



Healthcare Excellence Institute

## Reducing Lobby Waiting Times by 60 Percent for Pre-Operative Testing and Admitting

Lean principles are recognized as an effective way of increasing customer satisfaction while delivering financial results for organizations of all types. Visionary healthcare organizations are now embracing the techniques in various areas of healthcare delivery to improve patient satisfaction, decrease processing times, utilize staff more efficiently and vastly improve patient safety. The following case study outlines the application of Lean principles to Pre-Operative Testing and Admitting, a unique application where patient satisfaction, clinical delivery and financial performance are simultaneously improved.

### ***Problem Statement:***

The leadership team at a 400+ bed facility in Texas, recognized that patients were waiting entirely too long in the admitting process. Patients presenting for admitting and pre-operative testing at the hospital experienced a scenario common in many hospitals across the United States.

The process as observed:

- Patients were greeted and then asked to wait in the lobby until being called for admission
- Once called, they were escorted to an office, admitted, and then subsequently asked to wait in another lobby
- Patients were then called by the nurse conducting the clinical assessment in another office
- After the nursing assessment was complete, patients were asked to wait again in the lobby area until called to have lab test samples drawn and other tests performed
- Average initial lobby wait time was 41 minutes
- Timed observations showed that the average of the 5 longest wait times per day was 1 hour and 40 minutes

The executive leadership team recognized that these long wait times were the result of a broken admitting process and were contributing to less than desirable patient satisfaction scores.

### ***Solution:***

The hospital partnered with the Healthcare Excellence Institute (HEI) to facilitate major process change during a 6 Day Kaizen Event. The goal was to redesign the process using Lean, Six Sigma, and Toyota Production Systems principles to reduce wait times and transfers while simultaneously increasing patient satisfaction.

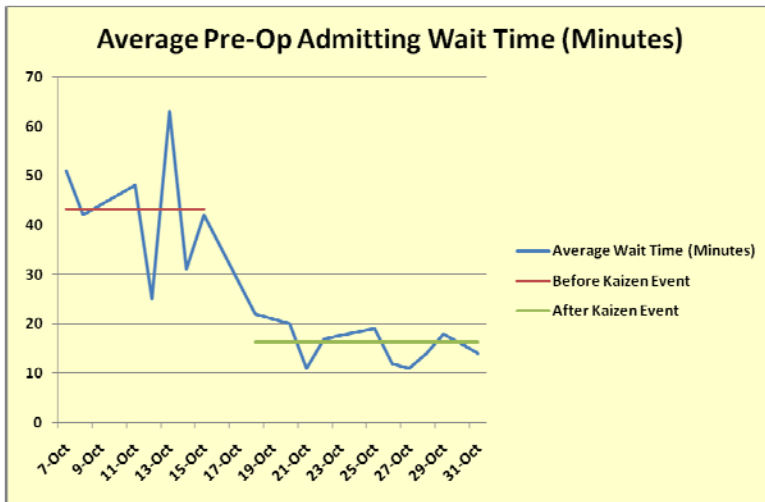
### ***Implementation:***

As a first step, a multifunctional team with associates representing admitting, nursing, IT and leadership team was formed. The team, facilitated by HEI's leaders, was to address the issue of long wait times and excessive patient movement over the 6-day Kaizen event. Because this was a clinical setting and large scale change was going to take place, the event was scheduled to begin on Thursday and conclude the following Wednesday. This arrangement allowed for all physical change of the area to occur over the weekend with no patient impact. The goal was set that by Monday morning, at 6 AM, the area was to be fully operational and ready to receive patients, fully utilizing the new process.

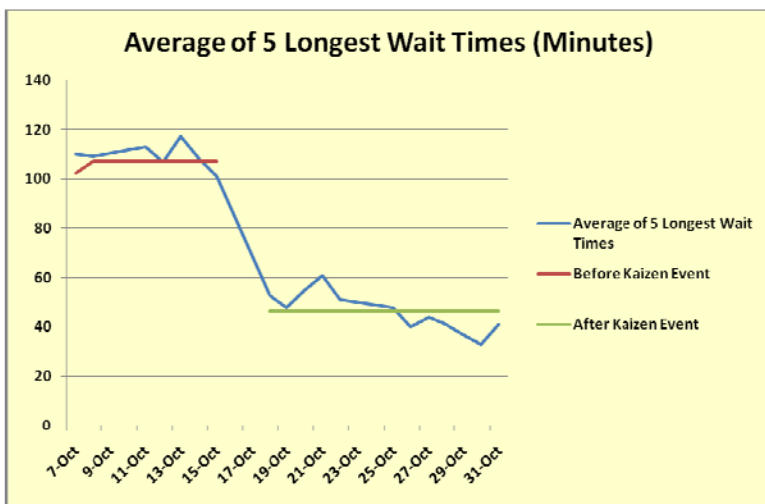
### ***Results:***

The results of the Kaizen event exceeded leaderships expectations in both qualitative and quantitative measures. By 6 AM Monday morning, the new process was being utilized and the difference was immediate.

