A Proposal for Ensuring Quality through Continued Monitoring of Patient Wait Times

By

Scott T. Sorenson

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Jinping Sun — 6/5/14

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Executive Summary

This organization currently operates numerous Patient Service Centers where specimens are collected for clinical testing. Many times these sites are failing to meet the corporate standard of 15 minute patient wait times. The organization currently has many quality initiatives that help ensure accurate patient results, but they are not as focused on patient wait times. This program proposes a continuous quality improvement process that will allow the organization to identify areas of weakness, and make the necessary changes needed to ensure patient waits are kept to a minimum.

The proposed program will require an initial baseline assessment of all sites, and further analysis of those that are underperforming. This analysis will lead to operational changes and efficiencies being implemented to help raise the performance of the site. The changes will be unique to each site, and based on the operational analysis the program will provide. There will be an ongoing performance evaluation to ensure that the program is successful at achieving its goal of reducing patient wait times. Ultimately, the program will help raise awareness of the importance of patient wait times within the organization.

It is recommended that focusing on patient waits will not only improve patient satisfaction with the service the company provides, but also help identify operational efficiencies that may lead to cost savings. It is also recommended that the corporation require affiliated laboratories to report patient wait times as a quality indicator that their performance is measured on.

Chapter 1

Introduction

There are two main types of clinical laboratories in the United States: those that are located within a hospital, and those that are independent of a hospital known as a reference laboratory. Together these two types of laboratories perform approximately 90% of all clinical laboratory testing, which accounts for an estimated $35 billion in revenue a year (LaNeve, 2003). Hospital laboratories usually perform minimal testing, and primarily focus on inpatient laboratory tests during the period of hospitalization. Referral laboratories concentrate on outpatient laboratory tests, and as a result usually offer a much larger testing menu and have a heavier volume. While hospital patients are usually drawn in their rooms, outpatient labs are primarily drawn at what is called a Patient Service Center (PSC). A PSC can be defined as:

> collecting stations, which are defined as a facility, fixed or mobile, operated by a clinical laboratory under permit, for the collection, drawing and/or temporary storage of materials derived from the human body, until forwarded to the clinical laboratory for testing. (Clinical Laboratory Evaluation Program, 2012)

These collection sites are many times the only direct contact that patients have with a referral laboratory, making the center extremely important to the success of the business.

The selection of a clinical referral laboratory depends on a variety of factors. Doctors usually contract with a reference laboratory to perform all eligible outpatient laboratory testing. The reason for the term eligible is because in some cases a physician may not have the option of choosing their preferred laboratory. In many cases, the patients insurance might have a contract with a single laboratory to perform all their insured's testing. In these situations the physician must send the patient to the laboratory contracted with the insurance even if the doctor routinely uses another. However, in the case that the insurance does not specify which lab must perform

testing, the physicians can decide which laboratory to use or allow the patient to decide. To make things more confusing there are some tests that are self-orderable meaning that a doctor's order is not needed. These tests are things like drugs of abuse testing, HIV, and blood typing. In these cases the patient is the client of the laboratory.

In the 1960's a local pathologist recognized the need for a clinical reference laboratory in Kern County, and as a result started Physician's Automated Laboratory (PAL). In the years since, PAL has become one of the largest clinical laboratories in the area and continues to grow. The laboratory was privately owned until 2010, when the founding owners reached retirement. The company was sold to Sonic Healthcare USA (SHUSA), which is a division of Sonic Healthcare of Australia. Sonic Healthcare is a publicly traded company on the Australian Stock Exchange. The parent company Sonic Healthcare is structured in a federation model. The laboratories that are purchased remain independently managed, and the day to day operations do not significantly change. PAL was the first laboratory that SHUSA purchased in California, and was the start of their western division. There are a total of nine divisions across the U.S. stretching all the way to Hawaii. PAL currently serves as the core lab for its division, meaning that any reference work from other acquisitions will be sent there for testing. The nine divisions within the U.S. are evaluated separately, and there is an unspoken competition between them.

PAL does not have a documented mission or vision statement. However, they are a member of SHUSA whose mission is to facilitate communication and collaboration among its member laboratories and searches for new medical laboratories to join the SHUSA federation. The vision of the organization is to provide physicians with the highest quality laboratory testing, delivered with personalized service, catering to the individual needs of the local medical community (Who We Are, 2014). The way the organization is structured as a federation allows

the flexibility needed to provide tailored service to the needs of different communities. Allowing laboratories the freedom to independently manage themselves helps the Sonic organization achieve its vision of providing unique services to the community and clients of different areas. All of the labs that are members of Sonic are expected to share the same values. These values are: commit to service excellence, treat each other with respect and honesty, demonstrate responsibility and accountability, be enthusiastic about continuous improvement, and to maintain confidentiality (Who We Are, 2014).

Based on knowledge in my position within the organization and a study I completed in 2014 many of the PSC's operated by Physician's Automated Laboratory consistently underperform, and have long wait times for patients. These extended wait times lower patient satisfaction with the quality of service that the company provides. The lowered satisfaction can negatively affect the company in a variety of ways depending on who the client is. If the patient is the client, it may mean the immediate loss of a customer/patient. The patient can choose on their own to take their laboratory needs to another facility. If the client is the physician or insurance company, dissatisfied patients will eventually pass their experience onto those overseeing their healthcare, and may lead to a change in laboratories. In either case, long wait times put a burden on patients who many times are very sick. Excessive waiting is considered a waste because there is no value being added to the service, and there is a lack of production with regards to the company's services (McLaughlin & Olson, 2012).

Statement of the Problem

Patient's that PAL currently serves are experiencing long wait times. This not only lowers the satisfaction that the patient feels for the laboratory's service, but can lead to consequences related to the volume of business the organization receives. Because this industry

is so competitive, “the lab that delivers the best overall value will be the one that wins the most testing” (LaNeve, 2003, p. 32).

The expected wait time for all of the federated Sonic Healthcare laboratories is no longer than 15 minutes. Based on patient complaints, and visual observations some of the PSC’s that PAL operates come nowhere close to this target. It is not uncommon to see patient’s standing outside of a PSC because the waiting room is completely full. This makes the wait even more uncomfortable for the patients they serve. The company currently has a continuous quality improvement process, but patient wait time is not included in it. Without constant monitoring of patient wait times there is no way to determine the extent of the problem, or offer any meaningful solutions to resolve them. In order to determine the causes of these operational inefficiencies, the laboratory must monitor PSC’s performance. This can be achieved by a quality improvement program that analyzes the operational processes that contribute to a patient’s wait time. The purpose of this project is to develop a program within the organization that will reduce wait times, and provide more accountability towards the company’s expectations.

