Decrease Door to Provider Timeframe

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Author Note

This capstone was inspired by the long wait times at a local Emergency Department and the need to make a change.

Abstract

Emergency departments (ED), have long wait times that have increased each year while the timeframe has reached above the national average of 24 minutes (Bristol, et. al., 2014). The long wait times have led to patient dissatisfaction, safety issues, and health concerns (Chan, 2014). When a patient arrives to an ED, an internal metric clock that starts the moment they are registered. This clock is evaluated and placed into a national data base. When the clock starts the provider must see that individual in a timely manner based on their chief complaint. The national system that all emergency departments use to evaluate a patient is: Emergency Severity Index (ESI), and the patient's chief complaint. Emergency departments needs to decrease their door to provider timeframe and obtain one that is closer to the national average (Bristol, et.al., 2014). To obtain the goal of decreasing the timeframe EDs need to add a pivot nurse to the waiting room. A pivot nurse is an intake nurse that obtains the patients chief complaint, vital signs and assigns an ESI, the provider then signs up for the patient. The leadership teams of emergency departments are able to guide the process and keep the goal at the front of the vision for each day.

Keywords: pivot nurse, triage, leadership

Decrease the wait time

As emergency departments are becoming more crowded, the importance of a nurse responsible for facilitating the waiting room flow is evident. Extended door to provider timeframes cause patients to leave, become dissatisfied with the wait time, or worse, experience poor health outcomes. The capstone project goal of decreasing door to provider time in a Northern California emergency department will help improve safe patient outcomes by placing a pivot nurse in the waiting room. The project ED was located in Northern California with approximately 40,000 patients seen annually and 120 patients seen on a median average on a daily basis (DHS, 2016, para.1). The Northern California emergency department consists of twenty beds, which was split between a fast track and main ED side. The fast track accommodates the lower level acuity patients, such as the ESI 4 and 5, such as ear ache or sore throat. While the emergency side monitors and manages the higher acuity level ESI of 1, 2 and 3. The acuity level 1 and 2 chief complaints are of more severity, such as chest pain, stroke like symptoms or an acute injury and require immediate assistance.

Decreasing the current door to provider timeframe aligns with the vision by improving patient satisfaction and reducing the risk of poor patient outcomes. The ED staff had the same goal each day, which was to facilitate ED throughput times. The following EDs goal was to decrease their door to provider times and obtain a closer timeframe to the national average of 24 minutes (Bristol, 2014). The average timeframes in most EDs prior to implementing a pivot nurse have been above national time (Christensen, et.al., 2016).

Problem Statement

The following practice care settings has experienced long wait times that are above the national average timeframe. The long wait times have led to patient dissatisfaction, safety issues,

and health concerns. Long wait times have led to increased wait to be examined by a provider, delays in pain management, and deterioration of conditions in waiting room (DHS, 2016).

To reach the goal of improving the door to provider timeframe, the proposal is that a pivot (intake) nurse be placed in triage. Triage is asking the patient their chief complaint and obtaining the patients vital signs. The facility currently had a traditional triage nurse who performs the intake of the patient. A traditional triage nurse asks in depth questions and performs a quick assessment. The role of the pivot nurse is to increase efficiency with door to provider times (Welch, 2011). Adding a pivot (intake) nurse allowed the emergency department to visualize the amount of patients that were in the waiting room while actively engaging with the patients that are waiting to be seen or waiting on results of their tests. A pivot nurse improves the safety of the ED waiting room, opens up communication with the back of the ED and ensures no sentinel events occur (Booth, 2013; Chan, 2014; Bellow, 2014; Duncan, 2015). A pivot nurse who is placed in the waiting room evaluates the patients who are currently waiting to be seen, or waiting on diagnostic, and ancillary tests. Placing nursing staff in the ED waiting room ensures any change in a patient's status, which can happen quickly, and the pivot nurse can inform the staff in the ED of the changes. This new role needs to be a registered nurse who is experienced and has critical thinking skills.

Purpose Statement

The purpose of this project was to implement the pivot nurse role in the waiting room to decrease door to provider times. The project lead created a standardized protocol regarding the pivot nurse's role and responsibilities. The standardized protocol states the pivot nurse role must be a registered nurse, demonstrate critical thinking skills, attend the ESI class and pass the ESI exam. The ED nursing director assigned a pivot nurse in the waiting room to assist with

continual flow and monitoring of patients in the waiting. After a month of implementing the new process, the project lead and key stakeholders, re-evaluated the flow, timeframe and other concerns and determined what needed to be changed at that time. The influx of patients throughout a 24-hour day in the ED needed additional pivot nurses placed in the waiting room to assist with the influx of patients.

