



## Measuring Up: The unintended effects of EMR integration on staff workflow and patient experience

### CUSTOMER OVERVIEW

Bone and Joint Center

UPMC Magee Womens Hospital  
Pittsburgh, PA, USA

- Located in a world-class women's hospital, this program adds value to the larger organization through treatment of arthritis and hip, knee, and back pain.
- At the beginning of this project, the Bone and Joint Center was already performing in the top tier with programs similar to it.
- The program utilizes a patient-centered approach to increase efficiency, reduce cost, and maintain high patient and family satisfaction.

Electronic tools continue to be critically important to innovate and build capacity within healthcare organizations. The Bone and Joint Center (BJC) at UPMC Magee-Womens Hospital and goShadow partnered to measure and improve patients' journeys and employee workflow in their outpatient clinic before and after implementation of a new electronic medical record (EMR). The BJC is a high-volume orthopaedic Center of Excellence. The primary goal of this collaboration was to **decrease patient waiting time and duration of appointment**, while maximizing time spent with providers. Care team members were hesitant to adopt this new tool for fear that it would negatively affect workflow.



The new EMR was implemented in three surgeons' outpatient clinics.



Patients were shadowed in each surgeon's clinic prior to new EMR implementation to establish a baseline.



Post-implementation, clinics were re-shadowed to measure impact on patient experience and workflow.

## The goShadow Solution

By collecting qualitative and quantitative data before and after implementation of a new clinical tool, impact on patient experience and staff workflow are measured. Qualitative feedback and hard data reveal pain points and solutions in the words of those who live the experience daily. By elevating these voices using goShadow's co-design framework, shared decision making and improvement methodology are hardwired to support workforce wellbeing and improved patient experiences.



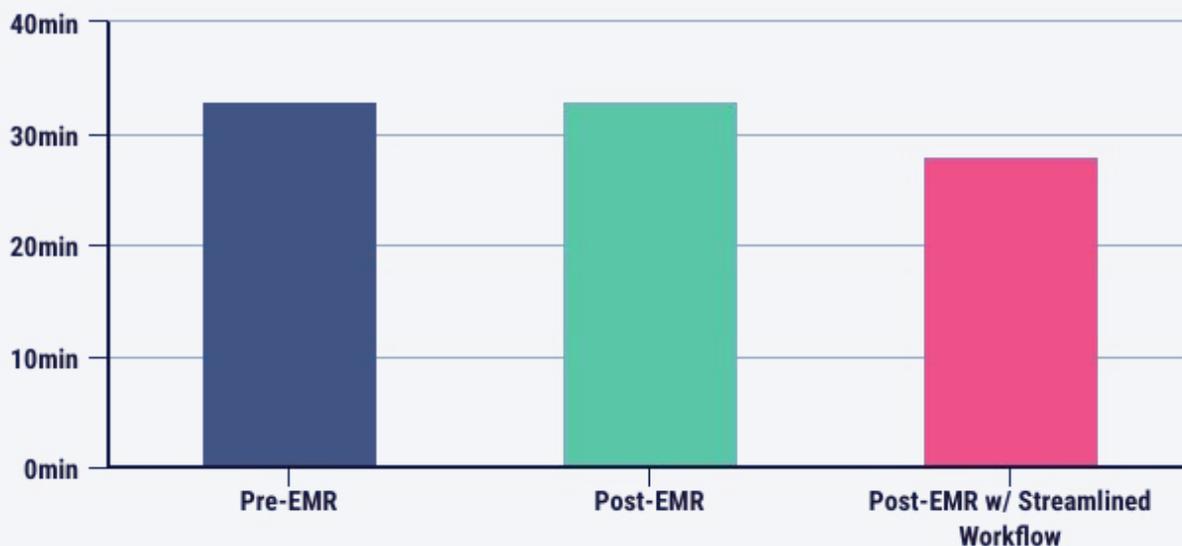
# Results

The goShadow team re-shadowed the care experience for all three physician’s clinics post EMR implementation. The greatest impact was noticed in patient wait time for the surgeon, as displayed below and reflected in patient quotes before and after.



## TIME ANALYSIS: PATIENT WAIT TIME FOR SURGEON

Average Wait Time in the Exam Room for Surgeon



### Pre-EMR Implementation

Prior to the implementation of a new EMR system, average wait time across 3 surgeons was 33 minutes.



### Post-EMR Implementation

After implementation of the new EMR system, wait time for the surgeon remained high at 33 minutes.



### Post-EMR Implementation with Streamlined Workflow

Following the implementation of a co-created face sheet to improve communication and eliminate duplicate work a **decrease wait time by 5 minutes, or 22%**, is observed.



# Patient and Employee Feedback

Patient and family feedback collected before and after streamlining processes showed that waiting decreased, and patients were able to spend time with their care team asking their questions.

Patient Feedback Prior to Streamlined Workflow

Patient Feedback After Streamlined Workflow

45 minute wait in waiting area and then 40 minutes waiting in the exam room waiting to talk to the Doctor.

My last 2 appointments were right on time. Not today. It is 35 minutes past my appointment time and still haven't been called.

I feel like I barely waited for the doctor and was able to get in and get out and get my questions answered.

No waiting. Everyone is so nice. Answers questions well.

“We realized that we were all asking the patient similar questions. Our patients felt like we weren’t communicating, and there was less time to build a personal connection with them.”

## Why Grassroots Data Collection Matters

By using goShadow’s shadowing app, analysis and insights gleaned from patients and staff, the root cause for extended patient exam room wait times was the duplicative staff workflow in the exam room and not implementation of the new EMR. Each care team member was unaware of the non-essential questions that were being repeatedly asked of patients.

This revealed that **22% of time (or 5 minutes) was spent doing duplicate work** and the **perception by patients that the care team was not communicating**. The care team revised their workflow so that each care team member asked role-appropriate questions and that information was communicated by virtual facesheet for each patient. The team co-created the patient face sheet and standardized role-specific patient interview questions. The team revisits the communication of information and role-specific questions quarterly to make iterative improvement and adapt per patient feedback.