Methods and Procedures

The first step in this process is to determine the current performance of each PSC that PAL operates. In order to make a comparison of this program to the status quo, one of the PSC’s of this organization will be analyzed. This will help show the benefits of this program compared to the way things currently operate. This facility is relatively new, and is located in a nice medical complex. The hours of operation at this location are 6:30-5:00 pm, Monday through Friday. This location is open on Saturday mornings, but only for a few hours. This analysis only looks at standard business days because Saturdays are staffed differently, and the bulk of patients

are drawn Monday through Friday. Data from last year (2013) will be used to establish the baseline performance. There have been no significant changes in operations or patient volumes that would make this data inaccurate. The data reflects a time from before the holiday season to ensure that the sample is representative of routine operations at the facility. The data will include a total of six business days, starting on Friday, November 1st through Friday November 8th 2013.

The organization currently gathers data for each of its different draw sites. This data is grouped first by site/date, and includes the patient's check-in time, draw time, and the specimen identification (SID) number. This data allowed the researcher to calculate the wait time of each patient. The patient wait time is defined as the difference in time between check-in, and the time of collection. The files were saved in Microsoft Excel which allows for easy manipulation. The files for 2013 are readily available to management through the company's secure server. After manipulation, this data will yield patient wait times, draws per hour, and will establish a baseline from which the proposed program can be evaluated against. No patient personal information will be made available, only the SID number. Should the baseline of this PSC show that it is not meeting company standards, a more thorough analysis will be performed. The information will then be used to create various figures that will help visualize the workflow, and extent of the problem. The first graph will show the average patient volume over the 6 days by hour. From this graph, the busiest times of the day will be identified. As a comparison, another graph will be made that will show the average patient wait time by hour. It should be expected that the higher the patient volume, the longer the patients wait.

Staffing schedules for each draw site can be obtained from the phlebotomy supervisor who oversees them. The staff at this facility includes phlebotomists, patient greeters, and front

desk clerks. The phlebotomists are responsible for obtaining the proper specimen type, and volume for the requested testing. The greeter welcomes the patient's to the facility, and escorts them to the front desk or seating if needed. The front desk staff is responsible for checking in the patients, and ensuring all the necessary paper work is obtained. This information will be used to give researchers an understanding of the staffing situations during various times of the day, and allow them to make comparisons with the other data collected.

The capacity of each facility will need to be identified. The main limiting factor is the amount of draw chairs at the location. The draw chairs are specially designed chairs to help the collection process easier, and ensure patient safety, should they faint during the procedure.

All of this information will ultimately be used to evaluate the current performance of the draw site, and help demonstrate how this program can benefit the organization.

Importance of the Project

This program will help the management of the organization become more successful, and deliver a higher quality of care to their patient's. When this program is inserted into the quality control plan for PAL, it will help bring attention to the issue. By raising awareness to the problem, it will help those involved in the performance of each site be more mindful of the amount of time patient's wait. Through constant monitoring of each PSC performance, it will help hold employees to a higher standard of service.

Patients may ultimately benefit from this program's implementation. The burden of waiting for extended amounts of time will be reduced, and their satisfaction with the service they receive will be increased. This increased level of satisfaction may help make the image of the company more favorable.

Chapter 2

Literature Review

The problem that Physician's Automated Laboratory has encountered is nothing new. Failing to meet company expectations with regards to patient wait times is common among many different parts of our health care system. The wait time for outpatient phlebotomy services is not as publicized as emergency room wait times and other patient waits, but to referral laboratories it is an extremely important part of their services. A review of the current literature will help show the importance of quality improvement programs and how others in the health care field have attempted to ensure their patient wait times are kept to a minimum.

Anderson (2010) discusses how an Institute of Medicine (IOM) report helped highlight the importance of continuous quality improvement programs. The IOM report *To Err Is Human* showed that there were numerous deaths across the U.S. in hospitals that could be attributed to preventable medical errors. This IOM developed guidelines for improving quality in health care that focus of the following: Timeliness, efficiency, effectiveness, patient-centeredness, safety, and equitable. This helped the health care industry focus on new ways to reduce errors (Anderson, J., 2010). While patient wait times are not necessarily medical errors, they are an area of patient care that laboratories have a direct connection with. The same principles that many use to reduce errors in health care can be used to gain efficiencies within the laboratory. The guidelines the IOM helped establish that relate to patient wait times are timeliness, and patient-centered care. By decreasing patient wait times the timeliness of patient results reported to physicians will improve. The lab must not shift its focus away from quality with respect to results, but simply include patients as part of their focus.

In any business it is important to constantly monitor the services you provide, to remain competitive. In health care organizations this is even more important because not only do they need to remain competitive, they must also focus on the care they provide to patients. Chiozza & Plebani, (2006) discuss the importance of continuous quality improvement to reducing the number of medical errors. As they discuss continuous quality improvement they stress:

> Clinical teams must feel empowered to change the way in which they deliver their services, promoting effective clinical risk management. Process analysis, implementation of evidence-based practices, and a clear accountability system are effective tools not only for decreasing error rates, but also for improving effectiveness.
> (Chiozza & Plebani, 2006, p 694)

All areas of health care including the laboratory must continually monitor the effectiveness of their delivery systems to ensure the highest level of service to the patient is achieved. This will ultimately help hold those in charge accountable for the company's performance.

In one study, Bernett & Nentl (2010) discuss the common goal that many organizations who utilize quality improvement programs share:

> The main stated goal of most CI initiatives is enhancing quality through greater operational efficiencies, an inarguable premise for business today, and we found that Cl implementations are viewed as necessary and positive actions for organizations
> (Bernett & Nentl, 2010, p 37)

It is important for organizations to understand how the use of quality improvement programs can not only lead to efficiencies that benefit the patient, but also result in a higher performance of the business. These types of programs may ultimately lead to cost savings, which is an important thing in today's health care market.

A common theme that has been studied relates to patient wait times and their use as a quality indicator. A patient's perception of the quality of service that an organization provides can be drastically influenced by the amount of time they wait for service. Anderson, Camacho, and Balkrishnan (2007) evaluated patient's perception of service. The study used surveys to

determine how much patient wait time and time spent with physician had an effect on their satisfaction with service. The paper concluded that time spent with the physician had a greater influence on the patient's satisfaction, but both were significant to the patient's satisfaction. "The combination of long wait times and short visit times produced the lowest level of patient satisfaction observed in the study, and suggests that both measures are important" (Anderson, Camacho, & Balkrishnan, 2007, p 732). While this study highlights that time spent with a physician may have a stronger influence on patient satisfaction, laboratories have limited contact with patients, making wait time at their facilities arguably one the most important factors in patient satisfaction.