Project Objectives

1. Develop an evidence based process/protocol that integrates the role of the pivot nurse.

2. Implement the role of the pivot nurse in the ED waiting room.

3. Decrease door to provider metrics to less than 24 minutes.

Project Question

The project question was: Will implementation of a pivot nurse in the waiting room decrease the door to provider timeframe? Completing this project allowed the practice care setting to improve on the current timeframe of 45 plus minutes' (DHS, 2016), door to provider and reach a timeframe that was closer to the national average of under 24 minutes (Bristol, et. al, 2014).

Literature Review

Traditional Triage Process

Pivot nursing was implemented over a decade ago in an attempt to decrease the wait time in the ED (Christensen, et al., 2016). A pivot nurse is responsible for the intake of patient's complaint and information upon arrival. Throughout the last decade, the traditional triage nursing process began to be overburdened with more intake questions (Dilts, 2011). The traditional triage nurse gathers more detailed medical history information from the patient that requires completion before being seen by a primary care provider. Examples of the questions that were added

included: travel history and medication reconciliation (Sayah, et al., 2014). The intake process

extends the amount of time taken to complete a triage, especially when the patients are taking

multiple medications. Although the information was an important part of the patient's plan of

care, initial intake was not the ideal time for these particular questions. The purpose of triage was

to immediately assess if the patient was critically ill or not. The majority of EDs utilize the

Emergency Severity Index (ESI) (Christensen, et al., 2016; Booth, 2013; McDonough, et. Al.,

2013). The level of severity is based on a patients ESI which is categorized 1-5; with one being

the highest severity and five being the lowest. On average, level three ESI patients are the most

commonly seen in the ED. The traditional method of triage creates a minimum of one hour

delays for level three ESI due to waiting on the ancillary departments and the results (Chan, et.

al, 2014; Duncan, 2014; Martin, 2012). By improving the intake process with the pivot nurse, the

ED metrics was improved. Studies showed that improving the intake process improved the ED

throughput. Research studies showed that pivot nursing had helped decrease over triaging, which

had proven to be a leading cause of unnecessary time spent in the department (Christensen, et.al,

2016, Miller, 2011).

Pivot Nurse and ED Metrics

Research showed that EDs leadership teams began to step back and evaluate each process

of the patients ED metrics starting from the time the patient checked in at registration to the time

of discharge or admission (Herron, 2017). This became known as the ED metrics which analyzed

each step. This information allowed the ED to understand how the department could improve

with regards to each step of the patients ED metric timeframe (Herron, 2017). On average, the

traditional triage process takes approximately five to fifteen minutes (Bellow, et .al, 2014;

Martin, 2012). The traditional triage process asked in depth questions regarding travel, past

medical history, and medications. This process tends to be a longer process and can cause the emergency department triage process to become clogged. If more than one patient entered the ED at the same time, another pivot nurse was added. This process continued to keep the ED metrics below national average of 24 minutes (Herron, 2017; Christensen, et. al, 2016).

Leadership team, which consisted of the DNP student, CMO, Chief ED, ED educator, ED director, IT specialist, and ED charge nurse, evaluated how a quality improvement project would benefit the ED metrics. After evaluating the timeframes, a pivot nurse procedure was decided upon to decrease the ED metrics on the front end of the department (Welch, 2011; Bellow, 2014). Implementation of a pivot nurse has proven to decrease door to provider timeframe as well as the left without being seen. This one change in the department created a ripple effect on changing the entire ED metrics. The leadership team discovered that enthusiasm and continuous communication was a key factor in success of changing the process in the department and creating a new culture (Christensen, et.al, 2016; Bellow, et.al, 2014; Martin, 2012).

There has been significant research performed to help implement a process in decreasing ED wait times. Prior studies had identified many benefits to adding a pivot nurse to their ED waiting room to help facilitate with decreasing the door to provider timeframe (Christensen et.al, 2016, Welch et. al, 2011; McHugh, et. al, 2011; Mikkonen, et. al, 2017; Sayah et. al, 2014). After proper education which consisted of, reviewing literature, teaching ESI, and a standardized protocol that was slowly implemented for the pivot nurse role that proved to help change the culture of a triage nurse. The pivot nurse makes the decision to inform the department on the acuity of the patient and where the patient was seen, either the low acuity side or not (Chan, et .al, 2014; Makway-Jones, et. al, 2013; McDonough, et. al, 2013; Miller, 2011).

