also confusion of how patients could schedule their appointments, some stating they directly called the GI Lab, while others were connected through schedulers. Another issue was that of the seven rooms available in the Shadyside GI Lab to perform procedures, only three or four were being used to their full ability on a daily basis. Additionally, of the total number of rooms, only one of the rooms delivered therapeutic procedures to both inpatient and outpatient. There were also staffing issues associated with this as this required a specific number of clinicians in the room. The GI lab was looking for detailed solutions to increase the number of patients seen in order to increase revenue. After looking at all the data, there were two solutions to increase the number of procedures done in a day, either with opening up additional rooms or keeping the rooms as is but working to improve the patient experience by designating an inpatient room.

1.1.2 Purpose Statement

This purpose of this project was to boost the number of procedures at the Shadyside GI lab, exploring options like opening new rooms with additional staff or converting an existing room into an exclusive inpatient space. This was envisioned to enable physicians to schedule patient appointments more efficiently, ensuring a timely process and to address the current limitations in

the lab's capacity while optimizing resource utilization. By considering these solutions, the project aimed to create an environment that not only enhanced patient care through streamlined scheduling but also maximized the overall efficiency of the Shadyside GI lab's operations. The multifaceted approach sought to strike a balance between meeting the growing demand for procedures and judiciously managing available resources for improved healthcare delivery.

1.1.3 Project Introduction and Background

In the past several years, there's been an increase of procedures within the GI Lab. This increase hasn't just impacted UPMC Presbyterian Shadyside but hospitals around the country. In 2021, the U.S. Preventive Services Task Force issued a new recommendation that colorectal cancer screening for people at average risk should start five years sooner. The change to 45 years old from 50 years old was based on the trend of growing cases among younger adults. Because of this, there is an increase of patients looking to get the recommended screening, either directed from their doctor or from their own initiative. In the United States, it is estimated that more than 20 million GI endoscopies are performed annually in the United States (Ruhl and Everhart, 2008). But patients always faced barriers when trying to schedule an appointment in the GI Lab, often being told that appointments were not available for up to four months. This decreased the barrier to entry for many patients as it was too far out for them to solidify an appointment as well as increasing the possibilities of no shows.

UPMC Shadyside GI Lab is located in the Shadyside community in Pittsburgh, PA, where it serves a very diverse patient population. There is also the UPMC Presbyterian (PUH) GI Lab which performs the same procedures with a different patient population and set of doctors. Because

of this, there can be some confusion amongst patients when trying to make an appointment and between schedulers due to how close the two hospitals are and similarities in procedures performed. They also have a different number of beds available which can also impact the number of patients that can be seen between the two hospitals. In addition, anesthesia differs in coverage with one anesthesiologist assigned to cover the GI lab, and two certified registered nurse anesthetists', one for room 6 and one for room 7 at UPMC SHY. In order to better assess how to help the patient population of UPMC Shadyside, the GI lab wanted to increase the number of either procedures or available open rooms.

1.1.4 Methods

To start this project, I first had to gather information that would help with understanding what was needed. Alongside the International Fellow at the time, we met with the SHY GI Lab to ask questions regarding their volumes and activities, staffing, and equipment. Some of these questions included, "What does the current clinician shift look like?" and "What does the weekly schedule currently look like?". After this information was gathered, we used it to then reach out to the parties who could further clarify or provide additional information. This included shadowing both the PUH and SHY GI Lab, the schedulers for the University of Pittsburgh Physicians (UPP) and Community Medicine Incorporated (CMI) group, Director of GI Operations, Director of Environmental Services for housekeeping needs, Director of Surgical Services for additional gas machines, and the OR System Specialist for case data for GI Procedures. Once we received information about the cases (01/3/2023 to 04/28/2023), we sorted through the data and created pivot tables to show them by procedure, doctor in room time, doctor procedure time, and room utilization. The highlighted portion of the table in Figure 2.1.2 was to flag if a procedure went over the time that was on average from

the other physicians or was significantly over the scheduled procedure time. In the same table, the highlighted shows that of the 21 GI EUS EGD Endoscopic Ultrasound w/ Fine Needle Aspiration/BI, this particular doctor would schedule the procedure for 45 minutes, but a patient would be in the room for 60 minutes. Analyzing the data in this manner helped to see if there was a pattern for certain doctors taking longer or shorter than their scheduled procedure time. In this step of the process, we put together a business plan to present to the VP Operations at UPMC Shadyside to see if it was ready to submit to the finance team to see the additional revenue that could be generated from the final analysis in Table 2.1.2.

1.1.5 Results and Discussion

From the analysis, what we learned is that the SHY GI Lab runs on two anesthesia rooms: Room six and Room seven. Room six runs from 7:15 am to 3:15 pm and Room seven runs from 7:15 am to 5:15 pm.

Room seven delivers only therapeutic procedures, both to outpatients and inpatients. Inpatients are scheduled by the physicians assigned to inpatients services each week, by calling the GI Lab and scheduling inpatients in the assigned blocks, either the day before or the day of the procedure. The GI Lab is overall staffed with one anesthesiologist, covering Room six and Room seven, and a CRNA per anesthesia room. Moderate sedation is managed by RNs. Each room is staffed with a nurse and a tech, except for the anesthesia rooms which are staffed with two nurses.

The GI Lab runs on average on three to four rooms per day. Other than Room six and seven, the other rooms only deliver moderate sedation procedures. Based on the analysis and procedures delivered so far, the GI Lab is delivering an average of 33 procedures per day overall, with six inpatients and 27 outpatients on average per day. The business plan was developed by assuming

that only Room seven runs for 10 hours per day, and the other rooms (including the ones not in service at the moment) run for 8 hours per day, and therefore looking at the potential capacity by opening all the rooms and functioning fully staffed. This means that the potential capacity of the GI Lab is 58 hours per day (8 hours * 6 rooms + 10 hours * 1 room). Considering an average procedure duration of 80 minutes for inpatients and 50 minutes for outpatients (including patient turnover), the GI Lab potential total number of procedures deliverable per day is 66 (six inpatients that reflect the actual demand, and 60 outpatients).

Based on our analysis or calculations we determined that that the SHY GI Lab is functioning at 50% of its capacity. Considering that the potential total number of outpatients able to be scheduled in each outpatient room is 10 per day:

Option 1: Keeping the situation AS IS, so functioning on three or four rooms per day, and implementing an inpatient room, the potential additional number of outpatient procedures would be six per day. The room will function as following: Room seven assigned to outpatient therapeutic procedures; Room six assigned to outpatient anesthesia procedures; Room four assigned to inpatients; other rooms only assigned to moderate sedation.