In another study performed by the College of American Pathologist, the researchers focus on patient wait time as an indicator of patient satisfaction. This organization periodically puts out research papers using data provided by member laboratories, and titles them Q-Probes. This study looks at a variety of indicators such as phlebotomy skill, professional treatment, number of needle sticks, and patient wait times. The paper "found a correlation between waiting time and satisfaction by showing that the median wait time for patients who were not satisfied with the procedure was twice as long (10 minutes) as the median wait time for patients who indicated they were satisfied (5 minutes)" (Dale & Howanitz, 1995, p 5). It is clear that health care organizations who struggle with extended wait times are at risk of reduced patient satisfaction with their services.

At many patient service centers (PSCs), a patient is asked to provide a urine specimen after their blood has been collected. In an article that discusses an organization that has attempted to use lean techniques to improve patient throughput, they identified this as waste. They implemented a system and design that allowed patients to collect a urine sample while they

waited (Melanson, Goonan, & Lobo, 2009). Allowing patients the opportunity to collect this sample while they wait keeps them busy, and reduces the amount of time spent with the phlebotomist.

There are also organizations that have implemented other automated check in systems. At Vanderbilt Community Medical Center they have free standing patient registration kiosks. This system has led to 30% of this facility's patients completing the registration process without assistance from the front desk (Putre, 2011). These types of automated innovations, while not completely replacing manually checking-in, can significantly reduce the burden on a registration desk and help prevent a bottle neck.

Staffing can play an important role in how long patients wait at PSC's. The facility may be understaffed to keep up with the patient volumes leading to a backlog of patients. This may be caused by situations where breaks, and lunch periods are not supervised properly or simply not enough people are staffed for the busy times. The research done by Morrison, Tanasijevid, and Torrence-Hill (2011) looks at staffing solutions as a way to improve turn-around time for inpatient laboratory results. The study found that there was a direct correlation with high patient collection volumes, and complaints regarding delays in results. The facility chose to coordinate their staffing with the patient volumes, while not increasing the overall expense with regards to staffing salaries. The facility identified patient volumes by hour, and chose to create multiple new shifts to provide additional coverage during high volume hours. In using this new model, the facility was able to decrease the complaints related to phlebotomy delays by 80% (Morrison, Tanasijevid, & Torrence-Hill, 2011). Many times organizations continue to do things simply because that's the way they've always been done. By breaking away from traditional staffing

models and adjusting schedules based on patient volumes, laboratories may be able to significantly improve their patient wait times.

Kirby and Wiczai (1985) discuss how nurse staffing can be adjusted based on patient needs. The facility looks at the expected patient volume, and creates a staffing model that includes core and variable staff (Kirby & Wiczai, 1985). While this situation is slightly different, PSCs can use a model like this to ensure adequate staffing. Analyzing expected patient volume is key to ensuring adequate staffing.

The current literature provides many different examples of how organizations have attempted to improve their company's performance. It is common in health care organizations to continually monitor their performance, and attempt to provide efficiencies when possible. In relation to patient wait times at clinical laboratories these efficiencies may be found at automating the check-in process, staffing adjustments, patient volume trends, and other operational adjustments. Improving patient wait-times will undoubtedly improve patient satisfaction with the organizations performance, and help make the experience for many sick people much less of a burden.

Problems Presented by Current Program

The problem at Physician's Automated Laboratory is that they are not meeting corporate standards with regards to patient wait times. There is currently no review of the data that the company collects. All the patients' wait times are documented and held on the company's server, but there is no routine monitoring of the outcomes. Without having a program in place to routinely monitor PSC performance, it is difficult to come up with solutions to the operational problems.

The data analysis helped to show the problem that the current program faces. In figure 1 data analyzed from a PSC that did not meet the initial performance expectation was graphed. The PSC evaluated is clearly having a difficult time reaching the target of 15 minutes during the morning hours. This analysis helps show that the problem is not a day long issue, and the morning hours will need to be a focus of possible causes/solutions to the problem. In figure 2 the same PSC was analyzed, and patient volumes by hour were graphed showing that there is an increase in patient volume during the hours that the PSC is having difficulty reaching the 15 minute standard. The staffing of the PSC in this analysis also showed that there was inadequate staff in the early mornings, and an excess of staff in the afternoons (fig.3). This analysis allows for the problem to be confirmed, and provides the groundwork for strategic changes to be made.