ED Metrics and Patient Safety

The benefits to decreasing door to provider timeframe had improved patient safety and satisfaction by maximizing utilization of the lower acuity area of emergency departments (Chan et.al, 2014; Wykes, 2013; Dilts, 2011; Christensen et al., 2016; Welch, 2011; Booth, 2013). The lower acuity level patients could be seen in a timely manner but could also clog the ED if the providers became burdened by the higher acuity patients. The role of the pivot nurse allowed the ESI 4 and 5 level patients to be seen faster by placing them in the lower acuity level side of the ED. The goal for all EDs have been to keep the waiting room empty and the patient flow seamless. This goal had been difficult to achieve due to many factors that had created a higher volume. Clinics across the United States had closed down which had caused an increase in the volume in all EDs (Christensen, et al., 2016). The Affordable Care Act had played a significant role in the increase in volume in the EDs due to patients were not able to be seen by their primary doctor. This increase in volume had forced the leadership teams to think outside the box and find new processes that would allow the patients to be seen in a timely manner. Implementing a pivot nurse had proven to help decrease the door to provider timeframe and had allowed collaboration as a team (Christensen, et al., 2016; Chan, et al., 2014; Bellow, et al., 2014; Backer, 2002; Gold, et al., 2012; Makway, et al., 2013). Team work with strong communication skills improved the role of the pivot nurse to be successful.

Studies showed that one small change could have a lasting effect on the entire department (Martin, 2012, Jones, 2013, McDonough, et al., 2013, Miller, 2011, Backer, 2002). Leaders who step back and look at the macro vision first and then focuses in on the micro level of the process, could make small changes that creates a magnitude effect. This could lead to changing the culture of the department. By creating a new culture, only improved the department and

optimized patient centered care (McDonough, 2013; Bellow, et al., 2014; Chan, et al., 2014).

Focusing on the strengths of each staff member created a team that could function as a whole.

Studies showed that the most cohesive and successful teams possessed a broad scope of strengths

(Gallop, 2008). The ED educator strength cut and dry CMO strength; communication, ED charge

nurse strength; calm, ED director strength; quick thinker.

Ultimately, improving patient flow from beginning to end while decreasing the over-

crowding of the ED improves patient satisfaction and safety outcomes (McHugh, 2012;

McDonough, et al., 2013). Patient satisfaction is important to any business, word of mouth

spreads fast whether it is a negative or positive comment. Emergency Departments are notorious

for long wait times which can elevate stress levels. Ensuring that each patient had a better

experience only improved teamwork in the department and improved collaboration. When staff

acknowledged that the patients needed to be seen by a provider, treated, and discharge was when

the culture began to change. Creating a vision started with the project lead and the key

stakeholders.

Emergency Room Wait Time Ratings
Time until initial exam: **0h 18m**

Non-critical cases where patient is discharged have total
visit time of **2 hour and 33 minutes**

Serious cases where patients are admitted have **3 hour
and 10 minutes** to be admitted, then an additional **2 hour
and 36 minutes** delay before leaving to their room.

Patient Ratings
While customer satisfaction surveys don't necessarily
reflect the quality of care provided at the hospital, it can
identify some areas that are important standards to
maintain, such as managing pain and maintaining a
sanitary environment.

Overall Rating: AVERAGE
Dameron Hospital 4.5 out of 5 based on 19 ratings. 19 user
reviews.

63% of patients rate the hospital excellent

Positive Patient Ratings
Some patients praise:
Nurses usually take time to communicate well
Doctors usually communicate well with patients
Rooms and facilities are usually clean

Figure 1: Example of survey results

Integrating concepts and theories that had been taught during the training sessions to

implement the pivot nurse; improved the timeframe and were able to be obtained allowing the

test emergency department to reach national average of 24 minutes. There was a consensus view and proof that placed a pivot nurse in the ED had decreased door to provider timeframe significantly. The majority of research studies had resulted in a reduction in time from a range of 17.7% to 50% (Christensen, et al., 2016; Backer, 2002; Booth, 2013; Duncan, 2015; McHugh, et al., 2012). This reduction in timeframe inadvertently decreased the left without being seen (LWOBS) patients. The LWOBS patient numbers were investigated through the picis system (hospitals computer system) and were found that the number of patients that were registered to be seen and LWOBS numbers improved by implementing a pivot nurse. This new role was found to be a viable alternative to traditional triage and had proven that nurses could accurately guide patients to the correct level of care with minimal information.

Methodology

The first step of the literature review search started by using different search engines found on the internet and the library database. The key words that were used in the search were, pivot nurse, decrease provider timeframe, patient satisfaction, safety, and improving flow, it was important to narrow down the search. Narrowing down the search allowed a more detailed focus to find articles that were pertinent to the project. The search engines that were used during the research were, CINAHL, PubMed, Medline, EBSECOhost, Journal of Emergency Nursing, and Google. Starting the search was the first step in the process and finding different articles and papers for the literature review. Typing in the words pivot nurse found 444,000 results. The search needed to be narrowed down to pivot nurse in the ED, which then resulted 374,000. The words were then changed from the spelling of ED and spelled out emergency department and the result was then 159,000. Further narrowing needed to be continued by adding onto the search decrease door to provider timeframe, the result was then 99,200. The search continued to be

narrowed down by typing the words, decrease door to provider timeframe, the result was much

higher, 17,600,00. All of the results so far were from the Google search engine. The library

database was then opened up by starting at the beginning by typing pivot nurse in the ED, the

result was 2,904 through MEDLINE, CINAHL results were 22, PubMed results were five, these

results were much more manageable to tackle. After researching the importance of the pivot

nurse, the search had to continue by typing in decreasing door to provider timeframe. After

typing this into the library database for PubMed, results were zero, MEDLINE, results were

11,456, it needed to be narrowed down. Adding the words, in the ED, results were 2,209.