Option 2: Considering the situation TO BE, so functioning on seven rooms per day, and implementing an inpatient room, the potential additional number of outpatient procedures would be 30 per day. The room will function as following: Room seven assigned to outpatient therapeutic procedures; Room six assigned to outpatient anesthesia procedures; Room four assigned to inpatients; other rooms only assigned to moderate sedation.

1.1.6 Recommendations

Considering the there's an average of six inpatients per day, there's an actual need of implementing a designated inpatient room. The first option would be to hire two full time employee (FTE) nurses and one CRNA for the designated inpatient room while still operating at 50% of the room capacity. The second option would be to open seven rooms per day and implement an inpatient room to increase the number of potential outpatient procedures to 30 per day. This would require an additional 4.25 FTE nurses (2 for the inpatient room; 2.25 for the additional moderate sedation rooms), and 2.25 FTE techs (for the additional moderate sedation rooms). There would be no need for extra ultrasound endoscopes, anesthesiologists, or anesthesia equipment and there wouldn't be extra housekeeping costs either.

Some suggestions based on the project include reviewing the actual average duration of each procedure per provider and use that as a standard reference in order to make the scheduling more efficient and accurate. I would also suggest implementing a schedule for inpatients to be filled out the day before when possible and lastly, consistently monitoring the demand of GI procedures to assign extra block time to physicians who have longer waiting lists.

1.1.7 Competency Development

Through this project, I gained proficiency in Communication, Accountability, Financial Skills, Leadership, and Organizational Awareness. Working alongside the GI labs, schedulers, and managers, I realized how important it was to understand the needs of the patient and the clinician. While it may seem like an easy fix, there any a multitude of factors that go in to opening a new room and having all the required equipment, staff, and market demand. I had to check in multiple

times with the schedulers to get information on how patients scheduled their appointments, with the data team to look at the cross section of physician appointments and procedures, as well as with the GI Lab on both the PUH and SHY campus to shadow and see how both teams operated. From the information compiled, it then had to be financially translated to cost savings.

1.2 Project 2: Improving the Patient Experience Through an Ophthalmology/General Exam Room

1.2.1 Problem Statement

An old operating room (OR) located on the sixth floor of UPMC Shadyside has been out of use for years. The Ophthalmology team at UPMC Shadyside had been requesting a dedicated space to conduct patient consultations, especially for patients needing oncology assessments. The lack of a designated room required doctors to bring a limited number of tools that would fit in their bag and meet the patient on their respective floors, compromising the delivery of optimal care. The shortage of this essential equipment and space greatly hindered the doctor's ability to meet the highest standard of care. This problem also encompassed a logistical challenge of moving patients from the inpatient area to the clinic across the street where the Ophthalmology department mostly resided. This not only increased the waiting time for patients significantly but also added in more complexity to a process flow that could be streamlined.

1.2.2 Purpose Statement

The transformation of the sixth floor OR is anticipated to address the issues of having a dedicated and well-equipped place for the Ophthalmology department and general exams. This room is expected to decrease waiting times for patients while also improving the quality of care these patients receive. The general exam room is particularly beneficial to ensure the privacy of patients for procedures like gynecological exams. This required coordination across multiple departments from making sure all new equipment was delivered in the proper room, ensuring individuals were properly trained on the equipment, to confirming that the room was compliant with the Department of Health. All of this was done to ensure patients received the best healthcare service while in accordance with the required standards and protocols.

1.2.3 Project Introduction and Background

This project initially started due to the hospital seeing lower patient satisfaction due to doctors not being able to see patients with the proper equipment for their ophthalmology consults. A number of those patients, most from the oncology unit, were coming in for screenings for ocular and brain tissue before undergoing surgery or receiving treatment. Diagnosing and discussing ocular cancer are challenging for both the patient and the ophthalmologist. Acknowledging the significance of understanding the spectrum of the way the disease presents itself and its associated risks can help the ophthalmologists identify areas of concern, guide referral, and better support patients with a new diagnosis, which the equipment in the new room would allow.

This was not previously possible because clinicians had to conduct consultations bedside with only the tools they could carry in their bag. A key issue to this was the physical separation of the Ophthalmology department being across the street from the main hospital. This geographical divide added the tedious process releasing inpatients, admitting them as outpatient across the street, and then re-admitting them as in-patient., potentially prolonging the days they were in the hospital and delaying treatment.

To address these issues, this project focuses on transforming the OR room by procuring new equipment and being compliant with the Department of Health regulations. It seeks to optimize patient care, streamline diagnoses, in turn improving overall patient satisfaction by having a space for ophthalmology consults and general exams within UPMC Shadyside.

1.2.4 Methods

For this project, I was tasked with ensuring the equipment was properly delivered and stored into the room as well as making sure the training for the equipment was done in a timely manner. Additionally, I had to coordinate with the Regulatory and Compliance team to provide them with all the information of what equipment was in the room, as well as if there were any structural changes needed to the room. For this project, there needed to be curtains added in front of the patient examination chair to maintain privacy and adding a phone in the room for proper communication. In terms of what cost center to charge supplies to, I had to coordinate with the floor the room was on, as well as the ophthalmology department to make sure basic supplies were stocked at all times. With this new change, there was a new procedure put into place for the new eye consult:

For ophthalmology consults- All routine/non-urgent consults should be placed before 10 AM each day, and the consulting service must provide:

- a) Patient information
- b) Reason for consult
- c) Service and direct call back number to consultant or service representative

The Ophthysadysideconsult email will no longer be a pathway, and a different short-range pager number will need to be used. Consults requiring an exam will be seen at a predefined time later that day: Consults placed after 10 AM will not be seen until the next day.