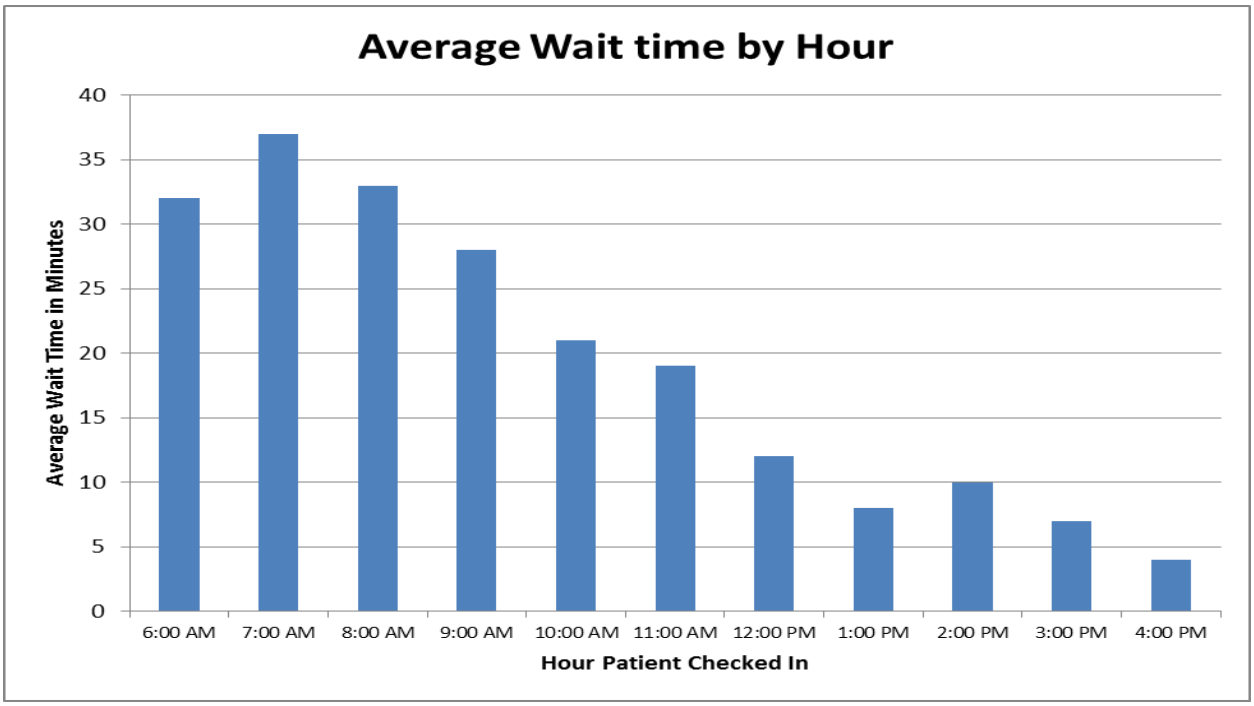

Figure 1. Average wait time at selected PSC by hour.

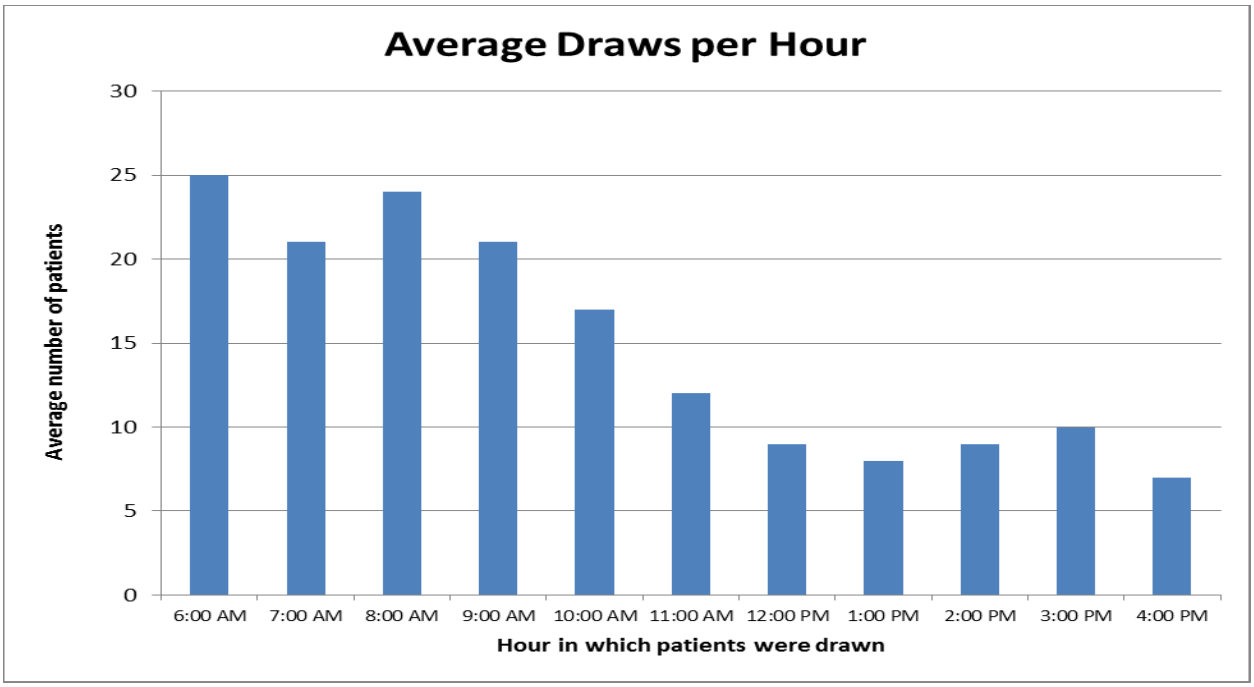

Figure 2. Average drawns by hour.

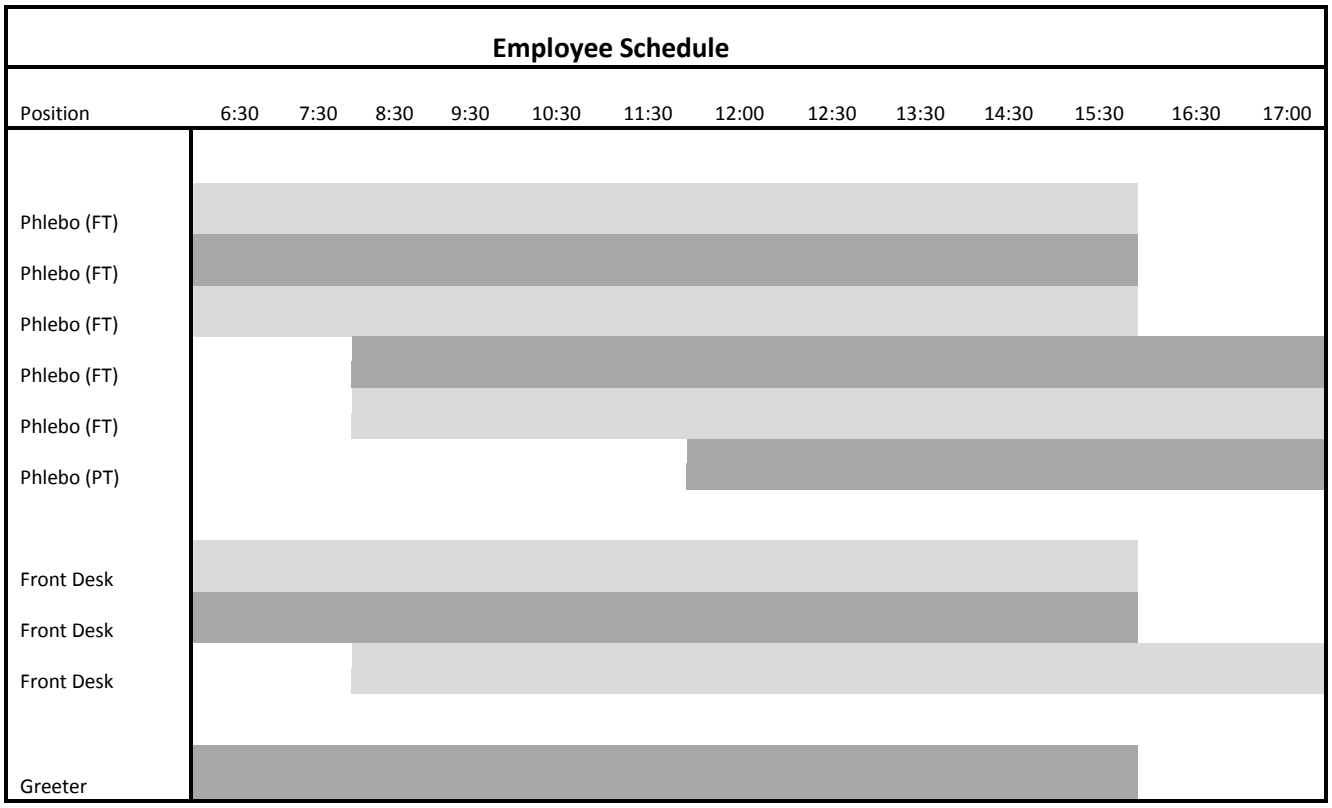

Figure 3. Employee schedule at PSC.

