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Providing an Evidence-Based Medical Screening Examination On Patients Who Present to the Emergency Department with Non-Emergent Complaints: a Quality Improvement Initiative

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Disclaimer

Providing an evidence-based medical screening examination on patients who present to the emergency department with non-emergent complaints:

A quality improvement initiative

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Executive Summary
Providing an evidenced-based medical screening examination on patients who present to the ED with non-emergent complaints

Problem

Emergency Department (ED) overcrowding is a growing concern for hospitals across the US. ED overcrowding contributes to prolonged wait times and an increase in the number of patients who leave before or without being seen (LWBS). The number of patients using the ED for non-emergent complaints is expected to continue to rise and some hospitals are utilizing a different model to deliver care (Nash, Nguyen, & Tillman 2009). The problem statement described in this project is: In (P) adults utilizing the ED for non-emergent complaints at a local hospital in the southern US, (I) will providing a mid-level provider in triage to perform an evidence–based medical screening examination (MSE) on non-emergent patients (C) when compared to no MSE being performed, result in (O) less wait times in the ED and decreased number of patients who LWBS.

Purpose

The purpose of this capstone project was to designate a mid-level provider in triage to perform an evidence-based MSE on adults assigned a non-emergent acuity level in the emergency department.

Goal/Objectives

The goal of this project was to decompress the ED and increase efficiency by allowing non-emergent patients to receive care in the most appropriate healthcare venue. The objectives of this project were to: evaluate whether placing a mid-level provider in triage to perform an evidence-based MSE reduced length of stay and the number of patients who LWBS, educate stakeholders about the new model of care, redirect non-emergent patients to the appropriate venue of care, and re-evaluate wait times in the ED and the number of patients who LWBS post-implementation of the MSE process.

Plan

The plan involved hiring four mid-level providers and placing them in triage to perform an evidence-based MSE on non-emergent patients. Financial counselors were hired as they would be instrumental in discussing treatment options for those patients being screened to another venue of care. A quasi-experimental study utilizing a pre and post design and retrospective data collection was used to determine if placing a mid-level provider in triage made a difference in wait times and patients who LWBS.

Outcome and Results

The data collection included ED length of stay and the percentage of patients who LWBS and was collected on 100 non-emergent patient's pre and post implementation of the MSE (n=200). A one-sample t-test analyzing the length of stay was significant with a mean of 3.409 (p=0.000, CI 95%), lower limits 3.409 and upper limits 3.6909. A paired samples t-test analyzing the means of the LWBS rates pre and post placing the midlevel in triage was significant with a mean of 3.28 (p=0.000, CI 95%, SD 1.96) lower limits 2.034 and the upper limits was 4.52. Placing the mid-level provider in triage significantly decreased the number of patients who LWBS. The LWBS rate pre-MSE was 6.71 and 3.43 post MSE. A one-way ANOVA between groups comparison of length of stay by shift was not statistically significant with p=0.131, but was clinically significant.

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This doctorate of nursing practice (DNP) capstone project involved placing a mid-level provider in triage to perform an evidence-based medical screening examination (MSE) on adult patients who presented to the emergency department (ED) with non-emergent complaints. The investigator for this project has spent most of her career employed in EDs, and has experienced first-hand the effects of ED overcrowding. ED wait times and the percentage of patients who leave before seeing a provider or leave without being seen (LWBS) were measured before performing the MSE in triage and after performing the MSE in triage. An emergency condition is defined as an acute condition that if not treated immediately, could reasonably be expected to result in serious disability or impairment of bodily functions (Nash, Nguyen, & Tillman, 2009).

Problem Recognition and Definition

ED overcrowding is a growing concern facing hospitals on a daily basis. This overcrowding has presented challenges to providing high-quality care in EDs worldwide and is a critical problem affecting more than 114 million patients annually in the United States (Johnson & Winkelman, 2011). An increased number of patients with higher acuities are seeking care in EDs, while the availability of hospital beds has decreased. Many EDs have inadequate space and staff to handle the influx of patients. Many patients are placed in hallways or boarded in the ED while waiting for an inpatient bed (Knapp et al, 2004). Despite these challenges, the “Emergency Medical Treatment and Active Labor Act (EMTALA) requires all Medicare-participating hospitals to provide a medical screening examination (MSE) for all patients who present for care to the ED regardless of their ability to pay" (Eastman, 2001). In the primary investigator’s experience, the mention of EMTALA has been associated with a negative connotation among providers. Some providers have verbalized

frustration of treating non-emergent patients in the ED and the fear of committing an EMTALA violation by referring non-emergent patients to another facility.

Purpose Statement

The purpose of this capstone project was to provide an evidence-based MSE in triage by mid-level providers on eligible adult patients who presented to the ED with non-emergent complaints. The primary investigator was concerned with the subsequent effects this initiative had on wait times and the number of patients who left before seeing a provider.

Problem Statement

Overcrowding of EDs produces negative effects. Overcrowding places the entire organization at risk and contributes to long wait times. These lengthy wait times promote patient dissatisfaction, and for patients with acute injuries, it could mean prolonged pain and needless suffering (Knapp et al, 2004). The primary investigator had observed another consequence of ED overcrowding. Ambulance diversion posed a huge safety concern for communities, as some hospitals had exercised this option when their ED was at capacity. Ambulance diversion represented a failure of the health care system to adequately address the issue of overcrowding. Another consequence of long wait times in the ED is that some patients LWBS by a provider. The fast paced practice environment within the ED contributes to staff burnout and high turnover rates (Knapp et al, 2004).

Many patients present to the ED with non-acute problems. The reasons cited by patients for using the ED for non-acute conditions include: lack of knowledge about community resources, lack of funding for health care, and convenience (Hunt, Weber, Showstack, Colby, & Callahan, 2006). Hunt et al, (2006) further examined characteristics of

those who frequently used the ED and found the majority of adults with frequent visits reported poorer general health, poorer mental health, and a family income below the poverty level. Many patients view the ED as a safety net for the inability of the current health care system to handle the health care needs of the population. With the number of patients using the ED for non-emergent complaints expected to continue to rise, some hospitals are utilizing a different model to deliver care (Nash, Nguyen, & Tillman, 2009).

PICO Statement and Research Question

This primary investigator's capstone project involved the initiation of a different model of providing emergency care. To guide the research question for the capstone project, the population, intervention, comparison, and outcome (PICO) format was utilized. This project was an evidence-based practice (EBP) project in which a quality improvement plan, program evaluation, educational, or standard of care intervention was completed. In most cases, a pre-test and post-test evaluation assesses the effect of the intervention. The project was internal to the agency and informed the agency of issues regarding health care quality, cost, and patient satisfaction. The results of this project were not meant to generate new knowledge or be generalizable across settings but rather sought to address a specific population, at a specific time, in a specific agency. These projects translate and apply the science of nursing to the greater health care field. Capstone projects utilize the acronym "PICO", rather than stating a formal research hypothesis. The acronym stands for: Population or Disease (P), Intervention or Issue of Interest (I), Comparison group or Current Practice (C), and Outcome (O) and is usually framed as a question (Melnyk and Fineout-Overholt, 2011).

The question this study seeks to address is: Does a mid-level provider in triage performing an evidence-based MSE compared to not performing a MSE, result in less wait times in the ED and a decreased number of patients who leave before seeing a provider?

P: Adults utilizing the ED for non-emergent complaints of Emergency Severity Index (ESI) levels four and five at a local hospital in the southern US.

I. Mid-level provider triage system.

C: No MSE being performed by mid-level providers on non-emergent patients.