For general exams- Coordinate with ophthalmology department to ensure no patients scheduled for exam room, communicate with 6Pav so they know patient is coming and when complete, and add a teletracking request for patient to be transported back to room. The Ophthalmology team will see the patient and triage the same as before, however this is where the process will change. If the desire is to complete an exam while inpatient:

- a) Determine a time and communicate with the floor team (RN and/or HUC)
- b) Unit staff would put the request into Teletracking to have the patient transported to the new room at the requested time
- c) Your team would be there and would greet/accept the patient
- d) When complete, 6Pav team to put a teletracking request in for the patient to be transported back to their room

For general exams- Coordinate with ophthalmology department to ensure no patients scheduled for exam room, communicate with 6Pav so they know patient is coming and when complete, and add a teletracking request for patient to be transported back to room. The Ophthalmology team

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- a) Determine a time and communicate with the floor team (RN and/or HUC)
- b) Unit staff would put the request into Teletracking to have the patient transported to the new room at the requested time
- c) Your team would be there and would greet/accept the patient
- d) When complete, 6Pav team to put a teletracking request in for the patient to be transported back to their room

1.2.5 Results and Discussion

This project, initiated over two years ago, encountered significant delays due to communication and uncertainty of which parties to involve. Following the delivery of the equipment, there was lag time of a couple of months before the training and education portions was completed. The next step involved approval from the DOH for the room's use. Then, all the unit directors, EVS, transport, and code teams needed to be notified that the room was open for patient consultations. This was communicated through a presentation at UPMC Shadyside's Management Forum, where all managers and unit directors were informed of the room. Due to the transformation of the room, there was also a workflow change that eliminated the need for patients to be released as outpatients and an additional step of confirming that patients met the specified criteria for using the room. Since this room also has a dual function as an exam room, there needed to be effective lines of communication to prevent scheduling conflicts. While there aren't any current patient satisfaction results available, the consistent use of the room attests to

the value of the steps taken beforehand. Figure 2.1.5 shows the modified workflow for both general exams and eye consultations, showing the successful integration of the room.

1.2.6 Recommendations

To ensure better use of this room, it's important that clinicians are well-informed of its existence to improve patient experience and satisfaction. Increased awareness can result in a higher number of patients being seen and leveraging the availability for when a patient requires privacy, especially for procedures like gynecological checkups that would be more comfortable in a designated space than bedside surrounded by other patients. I would recommend the next resident to monitor patient satisfaction scores for the next 16 months to see if the results show any potential improvements to be made. This will provide valuable insight into the effectiveness of the room in meeting patient expectations and enhancing their overall experience. I would also recommend tracking the usage of the room to ensure the investment into it is fully optimized. These recommendations will help with the ongoing success of the room and with continuing to enhance patient care at UPMC Shadyside.

1.2.7 Competency Development

The University of Pittsburgh MHA competencies developed in this project were Leadership, Performance Measurement/Process Improvement, Analytical Thinking, Professionalism, Accountability, and Community Orientation. These competencies were shown by taking lead on creating education and checking that training was accomplished for the room's equipment. Also, navigating the DOH requirements, such as coordinating with the facilities

team to add a curtain to separate the eye and general exam area, showed analytical thinking and adherence to regulatory standards. Creating informative documents for the staff to be aware of the room's availability also showed a commitment to professionalism and accountability.

1.3 Project Three: Improving the Patient Experience Through Surveys: Pre-Assessment Survey and Patient Survey

1.3.1 Problem Statement

Lymphedema poses a significant healthcare challenge as a chronic condition characterized by the blockage or removal of lymph nodes, resulting in severe and persistent swelling, commonly affecting extremities. This debilitating condition arises primarily due to factors such as cancer-related surgeries, obesity, radiation treatment, and other triggers. According to studies conducted by Johns Hopkins (Manahan, 2022), breast cancer patients face a particularly elevated risk, with an average of 30% developing lymphedema.

The absence of adequate and accessible treatment facilities exacerbates the impact of lymphedema on affected individuals. UPMC Shadyside, until recently, lacked a dedicated clinic offering comprehensive care for lymphedema patients, requiring them to navigate a fragmented healthcare system. This fragmentation often led to delayed or inadequate care, hindering optimal patient outcomes. The establishment of a clinic that brings together various specialties under one roof has been a commendable step toward addressing this gap. However, there remains a need to identify specific patient demographics that would benefit the most from this integrated clinic

model and to implement robust mechanisms for tracking patient satisfaction, ensuring ongoing improvements in lymphedema management.

This problem statement underscores the urgency of addressing the multifaceted challenges associated with lymphedema, emphasizing the importance of integrated, patient-centered care to enhance outcomes and quality of life.

1.3.2 Purpose Statement

The purpose of this project aims to bridge the care gap faced by the Lymphedema population in Pittsburgh by creating a multidisciplinary clinic focusing on patient satisfaction. The primary goal is to streamline the care process, making sure to have easy access for patients. The clinic offers an in-depth, comprehensive experience to patients, giving them access to specialized professionals such as a plastic surgeon, dietician, compression, and lymphedema specialist. To ensure the optimal patients were benefitting, a pre clinic survey was implemented. Shortly after, a post-clinic survey was also given to measure the satisfaction of patients. This project aimed to create a patient-centric environment, reducing obstacles to care, and enhancing the quality and effectiveness of lymphedema management at UPMC Shadyside.

1.3.3 Project Introduction and Background

In February of 2022, plastic surgeon Dr. Carolyn De La Cruz brought attention to the UPMC Shadyside Administration team that there were several patients seeking care for Lymphedema-related issues in her office. Due to the six-month prehab process before surgery, Dr.

De La Cruz often had to refer patients out to a Certified Lymphedema Therapists (CLTs) or Dieticians, leading many patients to feeling frustrated and hopeless.

Lymphedema, a condition characterized by the accumulation of lymphatic fluid, poses a significant challenge for those diagnosed, and its impact is far-reaching. Lymphedema often results from damage to the lymphatic system, commonly occurring after cancer treatments like surgery or radiation, hindering the body's ability to drain fluid properly. The debilitation arises from not only the physical swelling and discomfort but also the associated complications such as infections and impaired mobility. Studies, such as those by Stout et al. (2019) and McLaughlin et al. (2017), highlight the challenges individuals with lymphedema face. Collaboration between healthcare professionals, including nutritionists and physical therapists, becomes especially important in managing this condition effectively. Nutritionists play a crucial role in addressing dietary factors that may exacerbate fluid retention, while physical therapists design tailored exercises to enhance lymphatic drainage and improve mobility as supported by Jeffs et al. (2020). Recognizing the need for comprehensive care, a multi-disciplinary clinic proves invaluable.

In response to the growing need of holistic care, Dr. De Le Cruz spearheaded a project to establish a clinic addressing patients pain and diagnoses beyond plastic surgery. The project began in February of 2022, with the inaugural clinic featuring all three specialists taking place on October 27, 2022. When the clinic first opened, anyone who suspected they had lymphedema was able to make an appointment for the clinic potentially missing out on patients who would benefit the most as each patient is seen for approximately 1.5 hours, around 30 minutes with each specialist. A pre-assessment survey/questionnaire was suggested to refine patient selection and address this issue as seen in Figure 2.1.7.

Additionally, to measure the clinic's effectiveness, tracking patient satisfaction seemed of the utmost importance. After many iterations of the survey, it was decided to monitor patients experience before coming to the clinic and after clinic visits for a thorough evaluation. Figure 2.1.8. show the final survey and the specific questions asked.