Definition of Problem and Competing definitions

It is widely accepted that patient wait times are of no value. The idea of lean principles attempts to reduce areas of waste, "Excessive waiting-for example, long queues to see the doctor, waiting for medicines and supplies to arrive" (Sollecito & Johnson, 2013, p 548). The only competing definition of the problem might be what amount of time is considered excessive. Dale and Howanitz, (1995) noticed a difference in patient satisfaction between 5 and 10 minute periods. However, at our facility the company's goal is 15 minutes. The acceptable amount of time to wait might be different from person to person, but the idea that waits are a form of waste is consistent.

There have been a variety of different approaches for improving the overall quality of health care. A common type of quality improvement used is known as the Schewert Cycle. This system uses what is known as Plan, Do, Study, Act (PDSA) to improve quality. The cycle progresses by planning change, doing the change, study the effects of the change, acting on the change, and repeating the steps if necessary (Sollecito & Johnson, 2013). Some organizations have focused on a system that is referred to as Lean. This process attempts to identify and eliminate waste from within a system to improve quality. The Six Sigma approach is another commonly used approach in quality improvement. This system uses statistics to help eliminate errors, and decrease the variation of outcomes. This approach uses a process known as DMAIC (define, measure, analyze, improve, control). The process helps focus efforts on areas that need improvement (Sollecito & Johnson, 2013). It is this DMAIC process (fig. 4) that this program will utilize to improve patient wait times. This program will initially define the wait time problem, and identify those PSC's that will need further analysis. It will measure, and analyze their performance through data collection. The process will identify and implement

Figure 4. DMAIC Diagram (google images)

improvements that are decided upon by management, and maintain control over the system by continuous monitoring of the outcomes.

It is sometimes helpful to visually see a diagram that shows the relationship between different variables in a given situation. These diagrams are many times referred to as fishbone or cause-and-effect diagrams (Sollecito & Johnson, 2013). The fishbone diagram for this problem will end with extended wait times, and include a variety of causes that help influence it (fig5). The diagram helps show all the different contributors to the problem that the program can help identify, so that management can make informed decisions regarding operations of the PSC's.

Cause and Effect Diagram

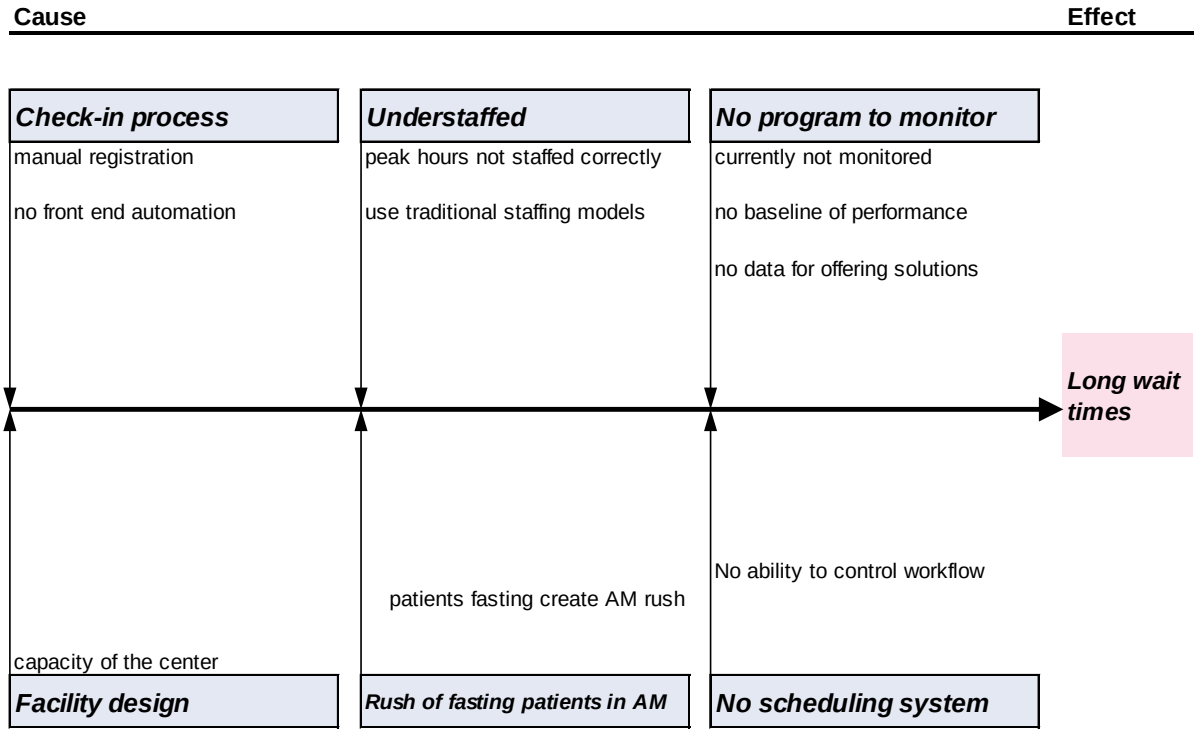

Figure 5: cause and effect of patient wait times

Chapter 3

Program Proposal

Rationale

Continuous quality improvement is the motivation behind this program proposal. This process can be defined as "a structured organizational process for involving personnel in planning and executing a continuous flow of improvements to provide quality health care that meets or exceeds expectations" (Sollecito & Johnson, 2013, p 4). Within this organization, there is an emphasis that is placed on improving patient care. Even though the company is not currently focusing on patient wait-time, this is an area that can provide an enormous amount of improvement to their patient's. The patient's that are served by clinical laboratories are many times very sick, and extended waits put an unnecessary burden on them. In addition mothers with multiple children find it very difficult to wait for long periods of time, especially when their children are not sitting still.