O: Non-emergent adult patients (those categorized as ESI level four or five) will be triaged to a more appropriate venue of care resulting in less wait times in the ED and decreased number of patients who leave before seeing a provider. In summary, the research question is: Does a mid-level provider in triage performing an evidence-based MSE compared to not performing a MSE, result in less wait times in the ED and decreased number of patients who leave before seeing a provider?

Project Significance, Scope, and Rationale

The primary investigator of this capstone project is employed at a hospital in the southern United States, with an annual ED volume of 52,000, while 13,000 of those annual ED visits are categorized as non-emergent (EPIC Insight Reports 2013). Sundays and Mondays are generally the highest volume days in this particular ED, and the majority of patients who leave before being evaluated by a provider occur on those days as well. The average wait times to see a provider on Sundays and Mondays are four to six hours. Core

staffing is the model for the ED regardless of the census. The estimated cost to provide care to a non-emergent ED patient is $580, according to EPIC Insight reports (2013).

Theoretical Foundation of Project and Change

Jean Watson's theory of human caring provided the framework for this capstone project. Nurses can relate to Watson's theory as caring is congruent with nursing. The transpersonal caring relationship is one element of Watson's theory (Watson, 1985). Transpersonal caring conveys a concern for the inner life world and subjective meaning of another who is fully embodied. The nurse should focus on a patient's mind, body, and soul (Watson, 1985). Once patients present themselves to the ED, an engaging arrival setting should exist. The patients should be greeted with compassion, regardless of their complaint and circumstances. The nurse should thoroughly take the time to listen and be in the moment with the patient as suggested by Watson. Using this approach could possibly offset some discontentment felt by patients if they are screened out of the ED, and recommended to seek other venues for care. Utilizing this capstone project's particular model of care in the ED where the MSE takes place in triage actually supports Watson's theory, because the right people will be at the right place at the right time, allowing the nurse to exemplify caring. The patients will be referred to an appropriate care modality and will not be turned away.

Virginia Henderson's Nature of Nursing theory (1991) is applicable to this capstone project as well because Henderson describes nursing as primarily assisting the individual (sick or well) in the performance of those activities contributing to health or its recovery (or to a peaceful death) that he or she would perform unaided if he or she had the necessary

strength, will, or knowledge. Individuals have biological, psychological, social, and spiritual components or needs. Nursing activities are categorized into fourteen components and are based on human needs. These components are closely paralleled to Maslow's hierarchy of human needs. The nurse has three primary roles with the goal of working with the person to become as independent as possible. These roles are: substitutive (doing for the person), supplementary (helping the person), and complementary (working with the person). It is through the contribution of nursing that helps people become independent of such assistance as soon as possible (Henderson, 1991). Whenever patients present to the hospital for care, it is nursing's responsibility to assist the individual toward recovery. If the patient is screened out of the ED to other venues of care, it is their responsibility to follow up at the appropriate referral location. This expectation needs to be clearly communicated to the patient prior to departing the ED. A process involving calling the patient back would be beneficial to assess the well-being of the patient and to determine if appropriate follow-up occurred.

Systematic Literature Review

A systematic review of literature was conducted using Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline, Ovid, and PubMed databases. Thirty-one full-text articles were located from the search. Searches were completed using the key words as follows: emergency department overcrowding, EMTALA, non-emergent care, nurse practitioners, physician assistants, ambulance diversion, and patient satisfaction. The types of studies involved in the search included: cross-sectional designs, prospective observational studies, prospective analysis, qualitative designs, and retrospective reviews. A detailed analysis was conducted on each article including research design, study aim and purpose,

population studied and sample size, study appraisal, and synthesis methods. In addition, the primary outcome measures, author conclusions, implications of key findings, and strengths and limitations were assessed on each article.

According to (Schull, Szalai, Schwartz, & Redelmeier, 2001), a survey of hospital directors have reported ED overcrowding in almost every state, with 10% to 30% of hospitals surveyed reporting daily overcrowding. This author sought to determine the impact of hospital restructuring on ED overcrowding. A survey of twenty hospitals using autoregression models was used to evaluate the rate of increase of overcrowding before and during systematic restructuring. Widespread reports of ED overcrowding has raised doubts about the capacity of emergency health systems to provide rapid and dependable care. Hospital restructuring was mentioned as a solution to overcrowding but the author cautioned this approach should be thoroughly investigated before being implemented.

A search of the literature revealed EDs are faced with increased challenges from the rising number of patients using the ED for primary care and the high demand for services, and rising health care costs. Patients are experiencing longer wait times and are being boarded in the hallways because of lack of beds. Placing a provider in triage was found to be an innovative method of improving ED flow and increasing patient satisfaction (Love, Murphy, Lietz, & Jordan, 2012).

A systematic review of the literature was conducted by Fry (2011) about the impact of afterhours care models on EDs. In this search, articles were assessed using the Critical Appraisal Skills Programme (CASP) making sense of evidence tools and covered the period from 1970-2011. The Cumulative Index to Nursing and Allied Health Literature, EMBASE,

Medline and The Cochrane Database of Systematic Reviews was used for the search. Most of the evidence from this search was quasi-experimental (time series) before and after for comparative studies. The studies included five random control trials (RCTs). Afterhours was defined as holidays, weekends, and weekdays between 6pm and 8am. The review revealed much of the evidence lacked statistical evidence or a rigorous design. Some studies reported a positive impact but failed to show a statistical difference. The review identified six models of afterhours care in Australia to help reform the delivery of primary health care services. The systematic review supported the use of afterhours care models and reduced the workload of the general practitioner and ambulance services. Some limitations associated with this review included selection bias and the limited number of afterhours care models.

Trzeciak & Rivers (2003) performed a review of literature about ED overcrowding from 1990-2002 using Medline. Thirty-two articles were reviewed. Causes of ED overcrowding were well defined and potential solutions were offered. Observation units were mentioned as a temporary measure to alleviate some of the gridlock of patients awaiting admission into the hospital. The author also mentioned utilizing a multidisciplinary approach to address ED overcrowding because many contributing factors occur outside the ED. According to the author, internally improving ED efficiency had little effect on overcrowding because most of the problems were deeply rooted in inpatient capacity and shortages of hospital resources. The author concluded the main cause of ED overcrowding was inadequate inpatient capacity.

Derlet, Richards, & Kravitz (2001) examined the factors and frequency of ED overcrowding as perceived by ED directors. Surveys were mailed to random EDs in all 50 states. Of those responding, 91% of directors reported overcrowding including boarding

patients in hallways, having full waiting rooms, and acutely ill patients waiting greater than 60 minutes to see a physician. This was a prospective survey of ED directors and the study was approved by the human subjects review committee as meeting exempt guidelines from informed consent. The survey was sent to 836 directors and 575 (69%) completed the survey and responded to all questions. There were 28 surveys returned incomplete excluding them from the analysis. There were a number of limitations associated with the study. This was a voluntary survey and the responses were subjective. The responses were from directors and represented their experiences, knowledge, and opinions. The study was conducted during the winter and spring, so seasonal usage of EDs may have influenced the study. The author did conclude ED overcrowding was a serious problem according to directors in various hospital EDs. Patients were experiencing prolonged wait times and possibly adverse outcomes. The ED directors surveyed advocated for public policy to address the problem of ED overcrowding on a national level.

All articles researched for this topic shared common themes of the adverse effects of ED overcrowding, as it is a widespread issue affecting hospitals all over the US. Staff burnout within the ED and increased turnover were additional themes found in the literature. ED overcrowding was noted to be a pervasive problem, but few hospitals had implemented solutions to avert the issue. The investigator for this project located numerous articles for this project. Most articles addressed ED overcrowding during 2001-2006. There were few articles during 2007-2009 and this represented a gap in the literature. The causal factors of ED overcrowding were found to be the same for US hospitals as well as international facilities.