1.3.4 Methods

I would meet monthly at UPMC Shadyside with Dr. De La Cruz, Chief of Plastic Surgery and Director of the Comprehensive Lymphedema Center and Karla Kichi, Senior Administrator Assistant, and later with Dr. Shayan Sarrami, Research Fellow. I gathered pre-assessment surveys from other lymphedema clinics as well as the one UPMC SHY was currently using as well as drafted the first version, which was then revised by Dr. De La Cruz, Karla Kichi, and Dr. Sarrami undergoing several revisions. The revision process considered wording questions differently, survey length, and formatting. The pre-assessment survey included questions such as current and past medical history, garment usage, and a dedicated section for patient goals. This approach ensured providers kept patients' goals in mind during the visit when talking about their condition. The survey also included referral sources, such as if the patient came from breast cancer referrals, primary care, the cancer center, or media marketing.

Once the pre-assessment survey was released, the doctor and specialists would review candidates that would benefit the most from the clinic and then contact them to confirm the appointment. Upon arriving at the clinic, patients checked in at the kiosk, with the front desk staff being available to answer any questions if they needed help. After that, the doctor would be their first point of contact, and then determine which specialists would provide the most benefit based on their diagnosis. Lastly, the appointment concluded with remeasuring patients for a follow-up

appointment. At the end of the day, the team gathered for a group huddle to discuss patients and collectively formulate a care plan, with each specialist responsible for following up.

A similar process was used to create the pre/post-assessment survey aimed at monitoring patient satisfaction. Monthly meetings served as the platform for the team to collaboratively refine the latest draft, ensuring the survey's appropriateness in terms of length, wording aligning with the care provided by the lymphedema clinic, and maintaining anonymity of the data. For instance, in the initial drafts, the scale 1-5 correlated with one indicating Strongly Agree and five denoting Strongly Disagree. Upon closer examination, it was recognized that the natural inclination was to associate one with a lower score and five with a higher one. Consequently, the adjustment was made to align one with Strongly Disagree and five with Strongly Agree. The first of the surveys were distributed in September 2023. Since then, 20 surveys were delivered to the clinic every month on the morning of and collected a few days later. The collected data from the surveys was then entered into a form, one for the pre-clinic data and one for the post-clinic data. The compiled data showed an overview of patient satisfaction averages and trends, enabling a monthly assessment of improvement trajectories.

1.3.5 Results and Discussion

Through collaborative discussion with the different administrators and Dr. De La Cruz, it was determined that the vision of the clinic would be to start small and operate one day a

month, with all three specialties, alongside Dr. De la Cruz's currently existing Lymphedema patients. Since the start of this project, another doctor has been added to increase the volume of patients able to be seen.

Although our data collection spanned only the past four months, encompassing 88 patients (49 for the pre-clinic survey and 39 for the post-survey), noteworthy trends emerged indicating heightened patient satisfaction following their visits compared to previous experiences with other specialists. For instance, the average score for the statement "My doctors treated me in a very friendly and courteous manner" before the clinic was 2.87. However, after the clinic, when asked about "The specialists treated me in a very friendly and courteous manner," the rating increased to 3.00. Another instance involved the rating for "Doctors are good at explaining the reason for lymphedema test," which scored 2.81 before the clinic. Post-clinic, when respondents were asked about "The specialists I saw were good about explaining the reason for my condition," the score increased to 3.13. While some questions exhibited less pronounced differences, collectively, the data indicated that the clinic contributed to patients feeling more satisfied compared to their prior care experiences.

This data is also currently being used as a submission to the national Plastic Surgery The Meeting conference titled "Patient Reported Outcomes Following Implementation of a Multidisciplinary Lymphedema Clinic".

1.3.6 Recommendations

The incoming resident should prioritize a Center of Excellence title from the health plan, which would recognize the clinic's commitment to outstanding healthcare. This title would not only elevate the clinic's standing but also increase its appeal to patients seeking specialized medical services. Also, continuing to collect the data is important as it can systematically assess the clinic's performance in terms of patient satisfaction. The survey will be beneficial to pinpoint areas for enhancement, promoting a patient-centric approach.

The next resident should also explore the impact of scheduling two doctors on separate days. This initiative aims to see whether the increased availability correlates with a higher patient volume and satisfaction. It is equally important to assess whether patient satisfaction levels remain consistent, making sure that both doctors are equal in the quality of care they provide. By focusing on these two recommendations—securing Center of Excellence status and refining scheduling practices for improved patient access—the resident can significantly contribute to the clinic's success while fostering a culture of continuous advancement in healthcare delivery.

1.3.7 Competency Development

Through this project I developed the competencies of Communication, Systems Thinking, Analytical Thinking, Professionalism, Strategic Orientation, and Community Orientation. I continued to connect with the Plastic Surgery team on a monthly basis and continued to enter patient survey data to monitor improvements in patient satisfaction. I also have to refine the survey going through several iterations of the survey and consider factors such as reading levels, optimal timing for patients to focus, as well as what data would be the most beneficial for the team. I also started to help with acquiring Center of Excellence status by proactively checking in with Dr. DLC and her contacts to learn about the necessary steps to achieve that status.

1.4 Conclusion

My time at UPMC Shadyside as an administrative resident at UPMC Shadyside has been pivotal in advancing my competencies and refining the skills necessary for successfully fulfilling

the requirements of my Master of Health Administration at the University of Pittsburgh. Collaborating with various departments and engaging with leaders, I focused on enhancing my executive presence and presentation skills. Whether it was conducting financial analyses for GI Advanced procedures, orchestrating the establishment of a new ophthalmology clinic across different departments, or crafting surveys for the lymphedema clinic, each project has solidified the competencies acquired during my academic coursework. Being immersed in the dynamic environment at UPMC Shadyside, surrounded by a team of exceptionally talented leaders, has been an invaluable learning experience. It has demonstrated that goals can be achieved, and health access and quality can be elevated while fostering a positive learning environment for everyone involved. This experience has instilled in me the conviction that, regardless of my future endeavors, leading with empathy is paramount. Utilizing these competencies serves as a constant reminder to prioritize the patient's perspective, ensuring that the ideology of putting “patients first” remains at the core of my professional approach.