Goals and Objectives

This study intends to propose a program with two primary goals related to patient wait times. The organization will have three to five objectives to help ensure the goals are met.

Goal one: Decrease the patient wait times of every PSC within the organization.

Objective one: Patient wait times of less than 15 minutes in at least 90% of patients.

Objective two: Perform baseline performance measures of each PSC.

Objective three: Perform a thorough analysis of those PSC's not meeting the standard.

Objective four: Make operational changes that will help decrease wait times.

Objective five: Continually monitor performance of PSC's throughout the year.

Goal two: Increase awareness of patient wait times and company performance.

Objective one: Provide performance information at bi-monthly supervisors meetings.

Objective two: Hold performance meetings with PSC staff at facilities that underperform.

Objective three: Invite employee recommendations to help increase productivity.

Measures of Effectiveness

Assessing the effectiveness of the program is a very important piece of the process. Rossi, Lipsey and Freeman (2007, p 222) state that "A poorly conceptualized outcome measure may not properly represent the goals and objectives of the program being evaluated, leading to questions about the validity of the measure." Because there is currently no program in place to monitor performance as it relates to this study, measures of success are very straight forward. The term effectiveness can be defined as "the capability of producing a desired result. When something is deemed effective, it means it has an intended or expected outcome, or produces a deep, vivid impression" (Effectiveness, 2014). To assess the effectiveness of the program the corporate standard of 15 minute wait times will be the criteria. Those PSC's that have improved wait times after the implementation of the program will validate the effectiveness of this program in reaching its goal. The feasibility of the program to actually reduce patient wait time will also be used to determine the program's success.

Potential Solutions

It is difficult to argue that the current program of the organization will be beneficial because the company simply does not evaluate their performance. The only data that the company currently uses is the daily requisition count at each PSC. This information only tells management how many patients were drawn at each facility, and the patient's wait time is not included. The program that is being proposed will bring the company's performance to light, and help identify areas that may be sources of improvement. By establishing a base line performance for each PSC, the program can be monitored for success. Alternative programs may use patient satisfaction surveys to evaluate the patient's perception of service, but ultimately it is important that the company reaches their internal goal of 15 minutes established by the corporate leaders.

Resources Involved

This program will require minimal resources from the company because the most labor intensive part of the process is already being done. At Physician's Automated Laboratory there is a Quality Assurance (QA) Manager who oversees QA related activities. Currently the role includes monitoring routine specimen turnaround time, STAT (rushed) specimen turnaround time, in addition to other quality assurance measures. This manager currently works Tuesday through Thursday, and the company covers their health related benefits. In order to assure that there is sufficient time to include patient wait time as a quality measure, this position will need to be converted to a 30 hour/week job. The cost of this addition will be minimal, because their benefits are already being covered by the company. This position is currently being paid an hourly rate somewhere around $40-45 per hour. With 52 work weeks in a year, the approximate cost of this change would be between $16-19K a year. This increase in full time equivalents will

ultimately need to be approved by the division president, and the US corporate offices in Austin Texas.

The company currently collects patient wait time data for every PSC, and has the information input into Microsoft Excel. This data collection will not change, and not add to the overall cost of the program. The QA manager currently has access to this data, and can easily manipulate it for evaluation. There will be no formal budget for this program, only an addition to the overall salary related costs of the division. There will be no other resources required for this program that would require significant expenses. The laboratory already has a QA standard operating procedure, and it would simply require a few signatures to include wait time as a monitored indicator.

Procedures of the Program

The QA manager is expected to use the data on the company server to perform an evaluation of each PSC. In the DMAIC process this will help define the problem at sites that need improvement, and measure the extent of the failures. This evaluation will initially look at the overall performance of the PSC for the most recent two week period. Any PSC that is not reaching the corporate standard of 15 minutes at least 90% of the time will be further evaluated. This is where the manager will attempt to find the underlying causes of the PSC's failure. There will most likely be different causes for failure depending on the site, but each initial evaluation will be performed the same. The average patient wait time will be calculated by hour, and graphed to show problem areas. The average patient volume by hour will also be graphed. This information will allow the evaluator to narrow down the causes of the failure. It may be a problem that is consistent throughout the whole day, or something that is limited to certain time intervals. A comparison of average patient wait time, and average patient volume will help

identify failures due to high volumes of patients. The QA manager will then create a map of the employee coverage throughout the day. This will add insight into scheduling changes that might improve efficiency.

The findings from the QA manager will then be presented to the Laboratory Manager, and the Vice President of Operations. In this part of the program, there will be a thorough analysis by the organization to help decide on improvements that need to be made. Once the findings have been presented, possible solutions will be discussed and implemented. This may include staffing/scheduling changes, employee counseling, site expansion or remodeling, scheduling system, and any other measure that will help improve performance. It will be the responsibility of the Laboratory Manager to ensure that PSC supervisors implement the necessary changes. Depending on the scenario, there may be failures due to specific employee performance. Should this be the cause, the direct supervisor will be responsible for counseling, re-training/competency assessing, and ultimately disciplinary measure should the issue not be resolved.

In addition to the data analysis, the QA manager will also be required to present the performance of each PSC at the bi-monthly supervisors meeting. In this meeting, recognition will be given to those PSC's that are meeting the company standard. If not, the PSC supervisor will be notified and responsible for recording a performance meeting with the employees at those PSC's.

Employees at the production level are expected to comply with any changes to operations that management feels will improve their performance. These employees are expected to be mindful of patient's wait time, and offer any suggestions to management they feel might help achieve the company objective. The Laboratory at Cedar-Sinai Medical received the Laboratory

of the year award. After interviewing management, one of the approaches they took is as follows:

> Team-based projects have been initiated in each laboratory section. Many sections implement staff "huddles" to increase employee engagement and disseminate important information about operational issues. Huddles, brief stand-up meetings among managers/supervisors and laboratory staff held daily in the work areas, provide a forum for staff to voice suggestions and concerns and see that their voices are being heard. (Lenhoff, 2014, p. 24)

This program hopes to mimic the success that Cedar-Sinai has had with including the employees in the process of improvement. The meetings on site will hopefully bring the PSC staff together as a team and ultimately be more successful. The

Activities of Program Participants

Different staff employed at Physician's Automated Laboratory will be expected to participate in the following activities related to this program:

1. QA Manager: Data collection, analysis, presentation, and continuous monitoring.
2. Laboratory Manager: Oversee/approve operational changes to improve performance. Hold supervisors accountable for implementing necessary steps.
3. V.P. of Operations: Approve any major operational changes, and provide input on problem solving.
4. PSC Supervisors: Implement changes decided on by management, bi-monthly meetings with staff on performance, recognition of those sites meeting company standards, any other tasks delegated by senior management.
5. Production level staff: Perform all reasonable job related duties required by their supervisor, and become more involved in the success of their site.