Market/Risk Analysis

Strengths, Weaknesses, Opportunities, and Threats

To perform an analysis of the market where this capstone project was completed, the strengths, weaknesses, opportunities and threats (SWOT) were identified and a model was created (see Figure 1). There were many strengths noted as a result of completion of this capstone project. There are two major hospitals in the community and both hospitals are needed to provide medical services. The primary investigator is employed at a faith-based non-profit facility. The organization provides a large amount of charity care and is dedicated to responding to the needs of the community. There are outreach and mission activities planned on a monthly basis. In addition, the patients are provided with medical care regardless of their ability to pay. The organization is committed to providing care to the poor and marginalized and support of the mid-levels providing care already exists.

An internal weakness of the organization where the primary investigator performed this capstone project was an inadequate number of neurologists. Presently, there is one neurologist employed at the facility. Providing neurology coverage 24 hours a day and 7 days a week is impossible to provide at this time. This lack of coverage often leads to patients being diverted away from the hospital by Emergency Medical Service (EMS) personnel and for other patients, it means transferring them to other hospitals capable of providing neurology care. For neurology patients presenting with non-emergent complaints, the ED providers are less likely to screen out this patient population to another venue of care, due largely to the fact that the patient may not be able to receive timely follow-up in

the community because there is only one provider. However, the competitor hospital also has a limited number of neurologists on staff.

An additional weakness of the hospital utilized for this capstone project was the failure to care for pediatric patients with endocrine emergencies, because the area lacks a pediatric endocrinologist. All pediatric patients with endocrine complaints are transferred to a larger metropolitan city within the state.

Another weakness of the hospital is the increase in the number of patients who leave prior to being evaluated by a provider. The LWBS rate at this particular facility has been as high as 9% at times (EPIC Insight Reports, 2013). This increase in the LWBS rate negatively impacts the market share and decreases overall patient satisfaction.

Diversion is another weakness of this particular hospital. In general, the hospital has the capacity for 350 beds but is able to provide staff for only 240 beds on a regular basis (EPIC Insight Reports, 2013). These staffing challenges result in diversion when the demand for services exceeds the capacity of the nursing staff. The intensive care unit (ICU) experiences some periods of diversion on a monthly basis. The community in which this capstone project is being completed is dissatisfied with the diversion hindrance.

Another weakness in the community where this project was performed was the lack of ability to provide timely transports. There are adequate numbers of transport vehicles in the community but a shortage of qualified individuals capable of operating the vehicles. It is common for patients to remain in the ED up to three hours awaiting transport to another facility.

One opportunity that exists for the hospital where the investigator is employed includes establishing a non-emergent transport system operated by the hospital. The hospital has to pay at least $750 each time a patient is transported utilizing non-emergent transport regardless of the distance. The hospital must aggressively recruit neurologists, pediatric endocrinologists, and primary care physicians into this community.

The threats that exist for the hospital where this capstone project was performed are the potential loss of market share and negative image portrayed in the eyes of the community. Hospitals are struggling to balance budgets due to an increase in demand for services, while at the same time obtaining less reimbursement for care. Capturing and growing the market is a priority for the hospital where the primary investigator is employed.

There is a steady increase in the number of self-pay patients on a monthly basis according to financial reports from Mercy Insight (2013). The investigator is hopeful that the organization is able to realize the threats that exist today could be turned into some future opportunities. The triage practices of the competitor hospital are another threat. All patients are seen at the competitor hospital but based on severity of the patient's chief complaint; they may ultimately have to pay applicable co-pays or deductibles before they receive prescriptions. The patients at this particular competitor hospital are not screened out.

Figure 1: SWOT Analysis

Driving and Restraining Forces

Adult patients who present to the ED with non-emergent complaints were the target market for this capstone project. Most of the primary investigators' healthcare career has been spent in emergency services and she has experienced firsthand the effects of ED overcrowding. Emergency overcrowding is a serious problem nationwide (McGee, Kaplan, & Wash, 2007). Overcrowding is defined as the situation in which demand for emergency services exceeds the ability of the department to provide quality care within acceptable time frames (McGee, Kaplan, & Wash).

In the community where this capstone project took place, the non-emergent patients usually waited longer to receive treatment and they were usually the most dissatisfied of all patients because of the length of time they waited to see a provider. The community where the capstone project was performed is the second most populated city in the state, out of 541 cities and towns (City Data 2012). The city where the capstone project took place had a population of 86,284 in 2011 (City Data). The surrounding region has a total of 298,592 residents. The proposed outcomes for the project were patient and organization sensitive.

The ED data where the primary investigator performed the capstone project indicated a correlation between increased wait times and an increase in the number or patients who left before seeing a provider (EPIC Insight Reports, 2013). Historically, Sundays and Mondays are the highest volume days in the ED. In addition, the length of stay and the left without being seen rate was paramount on those days as well. Patient satisfaction has continued to decrease over the years. The model of care in the ED prior to this model involved providing care to all patients regardless of their complaint.

The competitor hospital in the region where this capstone project was performed does not perform MSEs on non-emergent complaints, but they do ask for payment before any prescriptions are given. The competitor hospital is designated as a for-profit organization. Currently, the competitor organization is being considered for acquisition by Community Health System (CHS).

Need, Resources, and Sustainability

According to Knapp et al,(2004), ED overcrowding contributes to long wait times and this promotes patient dissatisfaction. For patients with acute injuries, it could mean

prolonged pain and needless suffering. In the primary investigators' experience, ED overcrowding has led to increased patient identification errors as well as decreased morale amongst the nurses and physicians. In addition, the primary investigators' experience has shown that ED overcrowding has led to diversion issues which are a disservice and dissatisfier to the entire community.

Another trend the primary investigator has noticed in health care is an increase in the use of the ED as a safety net for non-emergent complaints. According to Knapp et al (2004), the number of ED visits in the US has increased more than 600%, with an estimated 108 million ED visits in 2000. Thirty million of those ED visits were for children ages 0 to 18 years. Hospital EDs hold a very strategic position in the continuum of care in our society. Accessible and always open, the ED remains one of the few institutions available to aid all persons. Services are provided regardless of economic or social status and without an appointment. This societal responsibility has been both affirmed and mandated through federal legislation (Stanton, 2002).

The cost of health care is rising. In 2000, health care spending rose to $1.3 trillion dollars, or an average of $4,637 per person. As a percentage of the Gross Domestic Product (GDP), it grew from 13.1 percent in 1999 to 13.2 percent in 2000. National health expenditures are expected to reach $2.8 trillion in 2011, with an average annual growth rate of 7.3 percent from 2001 to 2011. By growing 2.5 percent faster than the GDP, expenditures will consume approximately 17 percent of the GDP in 2011. Spending on Medicare, the largest single public health care program rose 5.6 percent in 2000, following much lower growth rates of 0.6 percent in 1998 and 1.5 percent in 1999. For the private sector, the year 2000 marked the third straight year of significantly high growth. During

2000, hospital spending growth was 5.1 percent; the first time since 1993 that hospital spending increased more than four percent (Stanton, 2002).

Nurse Practitioner and Physician Assistant professionals have been in existence since the 1960's, providing care in multiple areas including emergency departments. These providers have flourished in the past 40 years, filling gaps in access to care in a cost effective manner with comparable quality and outcomes as physicians do in similar settings (Abbott, Schepp, Zierler, & Ward, 2010). A study involving the use of mid-level providers in triage proved favorable at Presbyterian Hospital Matthews (Love, Murphy, Lietz, & Jordan, 2012).