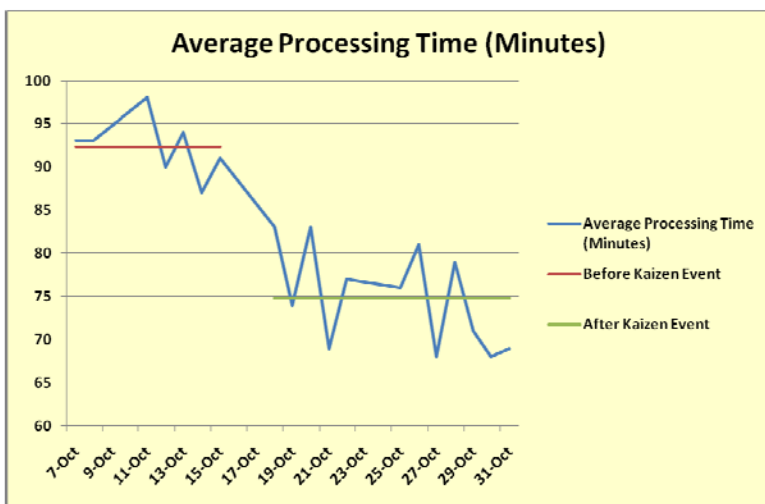
- Average waiting time in the lobby was only minutes, a 60% improvement over the 41 minutes prior to the event



- The daily average of the 5 longest waiting times was reduced to 47 minutes vs. 1 hour 40 minutes previously



- The average total processing time dropped to 1 hour and 15 minutes, a 26% improvement compared to pre-event numbers



#### How the Team Improved:

*Thursday morning:* the team began in the classroom by learning basic principles and techniques of Lean and Toyota Production Systems. While the concepts were new to most associates, they were received enthusiastically: a process and method had been found that allowed associates to develop and implement ideas that they had thought about for a long time.

*Thursday afternoon* was dedicated to process observation, an effective and underutilized way to assess a process from the outside looking in. Many traditional ‘improvement solutions’ are generated in conference rooms without observation of the actual process. Each individual has a personal and departmental bias in identifying the problems, and only observation using tools including process mapping, spaghetti charts, and the 7 types of waste filters allow for the true issues to be identified. The consensus after only a few hours of structured observation and tool usage was unanimous: “I don’t believe we really do it this way. We can do so much better.”

In parallel to the observations, a small team retrieved thousands of patient encounter records from the host system to conduct detailed analysis of the situations presented. The next step on the road to improvement entailed consolidating all the information, from observations and analysis, and to derive a list of key challenges and opportunities that needed to be considered in the process design phase of the project.

*Friday:* the entire team returned for a quick educational module delivered by the Kaizen leaders to learn a rigorous method of designing healthcare processes to drive patient satisfaction using Lean principles. By Friday night, the design efforts had been completed and included elements such as dedicated patient rooms which were equipped to admit patients and perform all clinical assessments without moving the patient, vastly improved patient and staff flow, clear roles and responsibilities, a work management model utilizing visual workplace principles, performance measurement for the entire department, and countless other features.

*Saturday morning,* with no patients due to arrive until Monday, the physical transformation began. All existing offices were emptied out into the lobby. IT infrastructure was improved by adding network drops in the newly configured rooms. Computers were moved and re-assembled. Workstations were put together by admitting and nursing staff. A prototype patient room was laid out, put into place, tested and revised several times until an efficient and standard layout was found that could be implemented in each room.

The central control board using visual workplace principles was designed and the method of managing the work was taught to all associates. A reception area was put into place and a process for preparing all charts in advance was designed. Technicians were trained to assemble the visual triggers based on orders and hospital policy. In parallel to the physical activity to implement the new process, a smaller team completed a detailed patient arrival study that in conjunction with the detailed time studies performed on Friday was used to derive a new staffing model.

*Sunday night* the team’s efforts became visible, with the area nearing completion and trial runs being conducted. The area was opened to receive patients as planned on *Monday morning* at 6 AM with overwhelmingly positive feedback from patients that had experienced the process prior to the change. Not only were the waiting times reduced, but there was also a visible patient focus, with processing and waiting times being tracked for all patients, a comfortable environment with minimal movement for patients, and a team, having been formed through the process of the extreme makeover, executing the process to maximize patient satisfaction by helping each other deliver an exceptional patient experience.

***Conclusion:***

Together with HEI’s Kaizen Leaders, the hospital was able to quickly and significantly decrease their wait times by over 60% with no interruption to patient flow. In addition, there was a 26% improvement in processing times. Aside from the reduced waiting and processing times, time of service collections increased by over 40%.

**Contact Us:** Is your hospital experiencing a patient access or patient flow issue? Contact HEI about solutions to everyday hospital issues.

**Greg Green**  
**Healthcare Excellence Institute**  
**(623) 208-7281**  
**[greg.green@healthcare-consulting.org](mailto:greg.green@healthcare-consulting.org)**