



## CUSTOMER OVERVIEW

UPMC Shadyside Hospital  
Pittsburgh, PA, USA

- 520 bed tertiary care hospital
- 1,000 primary care physicians and specialists
- Inpatient, outpatient, and emergency care, as well as highly specialized diagnostic and treatment procedures.
- UPMC, \$19 billion world-renowned health care provider and insurer
- UPMC, 40 hospitals with more than 8,500 licensed beds

## Standardizing Patient Education and Pre-Surgical Care for Total Joint Replacement Patients: Creating a more Value-Driven Staff and Patient-Centered Experience

By mapping the current state and performing a gap analysis to study the experience of patients, staff, and clinicians, goShadow identified and resolved pain points and barriers to patient engagement, coordination of care and education. The Center for Pre-Surgical Care saw the following:



Creation of value and clinically-driven patient education pathway, standard diagnostic testing order set, and care coordination



Hospital revenue increase without additional allocation of resources or staff



Break down of silos between inpatient and outpatient services and engagement of staff in small tests of change to redesign the patient pathway



Average length of stay for total joint replacement patients decrease to less than 1 day without an increase in 30-day readmissions

“goShadow gave us a lens through which we could deep dive into our patient experience and staff workflows. The insights and discoveries gained from our team’s collaboration across the orthopaedic pathway have been a significant driver to our growth and commitment to excellence.” ”

Gigi Conti Crowley  
Director OP Orthopaedics  
UPMC Magee-Womens Hospital



# Overview

In order to efficiently deliver clinically-based and experience-driven care to patients, it is critical to understand the process by which a patient travels through an entire episode of care from start to finish. When either clinical outcomes or experiences falter, it can lead to patient dissatisfaction, staff frustration, and lost revenue.

In this study, we examine a case where the goShadow app, platform, and services were utilized to train hospital staff and students to shadow. The team, led by goShadow, identified barriers to providing comprehensive value-driven diagnostic services in a high-volume total joint replacement center of excellence. While the pilot program identified was orthopaedics, the findings could be exported to other medical conditions and surgical specialties.

A current-state gap analysis conducted by goShadow with patients, staff, and clinicians showed a lack of coordination between various silos of the patient pathway. Opportunities to improve patient education and the way that it was delivered were identified. Consistency of messaging from caregivers across inpatient and outpatient silos was focused on to avoid wasteful duplication of testing and appointments. A standard pre-testing order set and clinical optimization of patients prior to surgery were designed with inputs from all stakeholders.

## The goShadow Solution

Hospital administration and clinical leaders were not aware of the many silos and lack of clinical coordination that existed throughout the patient pathway. Patient experience and outcomes suffered from inconsistent messaging. Staff were frustrated by duplication of work from lack of communication.

goShadow provides the real-time data and qualitative insight required by hospital administration, clinicians and staff to map the comprehensive episode of care and identify pain points. With all stakeholders' views represented, the team iteratively re-designs and implements a set of clinical and experiential changes to improve both experience and outcomes.



# The Challenges

A lack of standardized education and diagnostic testing, from the point that patients scheduled surgery through day of surgery, lead to an increase in the length of stay; patients received inconsistent messaging about what to expect before, during, and after surgery. There were gaps in information regarding what testing was required preoperatively, when and who was to coordinate the testing, and where to receive it. Tests were often missed, resulting in cancellation of surgeries or operating room delays. The messaging from caregiver to caregiver about preparation and discharge instruction was inconsistent. These factors stood in the way of the organizational goals to increase their patient experience scores, decrease their length of stay, and reduce 30-day readmissions. In addition, patients expressed uncertainty about what to expect and experience, which caused clinical staff to take additional time throughout the pathway to re-educate and explain information to the patient and family at time-sensitive points, such as in pre-op area on the day of surgery. Often, bottlenecks caused a delay in OR start times or, in the outpatient setting, an increase in wait times.

Patients struggled to take time away from work or families to complete the many appointments required for pre-surgical diagnostic testing and clearances. They were often unaware that a comprehensive testing facility was conveniently located a few floors below the outpatient office. This was created to offer a one-stop-shop for all appointments, testing, and education, but by not effectively communicating this to patients, the facilities remained underutilized. Patients who were made aware were delighted that they had to make fewer appointments at different provider offices. Hospital administration realized additional revenue from increased utilization of these services. Results of patient testing and coordination with the patient could be documented and completed within the cross-functional inpatient and outpatient orthopaedic team.

## The goShadow Solution

goShadow observed 25 patients and staff over a four day period to collect qualitative and quantitative data to develop a current state map from the patient and staff perspective. **A gap analysis** and data aggregation were performed to locate patient and staff pain points. Cross-functional team members were identified through shadowing and invited to participate in a redesign workshop to discuss goShadow data and qualitative feedback from patients and staff. goShadow identified change ideas as easy, moderate, or difficult to implement based on the shadowing data and team feedback. Staff members were engaged and ready to move forward to create a more coordinated patient pathway and fulfilling work environment.

**Results:** goShadow's initial analysis and recommendations were set into motion to enhance the day to day clinical operations and patient experience for patients in the pre-surgical testing center. Patient education was improved by encouraging staff, whose jobs were in different silos of the pathway, to shadow one another so that they could develop a clear and consistent message for patients on what to expect before and after surgery. This process also gave staff a sense of collegiality and ownership in their work. Patients reported that their appointments, testing, and education were more coordinated, allowing them to take less time off of work. The hospital increased revenue and overall coordination of services.

As a result of clearer education, earlier assessment, and identification of patient needs, barriers to discharge were able to be anticipated and overcome. Average length of stay for total joint replacement patients decreased to under 1 day with no increase in 30-day readmissions.

**Benefits and Next Steps:** Due to the shadowing program, there is greater communication between departments to continue to improve and standardize pre-operative orders and education. By engaging patients, clinical stakeholders identified through shadowing, and staff, a true cross-functional orthopaedic team and patient pathway was realized.

A patient's preoperative pathway has been documented, standardized and optimized; what was once completed in three to four appointments now happens in two. Patients see their physician, schedule surgery and complete the required testing and education in the same day in the same facility. Patient experience and staff engagement in the process have increased. Without having to add additional personnel, hospital revenue from the testing center has increased. By looking at the experience of the patient, insights and data were captured, allowing staff and the goShadow team to systematically identify and break down barriers resulting in the delivery of more value-driven care and staff engagement.