At this facility, all patients are seen in triage by a nurse practitioner (NP) or physician assistant (PA) to begin their medical evaluation. The focus is on a brief assessment and initiation of orders rather than on the evaluation, treatment, and disposition from triage. It also proved to be beneficial to have an experienced provider in triage to make appropriate dispositions such as screening out non-emergent patients to other appropriate venues of care. This quality improvement initiative resulted in improved ED efficiency of patient flow, increased patient satisfaction, and a decrease in the number of patients leaving before seeing a provider. Although there are few programs educating emergency NPs, many primary care NPs are well suited to care for the majority of patients with non-emergent problems who present to the ED. The use of NPs in the ED can complement the care of ED physicians and improve ED efficiency. The use of NPs in EDs will improve the quality of care, lower cost, and improve patient satisfaction by decreasing ED overcrowding (McGee, Kaplan, & Wash, 2007).

According to Nash et al, (2009), the implementation of the MSE by mid-level providers at a large university-affiliated hospital reduced the overall time patients spent in the

department, time in the room, and the left without being seen rates. In addition, the use of the ED for non-emergent complaints decreased.

This capstone project involved hiring four mid-level providers, renovating the existing triage area, and educating the stakeholders about the new model of care. Adult patients eighteen years of age and older were the primary consumers for this new model of care. Psychiatric patients, those with mental status changes, and pediatric patients were not included in the project as they were considered a vulnerable population. The primary investigator educated the community regarding the new care delivery model. The primary investigator ensured that the mid-level providers were hired and oriented to the new process prior to implementing this project. The market needs that were addressed by this care model initiative were decreased wait times and a decreased number of patients who left before seeing a provider. This process was instituted 24 hours a day and 7 days a week to ensure consistency.

Stakeholders and Project Team

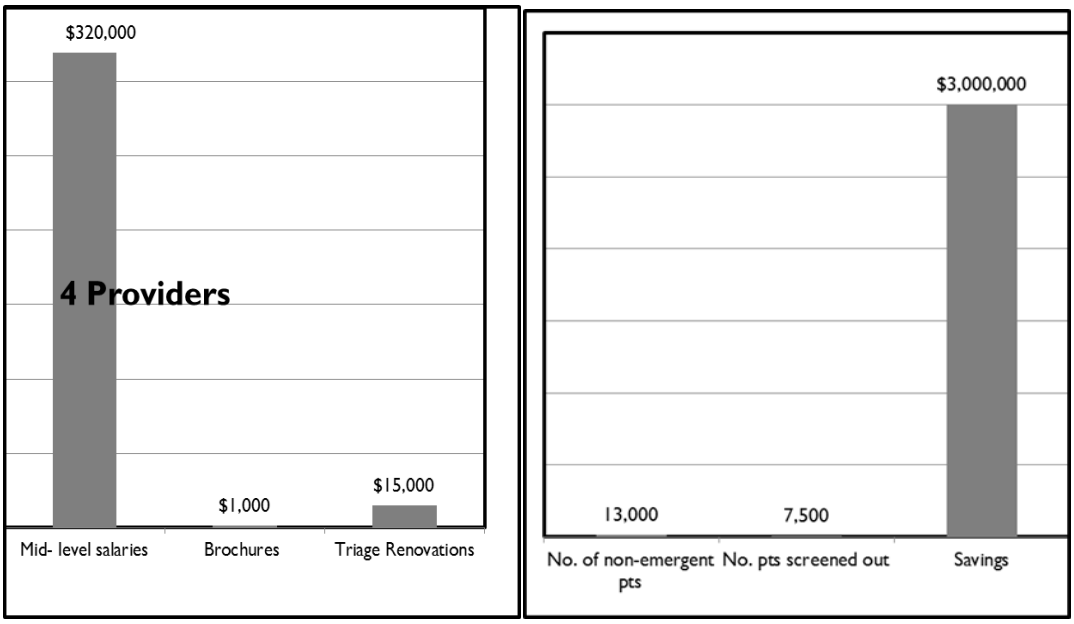
This project involved multiple stakeholders. The stakeholders included: patients, facility administrators, members of the community, neighborhood clinics, medical and nursing staff, finance personnel, project team leader, and champion. In addition, insurers and regulatory agencies were vital stakeholders as well. The project team included the DNP student (team leader), Vice President of Ancillary Services (mentor to DNP student), the Capstone Chair, ED Medical Director, Chief Nursing Officer, Chief Financial Officer, and the ED Nurse Manager. The project team leader ensured appropriate resources and a successful medical screening process satisfying regulatory agencies existed before the project was implemented. In addition, the project team leader provided education before the

screening process was implemented and obtained wait times and left without being seen data before and after implementation of the medical screening process.

Cost-Benefit Analysis

This project involved hiring mid-level providers in the ED. The mid-level providers were considered NPs and PAs. The cost of the four mid-level providers was estimated at $320,000 per year ($80,000 for each provider including benefits). Brochures offering alternatives to receive care were printed and provided in the ED at a cost of $500 every six months or $1,000 annually. The existing triage area underwent renovations in order to implement the medical screening process. The one-time cost for renovations to the existing triage area was $15,000 and the total expenses were $336,000 for this project. However, if half of the left without being seen volume was captured and the patients chose to receive care at approximately $580 per visit, the organization has the potential to accrue $3,000,000 revenue annually (See Figure 2). In addition, a budget resource analysis is attached (See Appendix A).

Figure 2: Cost Benefit Analysis



All figures are annual. Triage renovations were a one-time expense

Project Objectives

Mission and Vision

The mission of this project was to provide a different model of care to those patients who presented to the ED with non-emergent complaints. The previous model of care that existed in the ED offered treatment to all patients regardless of their complaint. The vision of this project was to improve ED efficiency by getting the right people to the right place at the right time.

Goals

The ultimate goal of this capstone project was to evaluate wait times and the number of patients who left before seeing a provider after implementing the MSE on non-emergent patients at triage.

Process

All patients were afforded a MSE to determine if an emergency medical condition existed by an ED provider. If an emergency condition existed, the patients were evaluated and treated in the ED based on acuity. If an emergency condition was absent, the patient was referred to a financial counselor in the ED to discuss treatment options. The pricing structure was developed by the finance department. Self-pay patients were asked to pay $150 as a deposit if they chose to be seen in the ED. All other patients were asked to pay their applicable co-pay.

Patients were then given a list of neighborhood clinics in which they could receive health care. These neighborhood clinics would accommodate walk-ins seven days a week. The MSE process took place in the triage area located within the ED. There were three triage rooms and the MSE took place in any of the rooms any time of the day. The financial counselors' office was located near the triage area as well. The medical screening process occurred 24 hours a day and 7 days a week to ensure continuity and consistency, as this process required a dramatic culture change in this community.

The primary investigator expected to see an increase in the number of non-emergent patients seeking care during the winter months as influenza season arrived. In addition, the primary investigator expected during the initial roll-out of this process for the numbers of patients that were screened out to be elevated, but as this initiative matured and as the marketing became more effective, the investigator ultimately saw a decrease in the numbers of patients that were screened out. The investigator anticipated screening out 15 to 20

patients a day. The number of patients that were screened out varied depending on the time of day and the provider performing the MSEs.

The investigator monitored admission volumes and overall ED volume for growth potential. In addition, the investigator met with local EMS agencies to discuss this process and marketed trauma and stroke services as these were services the hospital recently offered. The investigator ensured quality and timely services were offered to all patients as this increased the potential for growth and retained the customer base as more patients were seeking quality care.