CINAHL resulted 68. Each database was very useful in helping find adequate amount of

information for the capstone project. PubMed and MEDLINE were the most useful search

engines and highly recommended for future research projects.

Discussion

A standardized protocol allowed the department to improve the door to provider

timeframe, the staff was educated in the process, and leadership skills were developed to help

implement the protocol each day without deviation. At the current time, the practice setting's

local door to provider timeframe was near one hour. The providers did not have access to the

patients chart until they were placed on the tracker (computer board). Research continued to

prove adding a pivot nurse to the flow would decrease door to provider timeframe.

In nursing, finding a gap in knowledge was the problem, the purpose was to focus on the

study which would give the desired outcomes. The problem for the project, was the door to

provider timeframe at the local ED was above the national average. The timeframe needed to be

decreased to reach the national average of 24 minutes. This could be obtained by placing a pivot

nurse in the ED waiting room.

Findings

   Pivot Nurse. The medical field is always in constant change and the emergency

departments need to look at implementing changes to improve the flow to keep up with the

times. "In most EDs, there is linear processing…linear processing guarantees waiting" (Gold,

2012). The traditional triage nurse asks multiple questions, assesses the patient which is a

lengthy process. The new pivot nurse asks six questions and has the primary nurse perform the

assessment. Research has proven that placing a pivot nurse in the waiting room is beneficial

during the influx of patients (Booth, 2013). Emergency departments are looking at their front

door and how it can be improved. Many EDs have trialed the parallel process for triage with a

pivot nurse which has proven to decrease timeframe (Riley, 2013). Pivot nursing is becoming

the new alternative to create a faster process. EDs have realized the numbers have increased

since the affordable health care act. More patients are being seen in the ED, there are less

primary care doctors and wait times are long. Improving door to provider time is of the utmost

importance to ensure that patients are being seen in a timely manner. (Christensen, 2016). The

facility at Vancouver Health chose to utilize a pivot nurse, which drastically improved their triage

time from 30 minutes to 7 minutes (Chan, 2010). Therefore, it was hypothesized that placing a

pivot nurse in the waiting room will decrease the door to provider timeframe.

   Decrease timeframe. Backer explains that understanding the patient care process at your

facility will help identify bottlenecks and understand their root cause. This will then improve

your patient flow and improve timeframes (Backer, 2002). Emergency departments need to know

what area of their department is becoming backed up and have a plan in place to resolve the

issue. "It is time to rethink the flow of the ED" (O'Shea, 2007). In today's medicine departments

cannot continue to run the same as in the past. When you fix the front door you will improve the

department's timeframe (Welch, 2011). Each study has had the same focus, improve the front door to improve the departments timeframe. "Decrease Emergency Room crowding by improving flow and decrease door to provider timeframe" (McHugh, 2012). "Improving patient flow essentially means patients spend exactly the right amount of time at every juncture in their journey through an organization, when you improve flow, you can serve more patients, with less effort and you can serve them better" (Martin, 2010). Therefore, it is hypothesized that improving the front end of the ED will improve door to provider timeframe.

Implementing standardized protocols for the ED, patient flow was one of the key components to improve door to provider timeframes. EDs have influx of patients each day that can cause the back end of the ED to become bottlenecked. Improving the front end of the ED allowed the department to continue to run efficiently. Research has proven that placing a pivot nurse in the waiting room decreased the door to provider time, improved patient safety and satisfaction (Christensen, 2016).

Theoretical Framework

Each year there has been an increase in the amount of patients that enter the doors of the emergency department which had caused a challenging environment for the ED than over the past decade (DHS, 2016). Literature has proven that by adding a pivot nurse in the schematics of the daily flow will decrease the door to provider time. Implementing a change in the department established by utilizing Kotter's Theory, eight step of change (Kotter, 2012). Leadership was the first step in making a change, by utilizing a positive leadership role that conveys open communication skills. change was the only option to improve the daily process (Rath, 2008).

John P. Kotter was a retired Harvard Business School professor who developed his theory of change. His theory has eight steps and has proven to be definitive throughout the decades.

Kotter's book "Leading Change" was published in 1996 and has led many businesses with successful change (Kotter, 2012). The theory states that each step must be performed appropriately to be successful. Applying Kotter's Theory to the project allowed the staff to make adequate changes in the daily flow of the ED. The process of placing a pivot nurse in the waiting room was a new position and a new thought process. Nurses are used to the traditional way of triaging a patient and changing this process the staff needed to be retrained. Kotter explains his theory in each step and by applying Kotter's Theory to the new process allowed the staff to understand the change, build a team, and empower each other. Educating the staff on the importance of the pivot nurse helped everyone understand the reasoning, literature review, statistics, and how the position changed the door to provider timeframe.