Implementation

The accrediting agency College of American Pathologists which oversees clinical laboratories requires that "The director reviews and approves all new policies and procedures, as well as substantial changes to existing documents, before implementation" (Review of new policies and procedures, 2011). After this program's addition to the Quality Assurance standard operating procedure, the director will review and sign before it can be implemented. In its initial implementation the program will ensure every PSC within the organization has their patient wait-times evaluated. Each facility's percentage of patients waiting less than 15 minutes will be recorded to provide the company with a baseline. After the program is implemented, any significant improvement in wait-time will be attributed to the program. This improvement can only be credited to the program if there have been no additional operational changes at the PSC that are not a result of the program. The program will not vary depending on the site. The only variation in the program will be possible solutions to those sites that are not meeting the company standard. Those sites that meet the standards along with those that don't will still be monitored on an ongoing basis to ensure compliance. The process will begin with monthly measurements, then move to quarterly and yearly. This ongoing evaluation will serve as the control piece of the DMAIC process by helping to show how the implemented improvements have succeeded or failed.

Program Administration/Structure

This program will not create any new positions within the organization, other than the current QA manager being converted to a full time position. The QA manager will be solely responsible for successfully running this program with oversight and direction from the laboratory manager and VP of operations. The laboratory industry is already focused on metrics

similar to patient wait time. However, it has been the practice of PAL to focus on other quality measures such as the stat turnaround time. This measure is “the most visible aspect of laboratory performance to clinicians” (Howanitz & Steindel, 1991, p. 977). Because the laboratory has always focused on similar measures to ensure clients (physicians) are pleased, the addition of this program will easily blend into the laboratory’s quality assurance program.

Chapter 4

Alternative Selection

Criteria for Recommending Alternatives

This thesis will primarily use effectiveness and feasibility to recommend alternatives. The main goal of the program is to reduce the overall average wait time of patients. In order to determine the actual effectiveness of this program to produce desired results, it will use the corporate standard of 15 minute wait times. The objective is to reach this target in at least 90% of all patient draws by PSC. Those that do not meet this initial percentage will be evaluated, and if the actions taken as a result of the program improve the PSC's performance it will be considered effective. It is also a goal of the program to increase awareness and participation of the staff to the performance of each site. The effectiveness of this will be measured by supervisors holding performance meetings, and presenting information regarding wait times at bi-monthly supervisors meetings. This can be measured by meeting minutes, and meeting sign in sheets that employees will be asked to complete.

The feasibility of the program is essentially the likely hood that the program will succeed. The first consideration of feasibility relates to management acceptance of the program into operations at Physician's Automated Laboratory. This situation has already been debated within management, and a program like this has been requested. The feasibility of this program will essentially be measured by whether or not the program is approved. Another measure of feasibility is the amount of resources or funding the program requires. This program requires minimal resources, and the only significant cost is the increase in salary expense for the QA manager. Management has already discussed the need for a full time position dedicated to the QA duties of the lab. This coupled with the opportunity to drastically decrease patient wait

times, and ultimately improve the satisfaction with our PSC's makes the program extremely feasible.

Comparison of Program Proposal to Status Quo

The status quo of this issue is the lack of a program. Without monitoring of the laboratory's performance related to wait times, there is really no way to identify the problem or recommend effective solutions. A program that performs a thorough evaluation of operations has the potential to identify operational issues that can not only lead to better service, but also cost savings related to efficiency. The status quo would basically be for operations to continue as they have been. If a PSC is busy, they simply have to try to keep up with the patient volume. There are no evaluations of expected volumes or expected service requirements other than the recording of daily patient volumes by site. The status quo is not an acceptable path for the organization to continue on if they wish to increase performance of their PSC's.

Monitoring and Evaluation

The monitoring of the performance of the program will be based off of the PSC's improvements after improvements have been attempted. This will occur at the previously specified intervals throughout the year. The procedure used will be a comparison of the initial baseline performance compared with the performance of the site after implementation.

Limitations and Unanticipated Consequences

The major limitation of this program may depend on the problems identified at the specific PSC's. If a PSC needs a capital investment for renovations, this may not be approved by upper management. Also, depending on the situation an increase in FTE's to help improve productivity may not be approved by management. Through this program waste might be

identified with regards to staffing. While this program does not specifically intend to eliminate any full time positions, some recommendations might be to utilize part time work to provide better staffing during peak hours. In addition, this program may identify PSC's operating near their max performance and identify the need for additional PSC's in certain areas. The program does not propose any patient satisfaction surveys to be used. Even though this program might achieve success in reducing patient wait times to 15 minutes, it is unknown what the level of satisfaction patients will have with this level of service. Should the program succeed, surveys may be needed to identify any additional decrease in wait times that will help improve patient satisfaction with the organizations service.

Chapter 5

Summary, Conclusion, and Recommendations

Summary

This program will allow the organization to implement a continuous quality control process to help reduce wait times. All of the steps in the DMAIC process can be accounted for, and will allow a systematic approach to improving the organizations performance (fig 6.). The goal of the program is to reach the corporate standard of 15 minutes.