2.0 Figures and Tables

2.1 Figures

2.1.1 Figure 1

OVERALL PROCEDURES				
Scheduled Patient Type	Inpatient			
Year	2023			
Row Labels	Average of # Turnover Minutes	Average of Scheduled Case Durati	Average of Tot Pat In Rm Minutes	
GI ERCP W/STENT PLAC	26	69	52	
GI EUS EGD ENDOSCOPI	36	68	74	
GI EUS EGD ENDOSCOPI	49	63	59	
GI ERCP W/PAPILLOTOM	39	63	58	
GI FLEX SIGMOIDOSCOF	21	61	93	
GI ERCP DIAG W/WO BF	26	60	104	
GI ENTEROSCOPY W/SU	17	60	66	
GI ERCP W/DILATION O	85	60	36	
GI ERCP W/STENT REPL	20	59	58	
GI ERCP W/STENT REMI	19	58	70	
GI ERCP W/BALLOON DI	19	58	33	
GI EGD W/STENT PLACE	40	51	74	
GI ENTEROSCOPY W/BI	19	45	43	
GI EUS FLEX SIGMOIDO	18	45	42	
GI ENDOSCOPIC EVAL SI	21	45	34	
GI EGD W/TUBE OR CAT	32	38	51	
GI EUS W/CELIAC PEXL	21	38	21	
GI EGD W/BIOPSY SINGI	28	37	40	
GI ENTEROSCOPY DIAG	49	37	45	
GI COLONOSCOPY DIAG	46	36	51	
GI ENTEROSCOPY W/CC	18	35	48	
GI COLONOSCOPY W/RI	30	34	56	
GI EGD DIAG W/WO BR	30	33	35	
GI EGD W/CONTROL OF	44	33	48	
GI EGD W/PERCUTANEC	36	33	38	
GI COLONOSCOPY W/BI	25	33	50	
GI COLONOSCOPY THRC	0	30	36	
GI EGD W/SUBMUCOSA	22	30	59	
GI COLONOSCOPY W/RI	4	30	49	
GI COLONOSCOPY THRC	20	30	33	
GI FLEX SIGMOIDOSCOF	40	30	33	
GI EGD W/BAND LIGATI	70	30	43	
GI ESOPHAGEAL IMPED	0	30	23	
GI FLEX SIGMOIDOSCOF	37	28	31	
GI FLEX SIGMOIDOSCOF	31	26	31	
GI COLONOSCOPY THRC	8	25	65	
GI EGD W/DILATION OV	8	23	24	
GI EGD W/BAND LIGATI	6	23	31	
GI FLEX SIGMOIDOSCOF	13	21	29	
GI DILATION RECTAL STF	18	21	31	
GI FLEX SIGMOIDOSCOF	0	21	22	
Grand Total	33	41	46	

Figure 1 Pivot Table by Procedure

2.1.2 Figure 2

Row Labels	Count of OR Case Number	Average of Delta InRm-no turnover time	Average of Scheduled Case Duration	Average of Tot Pat In Rm Minutes
GI COLONOSCOPY W/REMOVAL OF POLYP/TUMOR/OTHER LESIONS W/SNAR	1	37	60	97
GI EGD W/BIOPSY SINGLE/MULTIPLE	3	8	48	57
GI COLONOSCOPY DIAG W/WO BRUSHINGS/WASHINGS	2	11	45	56
GI EUS EGD ENDOSCOPIC ULTRASOUND EXAM	2	15	38	52
GI EGD W/BAND LIGATION ESOPHAGEAL/GASTRIC POLYPS	1	13	30	43
GI EUS W/CELIAC PLEXUS NEUROLYSIS	1	-6	30	24
GI FLEX SIGMOIDOSCOPY DIAG W/WO BRUSHINGS/WASHINGS	1	-3	30	27
GI FLEX SIGMOIDOSCOPY W/BAND LIGATION	1	3	30	33
GI COLONOSCOPY W/REMOVAL OF POLYP/TUMOR/OTHER LESIONS W/COLD	1	23	30	53
GI EGD W/PERCUTANEOUS GASTROSTOMY TUBE PLACEMENT	1	17	30	47
GI EGD DIAG W/WO BRUSHINGS/WASHINGS	3	-4	27	23
GI FLEX SIGMOIDOSCOPY W/BALLOON DILATION	1	8	21	29
Grand Total	18	9	36	45

Row Labels	Count of OR Case Number	Average of Delta InRm-no turnover time	Average of Scheduled Case Duration	Average of Tot Pat In Rm Minutes
GI EUS EGD ENDOSCOPIC ULTRASOUND EXAM 74	2	43	45	45
GI COLONOSCOPY DIAG W/WO BRUSHINGS/WA 72	0	35	35	35
GI COLONOSCOPY W/REMOVAL OF POLYP/TUM 68	8	35	43	43
GI EGD W/BIOPSY SINGLE/MULTIPLE 39	-4	40	36	36
GI EUS EGD ENDOSCOPIC ULTRASOUND W/FINE 21	15	45	60	60
GI COLONOSCOPY W/REMOVAL OF POLYP/TUM 20	4	32	36	36
GI COLONOSCOPY W/BIOPSY SINGLE/MULTIPLE 8	1	39	40	40
GI EGD DIAG W/WO BRUSHINGS/WASHINGS 6	-19	39	21	21
GI FLEX SIGMOIDOSCOPY DIAG W/WO BRUSHIN 4	-6	30	24	24
GI EUS FLEX SIGMOIDOSCOPY ENDOSCOPIC ULT 4	23	50	73	73
GI FLEX SIGMOIDOSCOPY W/BIOPSY SINGLE/MU 2	-5	45	41	41
GI FLEX SIGMOIDOSCOPY W/REMOVAL OF POLY 2	2	60	62	62
GI FLEX SIGMOIDOSCOPY W/SUBMUCOSAL INJE 1	-7	30	23	23
GI PLACEMENT OF FIDUCIAL MARKERS 1	17	30	47	47
GI COLONOSCOPY W/REMOVAL OF POLYP/TUM 1	9	30	39	39
GI EGD W/DILATION OVER WIRE 1	-8	30	22	22
GI EUS ESOPHAGOSCOPY ENDOSCOPIC ULTRASC 1	6	30	36	36
GI EUS COLONOSCOPY ENDOSCOPIC ULTRASOU 1	1	-22	60	38
Grand Total	326	3	38	41

Figure 2 Pivot Table by by Doctor in Room Time (Inpatient and Outpatient)

2.1.3 Figure 3

Scheduled Patient Type	Inpatient				
Year	2023				
Row Labels	Count of OR Case Number	Average of Scheduled Case Duration	Average of Actual case duration	Average of Delta - no turnover time	
	138	50	29	-21	
	71	33	24	-8	
	64	33	26	-8	
	59	33	30	-4	
	42	34	24	-10	
	39	52	42	-10	
	18	36	31	-6	
	16	38	31	-7	
	2	74	39	-36	
	1	60	24	-36	
	1	30	32	2	
	1	30	16	-14	
Grand Total	452	41	29	-12	