Kotter's eight steps in theory are as follows:

1. Create a sense of urgency.

2. Build a guiding team.

3. Develop a change vision and strategy.

4. Understanding and buy in.

5. Empower others.

6. Short term wins.

7. Don't let up—be relentless.

8. Create a new culture (Bemker, 2016, pg. 120).

Eight Steps Defined

For change to happen, the entire team needs to want to make a difference, a **sense of urgenc**y was needed to make the change, this was step one in Kotter's Theory. Each nurse, provider, and ancillary department must understand the urgency and reason for the change.

Educating the staff that long door to provider timeframes decreases safety, patient satisfaction, and can cause sentinel events. A sense of urgency was ignited when another patient had died in the waiting room at another hospital. Motivation was the spark and positive leadership ignited it with emotional intelligence. Leadership understood and examined the potential threats that developed throughout the change process, examined how the threats needed to be handled and being honest with the team. Placing a pivot nurse was challenging for some staff members as they did not want to be in a busy waiting room with patients constantly questioning their wait time, this was a threat to the project.

Step two involved **building a leading team** that would have effective leaders that would influence others and empower them. Identifying key stakeholders that were committed to the change was the first step of developing a leading team. Evaluating the leaders that would become the stakeholders and check for any weak areas to ensure there was a good combination of leaders. The leaders were convinced that the change was necessary and each leader would be given a title. The pivot nurse on each shift would be a positive leader and be labeled a lead nurse. The pivot nurse was decided on based on their experience, critical thinking skills, and prove of ESI exam.

Step three developed a **change vision and strategy** for the project to be successful. The team understood why the change needed to happen and that was explained to them in a short caption. The change that was needed at the project practice setting was reduction of door to provider timeframes that meet the national averages. The change in the flow in the department was to add a pivot nurse to the waiting room. The nurse would perform the ESI, and chief complaint, and then place the patient on the computer tracker system so the provider could then perform a medical screening exam (MSE).

Step four, **understanding and buy in,** was successful by communicating the vision to the team. The buy in was successful because of the poor outcomes that another emergency department had experienced. The leaders discussed the vision change often and addressed any concerns in the operation. Training the nurses to become a pivot nurse and change their habit of a traditional triage nurse to allow them to understand the importance of this key position and inspire them to keep the waiting room empty and moving at all times.

Step five **empowers** others and find the barriers or obstacles that was causing the project not to be successful. Identify anyone who may be resisting the change and help them to see why it is important to make the change. Seasoned nursing staff were found to be against the new process as they continued to believe that they should be making a more in depth assessment and investigating the chief complaint. Reminding all staff that the department worked as a team, empowered the seasoned nurses to become strong pivot nurses and a benefit to the team. Remove the barriers and continue to check for obstacles that may cause the project from moving forward. Evaluate the pivot nurse that was working and find out the barriers he/she was encountering.

Step six **short term wins** motivated the team to keep the long-term goal. Evaluating each nurse who had been in the pivot role and find out the pros and cons. Rewarded each staff member that successfully implemented the role and motivate others to keep meeting the target goals.

Step seven **don't let up-be relentless**, as each staff member performed the duty of a pivot nurse analyze what needed to be improved and build from their momentum. Allowed the team to bring in new ideas that may have helped implement the change. Allowed open communication built a stronger team.

Step eight **create a new culture** included training the new staff on ideas, values and leadership. The DNP student and key leaders lead the team in the new culture and continued to move forward. Each day and week, ideas, and everyone's thought process were evaluated to ensure the new culture could become permanent.

Kotter's Theory allowed the emergency department to make the changes that were needed to improve patient care, safety, and flow. The ED staff bought-in to the new process by creating a sense of urgency and developing a vision. The project practice setting had door to provider timeframes that were way above the national average, geographical challenged, design space challenges, and high volume of patients each day. Each patient that left without being seen was a patient the department lost as productivity and possible admit to the hospital which meant decrease in revenue. Improving flow of the department with the challenges faced allowed the facility to improve revenue. Empowering the team meant having leaders in the waiting room, fast track, and main ED. Creating a new culture allowed the staff to make the change permanent.

Placing a pivot nurse in the waiting room was the new change. According to the evidence found in the literature review, this one small change had made a positive improvement in door to provider times. Decreasing the door to provider timeframe was the goal for the department and rethinking the flow was just the beginning. In a seminal review at Mary Washington Hospital, the implementation of a pivot nurse in their ED decreased their door to provider time to less than 30 minutes (Welch, 2011).