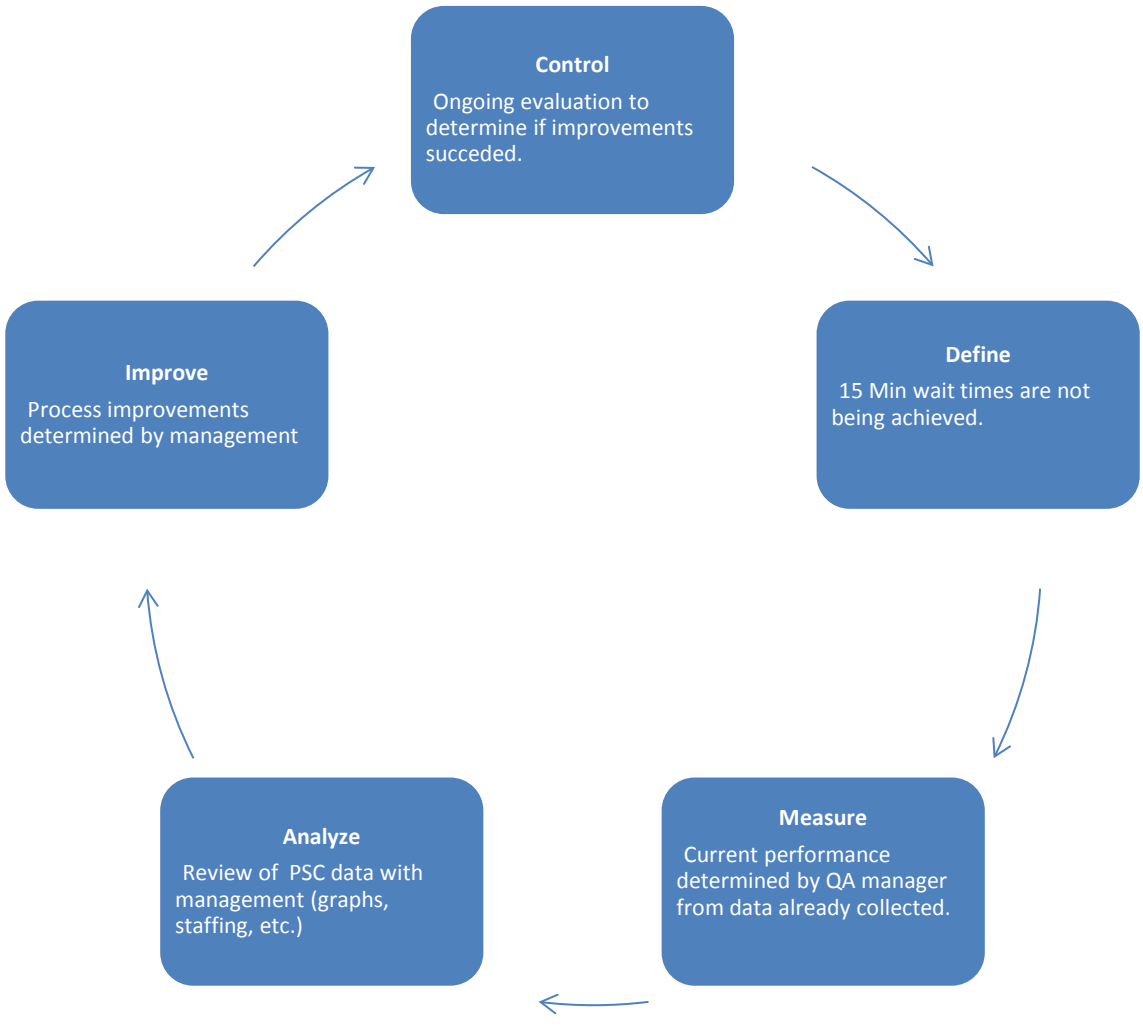

Figure 6: DMAIC figure of proposed program

This serves as the definition of the problem. The company currently measures their performance, but does not proceed to the analysis phase of the cycle. This program will implement a thorough analysis of performance, and contributing factors. This analysis will allow management to implement process improvements that are site specific. This program will also control the system, and close the cycle through ongoing evaluation after improvements have been implemented. This may ultimately lead to drastic improvements in company performance.

Conclusions

There is a definite need for improvement within this organization with respect to patient wait times. The lack of a current quality initiative aimed at this indicator has allowed the problem to continue with no measure of company performance. The proposed program will help identify areas of improvement, and provide an analysis that helps identify possible solutions. Through continuous monitoring of performance, the program will help ensure that patient wait times are held to a minimum, and the company achieves its internal goal of 15 minutes. Should the program be approved, it will also help bring the problem to the attention of employees and management. There is an enormous amount of literature and information regarding continuous quality improvements, and solutions that others have used to help reduce wait times.

Recommendations

This program is recommended as an addition to the existing quality improvement activities that the organization currently performs. The addition of a patient centered program will help the laboratory to expand their focus of quality improvements to not just the quality of laboratory results. The current focus of the organization has been aimed at providing clinician's with accurate results. This is extremely important due to their influence on patients care, but improving on wait times will only add to the overall quality of service that the laboratory

provides. This program will ultimately lead to reporting results faster to clients. This program can be adopted by other laboratories within the organization, and can eventually lead to patient wait times being reported to corporate leaders. Having to report these figures will help make patient wait times a priority for labs that might not focus enough on them. It is recommended that once the corporate standard is reached, patient wait times remain a priority of the organization. This is an area that the laboratory can not only identify possible cost saving efficiencies, but really make those patients they serve feel the dedication the organization has towards patient care.

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Appendix A

CSU Bakersfield
Academic Affairs
Office of the Grants, Research, and Sponsored Programs (GRaSP)

Mail Stop: 24 DDH Room 108
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2231
(661) 654-3342 FAX
www.csub.edu

Institutional Review Board for Human Subjects Research

Date: 20 May 2014

To: Scott, Sorenson, PPA Student

cc: Jinping Sun, Department of Public Policy & Administration
Paul Newberry, IRB Chair

From: Steve Suter, Research Ethics Review Coordinator

Subject: Protocol 14-57: Not Human Subjects Research

Thank you for bringing your protocol, **"Proposal for Ensuring Quality through Continued Monitoring of Patient Wait Time",** to the attention of the IRB/HSR. On the form, "*Is My Project Human Subjects Research?*", received on May 22nd, 2014, you indicated the following:

> I want to interview, survey, systematically observe, or collect other data from human subjects, for example, students in the educational setting. **NO**
>
> I want to access data about specific persons that have already been collected by others [such as test scores or demographic information]. Those data can be linked to specific persons [regardless of whether I will link data and persons in my research or reveal anyone's identities]. **NO**

Given this, your proposed project will not constitute human subjects research. Therefore, it does not fall within the purview of the CSUB IRB/HSR. Good luck with your project.

If you have any questions, or there are any changes that might bring these activities within the purview of the IRB/HSR, please notify me immediately at 654-2373. Thank you.

Steve Suter, University Research Ethics Review Coordinator

Appendix B

PHYSICIAN'S AUTOMATED LABORATORY, INC.
A Sonic Healthcare Company

May 21, 2014

To Whom It May Concern,

Scott Sorenson, Laboratory Manager of Physician's Automated Laboratory, has my permission to use our company's name and data for his thesis in the MSA-HCM program at California State University Bakersfield. All patient names and confidential information will be removed from the data used.

Sincerely,

Ken Cleek
V.P. Laboratory Operations

2801 H Street, Bakersfield, CA 93301-1913 *phone* 661.325.0744 *fax* 661.327.9163 *website* pallab.org