The payer sources varied greatly in the facility where the investigator is employed. The payer sources included Medicaid, Medicare, commercial insurance, and self-pay. Applicable co-pays were secured based upon the payer source. If a patient was unable to pay, arrangements were made with the financial counselor. Marketing for the new triage process was done mostly at town hall meetings and during stakeholder education sessions. The services being offered and the mission statement were placed on the organization's homepage.

Outcomes and Objectives

This project involved pre-project objectives and post-project objectives. The first objective of this project was to determine wait times in the ED and the number of patients who left before seeing a provider on non-emergent patients prior to the implementation of the MSE process. The data was obtained from EPIC Insight reports prior to implementing the MSE. Placing the mid-level provider in triage to perform a MSE on non-emergent patients was a pre-project objective as well. The financial implications of providing care to non-emergent

patients in the ED were a growing concern for the leadership at the hospital. A long-term plan to offset the increase in non-emergent patients seeking care in the ED had to be addressed. The third pre-project objective was to provide education to all stakeholders about the new model of care, emphasizing this model was supportive of the mission of the organization by providing care to the poor and the marginalized. The post-project objectives involved: re-evaluating wait times in the ED and the number of patients who left before seeing a provider on non-emergent patients post implementation of the MSE process, evaluating the data on the number of patients provided a MSE, length of stay data by shift (including 7am to 7pm and 7pm to 7am) including LWBS, and lastly providing recommendations to the management team.

Evaluation

A logic model (see Appendix B) depicts a diagram of how the capstone project team leader believes the program will work (Zaccagnini & White, 2011). The function of each conceptual model is to provide a frame of reference that tells members of a discipline how to observe and interpret the area of interest to the discipline (Christenbery, 2011).The components that conceptual models have in common include: input, outputs, and outcomes (Zaccagnini & White, 2011).

Population and sampling parameters

The power analysis used for this project had an observed effect size of 0.8, which according to Cohen, is a medium effect size. The probability level of 0.05 and the sample size of 90 yielded an adequate sample size. This approach reduced the probability of committing a Type I or Type II error (Cohen, 1992). The sample size for this capstone project was 200. The

primary investigator evaluated 100 random charts before the intervention and 100 random charts after the intervention.

Setting

The population for this project involved adult patients 18 years of age and older at a 350-bed hospital facility in a major metropolitan city in the southern US. Psychiatric patients, those with mental status changes, and pediatric patients were excluded from this project. The facility is a faith-based organization providing emergency services 24 hours a day and 7 days a week.

Methodology and Measurement

The statistical tests used for this project included the paired samples and one-sample t-test and a one-way Analysis of Variance (ANOVA). A paired samples t-test measures whether means from a within-subjects test group vary over two test conditions. The paired-sample t-test is commonly used to compare a sample group's scores before and after an intervention. The t-test is the most appropriate statistical in this case because this project was focused on measuring data before and after the application of placing a mid-level provider in triage. The primary investigator received IRB approval from the hospital and university in December 2013. The length of stay and the percentage of patients who left before seeing a provider were obtained before and after implementation of the mid-level provider being placed in triage. The data for length of stay and the percentage of patients who left prior to seeing a provider was available in the electronic medical record (EPIC) using a password protected computer. The data was considered valid and reliable. All patient encounters are entered into EPIC and all aspects of the encounters are time stamped electronically, therefore, manipulation of the data was not possible.

Data Analysis

The data collected was considered primary data. The data was collected and entered on the data collection tool (see Appendix C). The investigator accessed the EPIC electronic medical record system and sampled 100 random records before the medical screening process, and sampled an additional 100 random records after providing the medical screening process.

The level of data involved in this project was ratio level because the investigator was concerned with the effect the MSE had on wait times and the number of patients who left before being evaluated by a provider. The level of data was pertinent because according to Polit (2010), with ratio level of data, a true meaningful zero point exist. It was plausible for a patient to enter the ED and be evaluated by a provider as soon as he or she entered the department if beds were available resulting in zero wait times of seeing a provider. It was also possible for zero patients to leave without seeing a provider.

The investigator utilized the 22.0 Statistical Package for the Social Sciences (SPSS) to analyze the data to ensure accuracy of the results. An excel spreadsheet was utilized to collect the data from EPIC and the data was exported into SPSS for data analysis. The spreadsheet contained several columns and random data on length of stay was collected in 2011 and again in 2013. All entries were coded using a method only the investigator had knowledge of. Excel spreadsheets were chosen due to the ease of exporting the data into SPSS. The data collected for the project included the acuity level, time of arrival, time of provider assessment, and time of disposition.

Each entry was coded beginning with the numbers 1.1 to 2.993. Coding of the data was necessary for accurate data recognition and analysis by SPSS. Descriptive statistics

including means, ages, acuity levels, and length of stay were included in the analysis of the data collected for this project.

Protection of Human Subjects

The moral and ethical principles applied to this project because protected data of populations was utilized throughout this study. Placing a mid-level provider in triage to perform an MSE on patients who presented with non-emergent conditions could have posed liability issues. A patient could have presented with a non-emergent condition and received a referral to a more appropriate venue of care, but they could have suffered an adverse outcome before receiving the follow-up care. EMTALA guidelines had to be satisfied on each patient presenting for care. In addition, an emergency condition had to be ruled out before any patient was referred to another venue of care and the MSE had to be documented as such in the patient's medical record. The mid-level providers used the same discretion with each and every patient and when a questionable situation presented, the organization erred on the side of the patient. The principle of justice exists when EMTALA guidelines are met.

Patients were not discriminated against because of age, sex, gender, race, or their ability to pay (Terry, 2012). All other moral and ethical principles were considered. As the primary investigator, it was essential to ensure beneficence and non-maleficence was upheld. In addition, consideration for respect of person and the notion that all persons are equal guided the project. Permission from the University's Institutional Review Board (IRB), as well as the hospital's IRB was granted in order to proceed with this project (see Appendix D & F). The investigator completed the required training provided by the Collaborative Institutional Training Initiative (CITI) which included social behavioral research, conflict of interest, and the role of the IRB (see Appendix E).

The level of data stemmed from the triage acuity classification in order to determine if the condition was emergent or not. Additional information included in this study included the age of the patient and chief complaint. Health Insurance Portability and Accountability Act (HIPAA) guidelines applied to this project. Vulnerable patient populations were excluded from this project. There were no barriers receiving IRB approval since a large part of this study involved obtaining de-identified data. The investigator will maintain and store a log of the patients being sampled for three years. The log will remain secure in a locked cabinet and only the investigator will have access.

Instrumentation Reliability/Validity and Intended Stats

Reports can be generated for any time period requested for the above mentioned metrics. Internal validity was ensured because all eligible adult ED patients in the selected time period were included in the data so the sample size was more than adequate. Validity was made certain because the measurement was the effect the mid-level provider had on the identified outcomes. The independent variable of providing a mid-level provider in triage was the only intervention being implemented, so neither history nor maturation was an internal validity threat.

The measurement process was the same pre and post implementation, so the threat of instrumentation was not a factor. Since the measurement included all eligible adult ED patients', mortality did not present an internal threat. To estimate test-retest reliability, the same test is administered to the same sample on two different occasions. The same data was collected on ED patients post implementing the mid-level provider in triage.