Scheduled Patient Type	(Multiple Items)				
Year	2023				
Row Labels	Count of OR Case Number	Average of Scheduled Case Duration	Average of Actual case duration	Average of Delta - no turnover time	
	530	33	19	-14	
	482	33	20	-14	
	326	38	29	-9	
	202	45	28	-17	
	166	41	21	-20	
	160	33	14	-19	
	136	32	26	-6	
	110	33	17	-16	
	105	33	19	-14	
	56	33	19	-14	
	50	49	14	-35	
	22	31	22	-9	
	9	43	12	-32	
	4	45	18	-28	
	1	30	9	-21	
	1	30	28	-2	
Grand Total	2360	36	21	-14	

Figure 3 Pivot Table by Doctor Procedure Time

2.1.4 Figure 4

AVG Case per week per day of the week									
SHYGI 01	SHYGI 02	SHYGI 04	SHYGI 05	SHYGI 06	SHYGI 07	SHYGI MANO	SHYGI OFFSI	Grand Total	
0	0	0	0	0	0	0	0	0	0
5	5	1	5	10	6	7	0	31	
7	0	1	4	12	7	5	0	32	
5	7	0	2	9	6	5	2	30	
6	1	0	3	9	8	5	0	27	
1	0	0	6	10	7	6	0	25	
0	0	0	0	0	0	0	0	0	
23	13	3	21	50	35	27	2	145	

Figure 4 GI Lab Room Utilization Chart

2.1.5 Figure 5

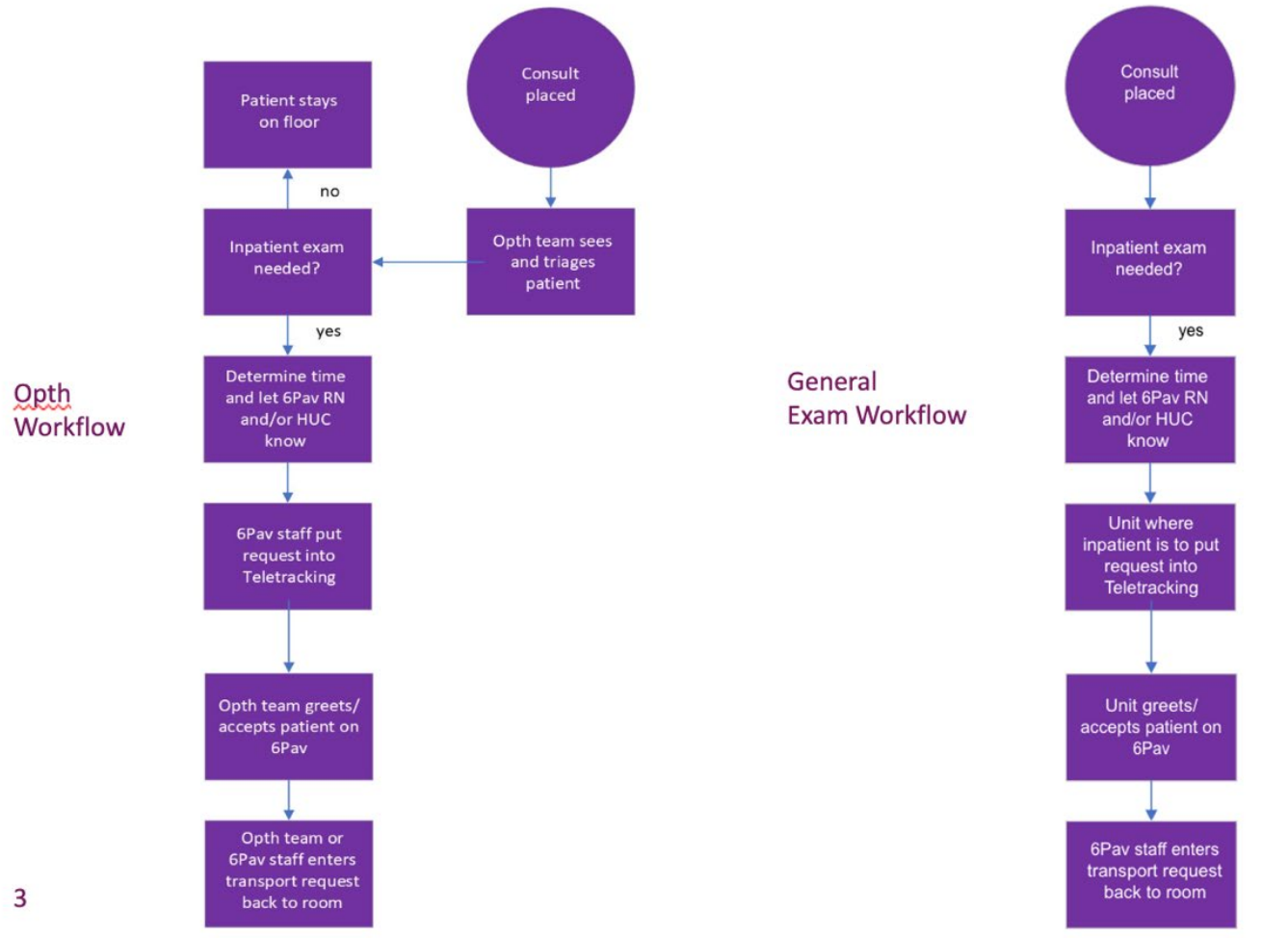


Figure 5 Ophthalmology and General Exam Workflow

2.1.6 Figure 6

Before:



After:



Figure 6 Before/After Exam Room Transformation

2.1.7 Figure 7



UPMC Lymphedema Center for Surgical Excellence Intake Form

How did you hear about us? _____

Provider Name: _____ Hospital/Office: _____

Word of Mouth Recommended by another patient

Welcome to Lymphedema Clinic, we want to take care of you, our whole teams of experts are here to take care of you. To get to know you better, please tell us your preferred name _____ (male/female/other __) (he/his__she/her__ they/them__ other __)

GOALS

We want to make your experience successful one. Below, please let us know your goal for this visit.