Application of Theory to Project

Kotter's Theory allowed the project practice setting to make the change that was needed to run a more efficient ED. Transformational leadership style allowed each member to know that the staff members were important and needed to make the change. Teamwork, communication,

and leadership allowed the department to be successful in decreasing door to provider time. The

DNP and leadership team created a board in the nursing lounge and placed hand written stars to

acknowledge staff.

Description of Project Design

This project design aimed to decrease door to provider timeframe utilizing a Quality

Improvement (QI), approach by applying evidence based methods to improve clinical and

healthcare system outcomes. The quality improvement project helped improve the current

timeframes in the ED. Improving the timeframe by utilizing a pivot nurse allowed the ED to

improve on throughput (Herron, 2017).

Population of Interest & Stakeholders

The project population was diverse. The project plan included patients who were

registered to the ED and seen by a provider. Patient's identity was protected from the public as

there were no patient identifiers utilized. When a patient was registered into the ED to be seen,

the timeframe was placed in the ED metrics database.

The lead stakeholders are the Chief of ED, was chosen to be a lead stakeholder to help

guide and facility meetings with the DNP student. The CNO, was a lead stakeholder, any change

in the hospital must be addressed through a "request for change". The CEO, was a stakeholder,

he was involved with any change process throughout the hospital. The IT specialist, was capable

to help the DNP student understand the intricate details of the system when collecting data. The

ED Educator, was chosen to be a stakeholder, she helped facility education for the nursing staff

regarding policy, change, new process. The Charge Nurses, were lead stakeholders, they helped

facilitate communication to the nursing staff. Other stakeholders included, the Chief Director of

ED (external facility), ED metrics consultant, and the ED MD specialist on ED flow. Each

stakeholder was chosen because of their connections to each department and computer specialist.

Together, the implementation of changing the current timeframe of door to provider and reaching

a timeframe that was below national average, would be obtained by engaging the entire team,

and evaluating the new timeframes with the new change process.

<div align="center">**Recruitment Methods**</div>

This was a quality improvement project that studied the ED metrics related to the door to

provider times. There were no recruitment methods for this project. The focus was on the

timeframe.

<div align="center">**Tools and Instrumentation**</div>

The ED metrics are gathered for each patient that registers to be seen in the ED and

placed in the Picis computer system. The metric was time and this was evaluated to ensure that

patients are being seen in a timely manner. The timeframe started when the patient registered and

stops when the provider assigned self to the patient (Christensen, et. al., 2016). The patients were

all registered in the same manner whether they arrive via ambulance or walk-in. The timeframe

was measured in a 24-hour increment that was evaluated on an hourly basis. Time was the tool

that was being used to measure the timeframe from door to provider each day. The instrument

that was utilized to gather the timeframe was the Picis computer system (DHS, 2016).

"Measurement is the most fundamental tool in the hospital leader's toolkit to identify and

mitigate variation" (AHRQ, 2014, p.1). In this particular project, the instrument that was utilized

to gather the door to provider time was the Picis computer system. Picis tracks and generates the

door to provider times and provides precise averages for the ED.

Data Collection Procedures

The door to provider averages were abstracted from the Picis system daily and at the end of the week. The data was evaluated at week number two, four, and six. This information was obtained by gathering the ED metrics, regarding door to provider timeframe, for each patient that was registered into the department. There were no direct patient identifiers accessed. The data was compared to the pre-pivot nurse ED metrics. The following technique created a robust convenience, that on average 120 patients were seen daily by evaluating the post pivot nurse timeframe.

Intervention/Project Timeline

The anticipated project timeline was approximately six weeks. The following breakdown of the project timeline. The timeframe numbers in the ED with no pivot nurse was already gathered, this timeframe was utilized to evaluate and compare the timeframes pre and post pivot nurse.

The project timeline was six weeks.

1. Week 1: ED metrics with a pivot nurse in the waiting room for six hours. Data was gathered each day and at the end of the week to compare the timeframes with and without a pivot nurse.

2. Week 2: ED metrics with pivot nurse in the waiting room for 24 hours was gathered each day and at the end of the week. This information was compared to week 1.

3. Week 3: ED metrics continued with pivot nurse and gathered each day and at the end of the week to continue to compare timeframes with a pivot nurse.

4. Week 4: ED metrics, if any changes were made in week three from the information gathered from week two.

5. Week 5: Continue to track ED metrics.

6. Week 6: ED metrics, compare and contrast each week. Data was then placed into a Mann Whitney U test, which is a test that utilizes an intervention to prove the analytical statistics.

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Ethics and Human Subjects Protection

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This was a quality improvement project, there were no patient identifiers or markers. The ED metrics was the only data that was extracted. Data generated from this project was public knowledge that was reported to CMS and publicly available for review. This project has no perceived negative impact on the ED staff, patients or others associated with the ED.