After the data was obtained, analysis of the data was performed. This project involved quantitative research. The investigator was interested in gathering data in a numerical form in relation to wait times and left without being seen rates. According to McLeod (2008), experiments usually yield quantitative data as they are concerned with measuring data. In quantitative studies, the data must be organized and synthesized and interpreted through the data analysis process (Polit, 2010). Observations and questionnaires can also produce both qualitative and quantitative information. Quantitative data consists not only of numbers, but also of data that identifies what the numbers mean. Descriptive and inferential statistics were generated using this approach. A description of what the data has shown will be provided. A univariate analysis was conducted, since the independent variable involved one intervention of placing a mid-level provider in triage (Terry, 2012). Data was displayed in the forms of graphs or charts, since most individuals learn best with visual aids. This plan produced meaningful data because manipulation of the data was not possible. The findings were reliable as the results attained could be obtained again if the same study was conducted.

Timeframe

The capstone project planning began with NR Theoretical Application for Doctorate Nursing Practice in the fall of 2012 (See Appendix G). After a needs assessment was performed by the project team, it was concluded that the amount of charity care being provided from the ED was increasing. Patient satisfaction scores, wait times, and the number of patients who left the ED prior to seeing a provider were all trending in a negative direction. Due to the financial hemorrhaging associated with the increase in volume of non-emergent patients, the organization instituted the MSE process in the fall of 2013. Since implementation of the MSE, the primary investigator monitored ED metrics. Data collection measuring the effects of the

mid-level providers on eligible adult patient's length of stay and on patients who left prior to seeing a provider took place in 2014 after IRB approval was granted. The investigator's capstone project proposal was accepted by the university's faculty in October 2013.

Project Findings and Results

Results

A one-sample t-test was conducted on length of stay. The one-sample t-test was statistically significant with the p value=0.000). The mean length of stay score was 3.4096 (SD=2.01747), t=23.90, and (df) =199 (*See Table 1*).

Table 1: One –Sample t-test

One-Sample t-test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	*df*	*Sig. (2-tailed)*	*Mean Difference*	*Lower*	*Upper*
time	*23.900*	*199*	*0.000*	*3.40955*	*3.1282*	*3.6909*

Table 2: One-Way ANOVA

Descriptives

Length of Stay by Shift 1.00=7a-7p

Length of Stay by Shift 2.00=7p-7a

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	**127**	**3.2459**	**1.96540**	**.17440**	**2.9008**	**3.5910**	**.39**	**13.57**
2.00	**73**	**3.6942**	**2.08810**	**.24439**	**3.2071**	**4.1814**	**1.02**	**9.48**
Total	**200**	**3.4095**	**2.01747**	**.14266**	**3.1282**	**3.6909**	**.39**	**13.57**

A one-way ANOVA analysis was conducted on the length of stay pre and post implementing the mid-level provider in triage. The mean scores by shift 1.00 (7a-7p) was 3.2459 (SD=1.96540) and the mean score by shift 2.00 (7p-7a) was 3.6942 (SD=2.08810) respectively (see Table 1). The lower limit was 2.9008 and the upper limit was 3.5910 with a 95% confidence interval (CI) for shift 1.00. The lower limit was 3.2071 and the upper limit was 4.1814 with a 95% (CI) for shift 2 (*See Table 2*).

Table 3: Between Groups and Within Groups Comparison

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	**9.318**	**1**	**9.318**	**2.304**	**.131**
Within Groups	**800.645**	**198**	**4.044**		
Total	**809.963**	**199**			

The between groups and within groups comparison was not statistically significant with the p value=0.131.*(See table 3*).

Table 4: Paired-Samples t-test

Paired-Samples t-test[a]

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	LWBS2011 - LWBS2013	3.28000	1.96007	.56582	2.03463	4.52537	5.797	11	.000

Data was collected on the percentage of patients who left the ED prior to being evaluated by a physician in 2011 and again in 2013. The left without being seen (LWBS) rate was obtained monthly for both years. The mean LWBS score was 3.280 (SD=1.96) and was significant with the p value=0.000. The lower limit was 2.03463 and the upper limit was 4.52537with a 95% confidence interval (CI) (*See Table 4)*

Table 5: Frequencies

Statistics

		LWBS2011	LWBS2013
N	Valid	12	12
	Missing	0	0
Mean		6.7133	3.4333
Std. Error of Mean		.48291	.46179
Std. Deviation		1.67285	1.59968
Variance		2.798	2.559
Range		5.50	6.24
Minimum		4.20	1.89
Maximum		9.70	8.13

A frequency analysis was conducted on the LWBS 2011 compared to 2013. There were no missing elements. The mean LWBS in 2011 was 6.7133 (SD=1.67) compared to a mean of 3.433 (SD=1.599) in 2013. The variance was 2.798 in 2011 and 2.559 in 2013. The minimum and maximum in 2011 was 4.20-9.70 compared to 1.89-8.13 respectively in 2013 (*See Table 5*)

Mean Length of Stay 2011 and 2013

(Table 6: LBWS 2011 & LBWS 2013)