PERSONAL HEALTH HISTORY

Current and Past Medical history	<input type="checkbox"/> Arthritis <i>Type:</i> _____	<input type="checkbox"/> Pneumonia: <i>Date?</i> _____
	<input type="checkbox"/> Asthma/COPD/Respiratory problems	<input type="checkbox"/> Thyroid problem: <i>Hyper/high Hypo/low</i>
	<input checked="" type="checkbox"/> High blood pressure	<input type="checkbox"/> Epilepsy/seizure disorder
	<input type="checkbox"/> Cancer (if yes, please fill out cancer section)	<input type="checkbox"/> Kidney problems
	<input type="checkbox"/> Circulatory problems: <i>Arterial Venous Varicose Veins</i>	<input type="checkbox"/> DVT/Pulmonary Embolism: <i>Date?</i>
	<input type="checkbox"/> Diabetes	<input type="checkbox"/> Stroke: <i>Date?</i>
	<input type="checkbox"/> Heart Problems: <input type="checkbox"/> <i>Congestive heart failure: Date? _____</i> <input type="checkbox"/> <i>Heart attack: Date? _____</i> <input type="checkbox"/> <i>Bypass surgery/stents: Date? _____</i> <input type="checkbox"/> <i>Irregular heartbeat/ A-fib?</i> <input type="checkbox"/> <i>Pacemaker</i>	<input type="checkbox"/> Autoimmune disease <i>Type:</i> _____ <input type="checkbox"/> Stroke: <i>Date?</i>
	<input type="checkbox"/> Hepatitis	<input type="checkbox"/> Chronic pain <input type="checkbox"/> <i>RSD</i> <input type="checkbox"/> <i>Fibromyalgia</i>
	<input type="checkbox"/> HIV/AIDS	<input type="checkbox"/> Depression/Anxiety <input type="checkbox"/> Gastrointestinal (GI) problems

OTHER PROBLEMS

Check if you have, or have had, any symptoms in the following areas to a significant degree and briefly explain.

Skin Breakdown Location: _____

Chest/Heart

Circulation

Energy level

Mobility

Circulation Venous Disease Blood Clots Location: _____

Obesity Height: _____ Weight: _____

Other pain/discomfort: _____

Current Medications: _____

Surgeries

Figure 7 UPMC Lymphedema Clinic Pre-Visit Questionnaire

Year	Reason	Hospital
Cancer History		
Oncologist: _____		
Last visit: _____		
Date of diagnosis: _____		
Surgery?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Type: _____		
Date of surgery: _____		
Surgeon: _____		
Hospital: _____		
Lymph nodes removed? YES / NO		
Number of nodes removed? _____		
Number of nodes positive for cancer? _____		
<input type="checkbox"/> Chemotherapy	<input type="checkbox"/> Radiation	<input type="checkbox"/> Reconstruction
Date: _____		
Type: _____		
Oncologist: _____		
Do you follow with an oncologist:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If so, date of last visit: _____		
Lymphedema/Edema history		
Swelling: YES / NO Location: <input type="checkbox"/> L/R Arm <input type="checkbox"/> L/R Leg		
Date of onset: _____		
Physical therapy (CDT): YES/NO When? _____ Where? _____		
Compression bandaging: YES / NO When? _____		
Manual lymphatic drainage (massage): YES / NO		
Pump: YES / NO What type of pump? _____		
Compression garment	<input type="checkbox"/> Yes	<input type="checkbox"/> No
How old is your current garment? _____		
Is your garment custom or ready to wear? _____		
Do you wear any of the following:		
<input type="checkbox"/> Glove <input type="checkbox"/> Gauntlet <input type="checkbox"/> Toe cap <input type="checkbox"/> Knee high <input type="checkbox"/> Thigh high <input type="checkbox"/> Panty hose style		
Do you have any wounds?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Location: _____		
Current treatment: _____		
Treating physician: _____		
FAMILY HEALTH HISTORY		
Does anyone else in your family have history of lymphedema? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If yes, please state your relationship? _____		
GOALS		
We want to make your experience successful one. Below, please let us know your goal for after this visit.		

Figure 7 UPMC Lymphedema Clinic Pre-Visit Questionnaire (cont.)

2.1.8 Figure 8

Date: _____

Multidisciplinary Clinic Questionnaire

How many other providers for lymphedema/ lipedema have you seen? _____

How many times have you gone to physical therapy for these issues? _____

How long since your diagnosis have you been receiving care? _____

We are interested in your feelings, good and bad, about the care you have received. How strongly do you AGREE or DISAGREE with each of the following statements related to your **previous care**?

(Circle One Number on Each Line)

	Strongly Disagree, 1	Disagree, 2	Uncertain, 3	Agree, 4	Strongly Agree, 5	
Doctors are good about explaining the reason for my condition	1	2	3	4	5	N/A
I think my doctor's office had everything needed to provide complete care for my condition	1	2	3	4	5	N/A
Sometimes doctors make me wonder if their diagnosis is correct	1	2	3	4	5	N/A
I had easy access to specialists I needed for my condition	1	2	3	4	5	N/A
When I got care for my condition, I had to wait too long for treatment	1	2	3	4	5	N/A
My doctors treated me in a very friendly and courteous manner	1	2	3	4	5	N/A
Those who provided care for my condition sometimes hurried too much when treating me	1	2	3	4	5	N/A
Doctors sometimes ignore what I tell them	1	2	3	4	5	N/A
I am dissatisfied with some parts of the care I have received	1	2	3	4	5	N/A

Do not complete the back page until after you have received care from the clinic

Figure 8 Pre/Post Lymphedema Clinic Survey

Multidisciplinary Clinic Questionnaire (part 2)

This section refers to today's clinic...

What other providers did you see? Surgery Nutrition Physical Therapy
 (Please check all that apply) Pump Trial Garment Measurement

(Circle One Number on Each Line)

	Strongly Disagree,	Disagree,	Uncertain,	Agree,	Strongly Agree
	1	2	3	4	5
The specialists I saw were good about explaining the reason for my condition	1	2	3	4	5
I think the clinic has everything needed to provide complete care for my condition	1	2	3	4	5
Sometimes the specialists made me wonder if their diagnosis is correct	1	2	3	4	5
I had easy access to specialists I needed for my condition	1	2	3	4	5
At this clinic, I had to wait too long for treatment	1	2	3	4	5
The specialists treated me in a very friendly and courteous manner	1	2	3	4	5
Those who provided my care hurried too much when treating me	1	2	3	4	5
The specialists sometimes ignore what I tell them	1	2	3	4	5
I am dissatisfied with some things about the care I received	1	2	3	4	5
I have received care like this elsewhere	1	2	3	4	5
Seeing a team of specialists was helpful to me	1	2	3	4	5
I feel confident with my ability to manage my care after this clinic	1	2	3	4	5

Figure 8 Pre/Post Lymphedema Clinic Survey (cont.)