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Plan and Analysis/Evaluation

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The ED metrics timeframe were evaluated and analyzed. The analysis process was performed by using a Mann Whitney U test. Mann Whitney U test are used to display the distribution of a single continuous variable with an intervention at Time 1 and Time 2. The intervention was the pivot nurse. The timeframe was gathered daily and evaluated each week, comparing it to the national average of 24 minutes. Permission had been granted by verbally asking to conduct the DNP project, which consisted of the CNO, CEO, ED educator, ED director, and the ED chief. The stakeholders had granted permission to evaluate the ED metrics and placing a nurse in the waiting room. The pre and post implementation was evaluated by the DNP student. The information that was gathered was the ED metrics each day and each week for six weeks. The ED Chief MD had granted permission to gather information from the database from the picis.

Significance/Implication for Nursing

The significance for nursing allowed each nurse to utilize the emergency department metrics by evaluating the numbers that were gathered from the pre pivot and post pivot nursing timeframes. Decreasing the timeframes by utilizing a pivot nurse helped the staff visualize the reality of the quality improvement plan. The goal was to decrease the current wait times in the ED and obtain a timeframe below national average (Bristol, et al., 2014). By decreasing wait times, the department decreased mortality, improved efficiency and ensured no sentinel event occurred (Herron, 2017). Decreasing the variabilities in the department and addressing the plan each day by utilizing the key stakeholders allowed a successful implementation. This quality improvement project was a change in the current culture and resistance was natural, but showing the department the importance of the needed change helped decrease the desire to resist. Making change is sometimes difficult and resisting change is sometimes easier than accepting the new process. Seasoned nurses were more apt to resist rather than the newer ones. A leader who can walk the talk will lead by example (Porter, 2015). A leader must remember that health care is timely, efficient, and that appropriate timeframes are determined by the characteristics of the delivery of the system (Porter, 2015). As problems were identified in the department, the DNP student and stakeholders developed solutions that overcame failures.

Project Analysis Aim

The aim of this project study was to determine the effectiveness of using a pivot nurse intervention on improving the emergency department (ED), door to provider timeframes at a small community hospital. A before and after study was performed after implementing the pivot nurse to weigh the outcome of the timeframe door to provider. A convenient small sample size of

pre-intervention process compared to the post-intervention process. Individual control charts were used to assess process stability.

Post intervention there was a statistically significant decrease in the mean door to provider timeframe from 18.5 vs 3.5 minutes. All other variable including ambulance traffic, left without being seen, direct admits were not used in the intervention.

The leadership developed a clear process map and introduced small enhancements that were sustainable over the long process of decreasing door to provider time. Patient flow through the ED was influenced by the DNP student and leadership team both structural and educational that evaluated all factors, thereby developing a readiness for the new change. The ED waiting room timeframe had been linked to many unsatisfactory patient outcomes (cardiac, septic, and seizure) as well as patient satisfaction. The timeframe from when a patient arrived to the ED, to the time when a provider evaluates the patient is known as the door to provider timeframe, which is the component used in the study.

Study, Design, and Setting

The study was conducted at a small community ED in the Northern California region. Patients were triaged by utilizing the ESI system. The pre and post intervention compared the two timeframes of a convenience sample of thirty charts (pre and post). A Mann Whitney U test was used to compare wait times pre and post intervention.

Methods, Measurement, and Outcomes

Prior to the implementation of the pivot nurse, a convenient sample of 30 charts were tracked by the IT specialist; patient arrival time (the time the patient arrived to the ED door and the registration clerk placed the data into the computer), and the provider time (the time the provider assigned their name to the patient that was in the computer). Similarly, after completing

the intervention, another convenience sample of 30 charts were tracked by the IT specialist. In

both samples, the 30 charts were collected by the IT specialist utilizing the timeframe without a

pivot nurse and with a pivot nurse.

Analysis

The SSPC Survival Manual, 6th Edition, was used for data entry and analyses into the

Microsoft Excel program. To compare the intervention process of a pivot nurse, the Mann

Whitney U test was used for the categorical variables. A Mann Whitney U test is used for testing,

the differences between two independent groups on a continuous measure (Pallant, 2016, pg.

230). Comparing door to provider timeframe, a P-value of <0.05 was used to indicate statistical

significance. The data were skewed, so median wait times and the range of wait times observed

are reported. The range was used because bringing down the maximum wait time, not just the

median, was of critical importance.