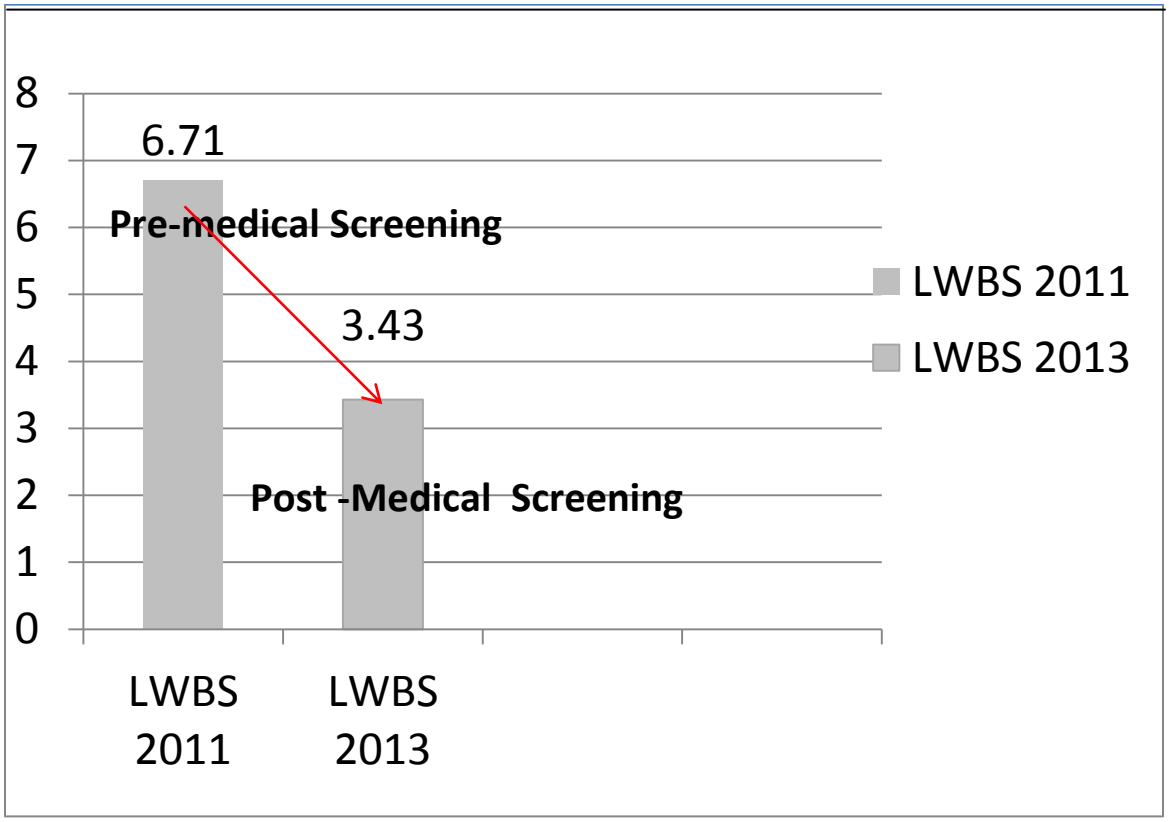
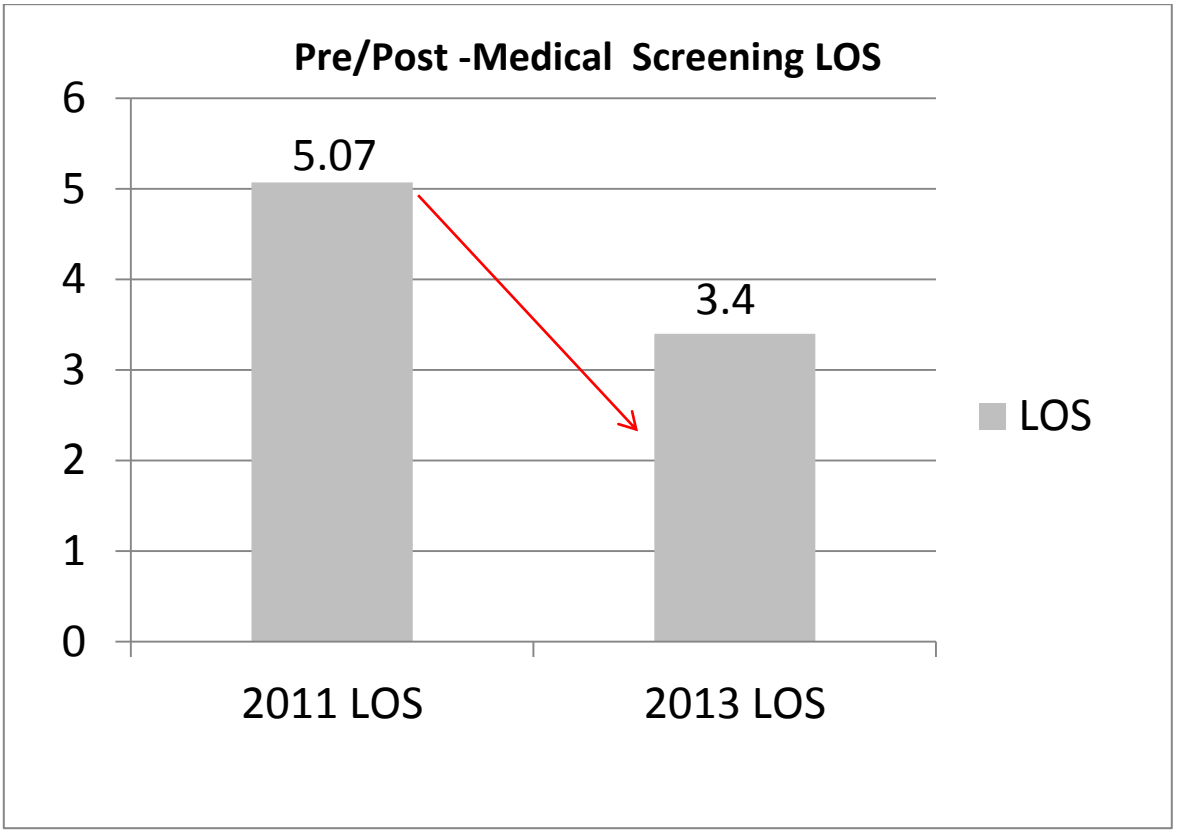


Table 7: LOS 2011 & LOS 2013



The LOS was 5.07 in 2011 compared to 3.4 in 2013 respectively *(See table 7*).

Analysis of Results

The difference pre and post placing the mid-level provider in triage indicated a statistical difference in the length of stay post implementing the MSE in triage. Analysis by shift revealed fewer patients were screened out on the night shift versus the day shift and those patients had a longer length of stay than the day shift even though the volume of patients was less than the day shift volume. This may suggest that the mid-level spent more time performing the MSE on the non-emergent patients who presented on the night shift due to the fact that the non-emergent patients had no immediate venue to receive care. In addition, fewer

resources were present in the ancillary departments during the night shift. Those being referred out would receive care in an urgent care, primary care office, or other walk-in clinics and these locations were not open during the evening and overnight hours.

The implementation of placing the mid-level provider in triage significantly reduced the percentage of patients who left prior to being evaluated by a provider. The average cost of a non-emergent visit was $580.00 and 1,000 patients were captured with this process and this equated to $580,000 of revenue. This dollar amount offset the salaries of the mid-levels and positively impacted revenue. An even greater impact of capturing patients who left before seeing a provider was improved quality of care. Those patients who left before being evaluated by a physician were at risk for experiencing a negative outcome. Patient satisfaction was positively impacted by a decrease in the number of those patients who left the ED prior to being evaluated by an ED provider. Therefore, overall market share was positively impacted by the decreased percentage of patients who left the ED prior to being evaluated by a physician.

The research question the investigator was interested in was: does designating a mid-level provider to perform an evidence–based MSE on non-emergent patients in triage decrease length of stay and the number of patients who left the ED prior to seeing a provider? Clinical and statistical significance were both achieved with the implementation of this new triage plan. The necessary resources were allocated appropriately to provide care to all patients seeking care in the ED.

Presently, pay for performance uses patient satisfaction results to determine additional reimbursement to the provider. If scores are low due to patients leaving, this will negatively

impact reimbursement. There is the potential for future lost revenue at the time the disgruntled patient leaves because they may tell friends and family who are more likely not to use the facility.

Limitations

The limitation of this project was the inability of the ED to refer non-emergent patients to a walk-in clinic 24 hours, 7 days a week. This lack of access for non-emergent patients likely contributed to the increase in length of stay of those non-emergent patients on the night shift. An additional limitation was the amount of education given to the public to educate them on the new process. The marketing strategy targeted the public in the form of brochures placed in the waiting room in the ED, urgent care clinics, and primary care offices but there was not a massive communication campaign to educate the public of this change. Some patients perceived that they were being denied care even though they were referred to a more appropriate venue of care. Social media sites could have been utilized as an avenue to educate the public and raise the awareness of this project, but this option was not exercised.

Recommendations

The implementation of the medical screening process in triage to perform an evidence-based MSE on non-emergent patients continues to be the model of care in the ED. The number of patients being screened out to other venues of care has decreased as the number of non-emergent patients seeking care in the ED overall has decreased. The left without being rates continue to be significantly lower than the pre-MSE process. The process will continue to undergo refinement to impact the overall length of stay. The investigator recommends the

use of mid-level providers for this MSE service. Future opportunities for other studies may include establishing a walk-in clinic during the night shift to triage non-emergent patients.

Implications for change

The results of this project could be shared at conferences and disseminated throughout the organization. As uncertainty surrounds healthcare and the pervasiveness of ED overcrowding, this model of care will likely be duplicated. The Affordable Care Act has provided insurance to many people for the first time in their lives and accessing healthcare may pose challenges and patients may find refuge in the ED until primary care is established.

Summary

In 1993, President Clinton summarized the state of healthcare in a nationally televised speech to Congress and the nation referring to EDs as the "most expensive place of all" to receive care (Knapp et al, 2004). Healthcare is undergoing reform and the impact of the new healthcare laws are not realized at this time. Reducing healthcare costs will be critical for the survival of many hospitals. A balance must exist in providing care to patients who are in need of emergency services and offering those who require non-emergent care in a less expensive venue. The investigator has been involved in several initiatives to improve ED flow. Some initiatives were sustained and several reverted back to the pre-improvement process state. With the number of patients using the ED for non-emergent complaints continuing to rise, the investigator strongly supports a different model of care of providing MSEs to patients who present to triage with non-emergent complaints. Hospitals can no longer be the safety net for non-emergent ED patients. Providing a MSE on non-emergent patients and redirecting them to an appropriate venue of care is a viable alternative to ED overcrowding. It is hoped as patients

are able to be seen in an appropriate venue of care within the community for non-emergent complaints, that this model of care will remain favorable.