2.1.9 Figure 9

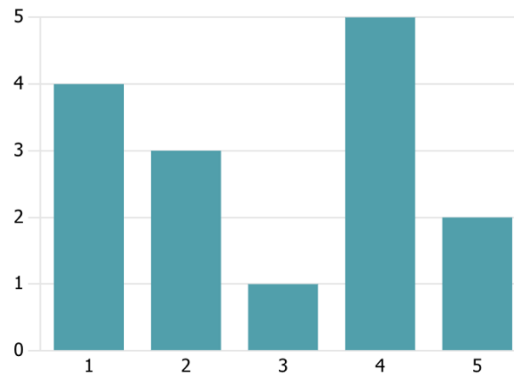
Before answer:

10. My doctors treated me in a very friendly and courteous manner

[More Details](#)

[Insights](#)

2.87
Average Rating



After clinic answer:

8. The specialists treated me in a very friendly and courteous manner

[More Details](#)

[Insights](#)

3.00
Average Rating

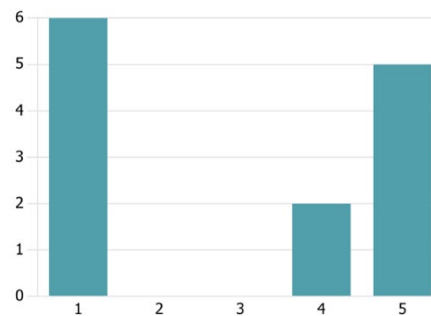


Figure 9 Before/After “.... treated me in a very friendly and courteous manner” Response

2.1.10 Figure 10

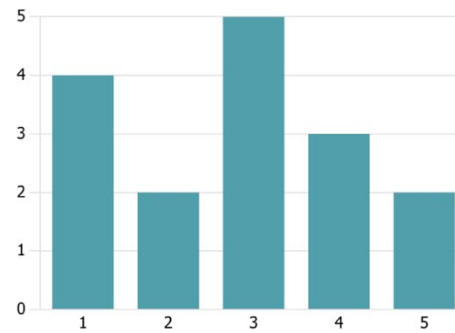
Before:

5. Doctors are good about explaining the reason for lymphedema test

[More Details](#)

[Insights](#)

2.81
Average Rating



After:

3. The specialists I saw were good about explaining the reason for my condition

[More Details](#)

[Insights](#)

3.13
Average Rating

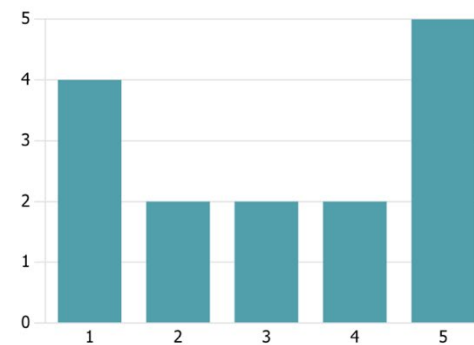


Figure 10 Before/After “.... I saw were good about explaining the reason for my condition” Response

2.2 Tables

2.2.1 Table 1

Table 1 GI Lab Question Chart

Information to gather	Detail	Any comment	Responsible party
Volumes and activities			
How many rooms fully and partially working	1 therapeutic room, for ERCP and EUS, room #7	lose room 7 as therapeutic room and add inpatient room for therapeutic procedures to increase outpatient procedures (room 5) and room 6 will be all outpatient	
How many procedures are delivered on average per day	~5 therapeutic endoscopies in room #7	have room staffed by CRNA as inpatient room for colonoscopy	
What is room utilization rate		usually 4/5 rooms working on average. Currently only two rooms are dedicated to anesthesia procedures (rooms 6 from 7:15 to 3:00 pm and 7 from 7:15 to 5:00 pm)	
How does the weekly schedule look like	7:30am - 5:45pm, dependent on anesthesia rooms (same week hours at 3pm and another at 5pm) and off hours on weekends for emergencies (around 1.6 hours/procedure)	ERCP: 75% outpatient, 75% inpatient, endoscopies and colon: 25% in, 75% out	Travis to reach out to Jack Metz
What is the average length of each procedure How long is patient turnover time	~30mins w/ patient turnover time		Bob Lomb for staffing in GI
What are the procedures codes and description	Increase volume of ERCP and EUS (endoscopic ultrasound)		
What is the desired extension of the activity Is there any waiting list?			
Staffing			
How do ASIS shifts look like?			
How does current staffing look like (shortage, full coverage)?	2 FT nurses staffed in room, and CRNA/room		
Any pre and post procedure additional staff needed?	no		
Any additional room staff needed?	2 additional nurses and a CRNA		
Any additional techs needed?	no		
Which team (physicians and their staff) is covering additional activity?	2 nurses on call on weekends	only outpatient on Saturdays, sometimes ED or people from ICU	
Staff training needs?	orientation around 6 weeks for nurses		
Anesthesia and CRNA staff needed?			Bob Lomb for staffing
Any additional CSP staff required?			
Any additional housekeeping staff needed?			Amy
Any additional staff needed to call the patients pre and post procedure?	no		
Any additional front desk staff needed?	no		
Equipment			
Any additional equipment required	anesthesia would need extra gas machine; another machine to do endoscopic ultrasound		Bob Lomb
Any additional machines required			
Any additional trays required	no		
Any additional disposable required	no		
Other			
Any clinical information to know to about preparation to these procedures?	can ever give emergency access to room in an appointment, can't have anything eat or drink day of procedure, and if they eat, have to vomit before, raised marks to bathroom on		
Any need to update information on the website related to the extension of these services?	no		
Any IT needs to consider (new monitors/laptops/software to be installed, other)?	no		
Any other information from PUH therapeutic endoscopy services we could use as a reference?			Kim Stewart (that some) is in Proby GI, and model any with inpatient rooms; have dedicated therapeutic room where any ERCP goes. Immediately there and bump everything out of the way
Any current issue to claim and potential solutions to that?	staffing is the biggest concern		

2.2.2 Table 2

Table 2 Overview of GI Lab Room Usage

	Inpatient	Outpatient	Total
Avg. pts/day	6	27	33
Potential working hours/day	8	50	58
Potential working minutes/day	480	3000	3480
Potential avg. patients/day	6	60	66
Delta	100%	45%	50%
Potential rooms available	1	6	7
Avg. procedure duration	80	50	65
Avg. rooms working/day	0.7	2.8	3.5
Avg. patients/room	6.0	9.5	9.4
Closed rooms	0.3	3.2	3.5
Potential extra volumes	0	30	30
<i>*Assuming that only room 7 works 10 hours/day and the other function 8 hours/day</i>			

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