Results

In the pre-intervention process, 30 charts were evaluated and compared to the post-

intervention process with the similar distribution of patients among the ED. The implementation

of a pivot nurse led to a significant improvement in the mean door to provider timeframe which

dropped significantly from the pre-intervention. The median waiting time dropped from 18.5

minutes without a pivot nurse to 3.5 minutes' post-intervention (U=5.75, N=30, P<0.0001);
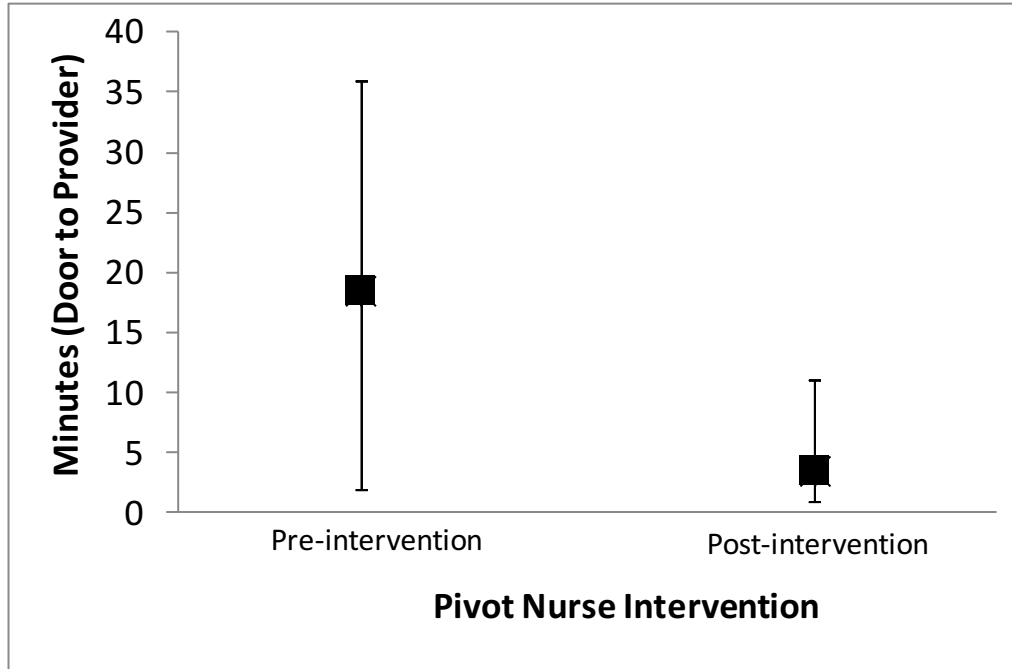
Figure 2).

Figure 2 Median and range of waiting time pre and post intervention.

The hypothesized decrease door to provider timeframe by placing a pivot nurse in the waiting room was proven to be successful. The results in the study align with previous published literature and was evident that the pivot nurse was proven to decrease door to provider timeframe below the national average of 24 minutes.

Findings and Significance

In our setting, the Kotter theory was effective in reducing the door to provider timeframe through the implementation of a pivot nurse. The study first looked at the impact of using the Kotter theory methodology on the reliability of the ED intake process and measuring the timeframe of door to provider. The use of control time, chart, and pivot nurse in the healthcare setting impacted the reliability of the process. The DNP student and leadership team was able to detect changes and utilized a process to improve the project. The success of the change can be attributed to several factors that are essential for successful Kotter theory initiates in the ED. The

department initiated the urgency for change and highlighted the potential for safety in the waiting room by utilizing and building a guiding team. Developing a vision and stratifying the mapping process of flow allows the department to buy in and empower others. The front-liners (pivot nurse), were the stakeholders who led the daily goal of decreasing the door to provider timeframe. In addition, discussion, interventions, and integrating nursing feedback helped develop each change process and management of the flow in the department and keeping the door to provider timeframe below national average of 24 minutes.

Limitations

The limitations of the project were the convenience samples to examine the impact of the intervention to the study. The shift selection that matched the distribution of patient visits in the pre-intervention process was able to be matched for the post-intervention process. The sample size was small which may have limited the ability to detect the statistically significant differences in the pre and post intervention timeframe. The project relied on the picis computer to upload the data timeframe.

Dissemination

Through a collaborative effort with my stakeholders in the Northern California department, the results of this project will be presented to the hospital administration for further dissemination. The Chief ED MD, and ED director will post the results and the poster, that was created will be hung in the nursing lounge. The DNP student will attend all meetings that pertain with the pivot nurse education or guidance to answer questions. This will allow the department to stay up on any recent literature or findings. The DNP project poster, power point, and paper will be submitted to the Journal of Emergency Medicine and Emergency Nursing Association for further dissemination.

The results of the Mann Whitney U test proved that placing a pivot nurse in the waiting room decreased the door to provider timeframe. The project reflected the importance for the implementation of the pivot nurse role for patient safety and satisfaction. Kotter's eight step theory proved useful in developing the flow charts, throughput, communication and leadership skills throughout the duration of implementing the pivot nurse process. The quality improvement project showed positive increase in support throughout the department during the duration of the planning and once the project was implemented. The ED staff have demonstrated strength in their leadership and communication skills due to the new implementation of the pivot nurse. Nursing staff feel more empowered to quickly make decisions on a patient's severity and quickly alert the providers.

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