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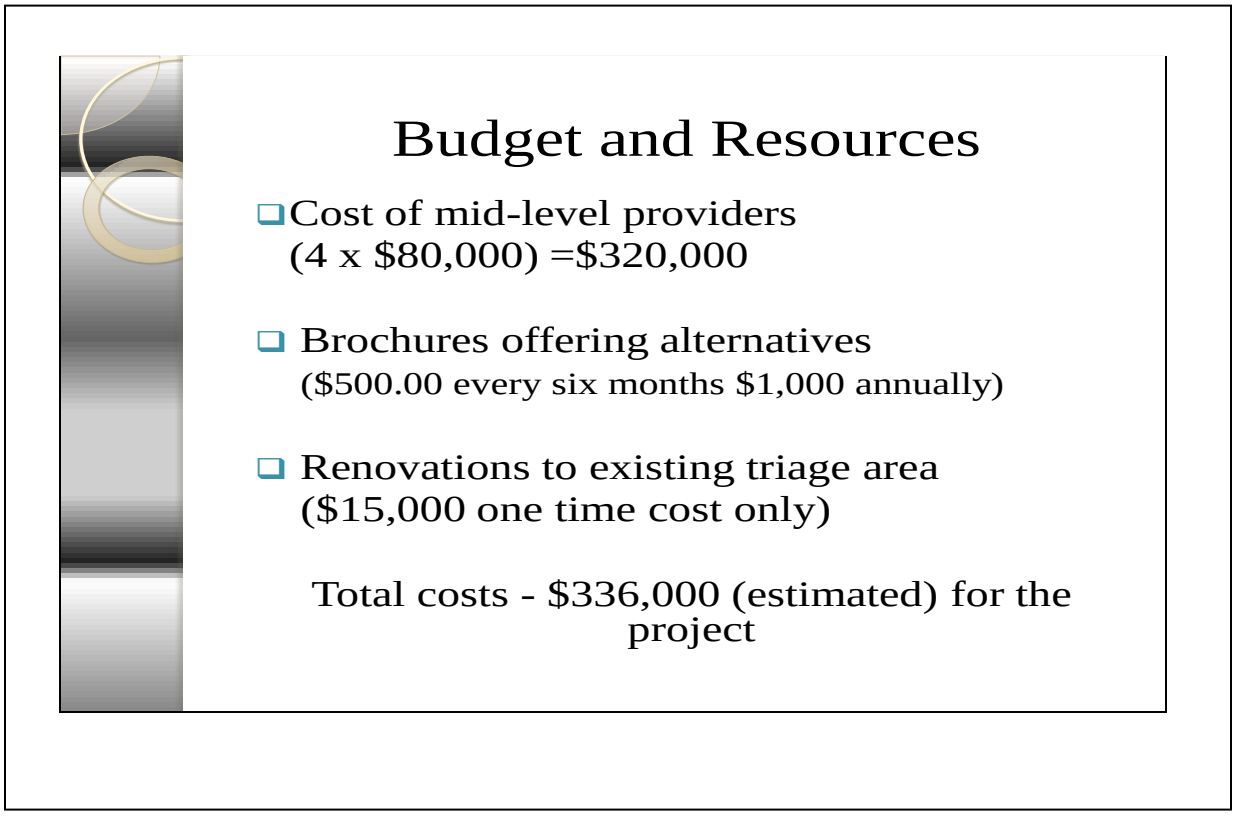
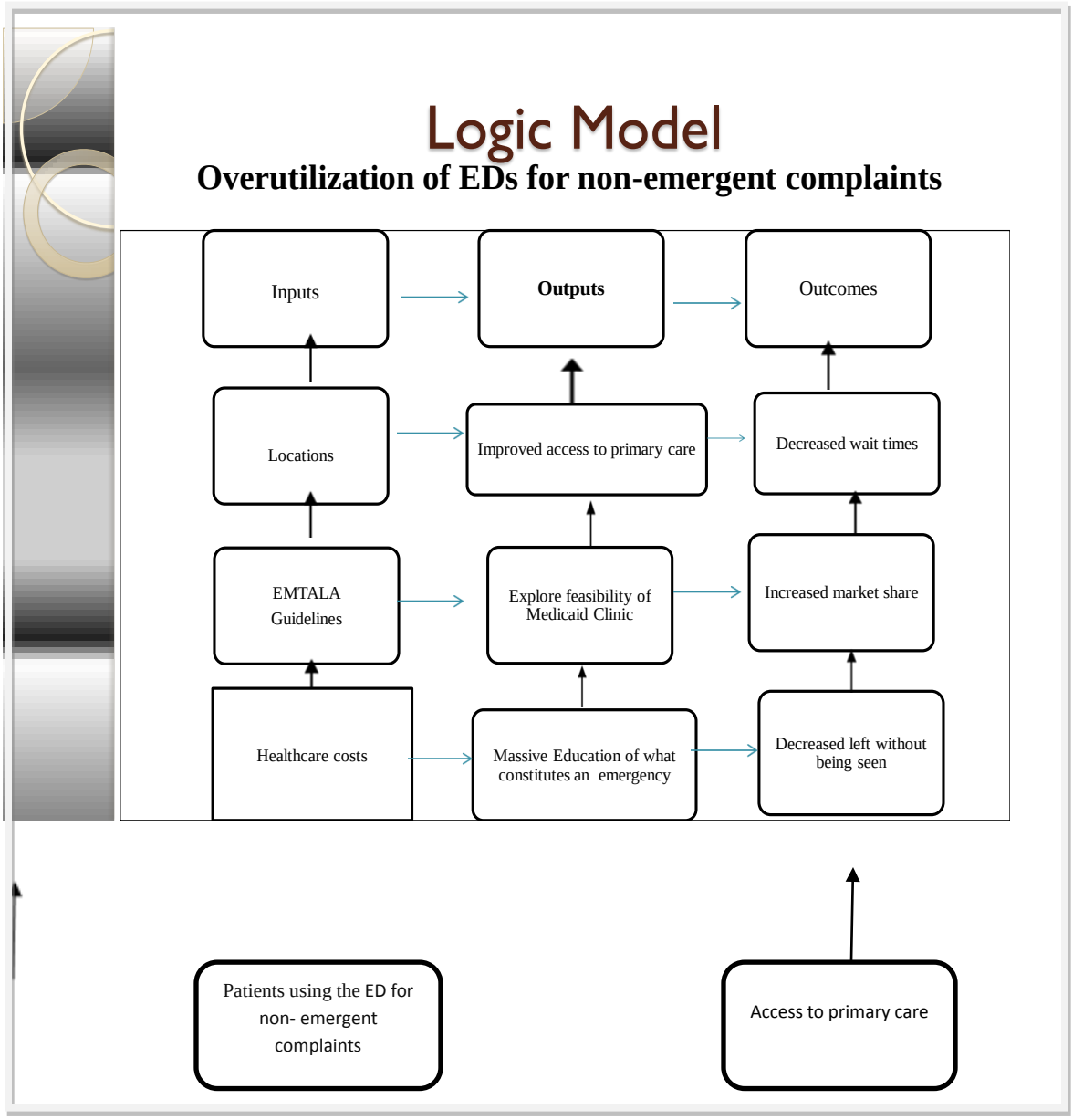
Appendices

Appendix A



Appendix B


Logic Model
Overutilization of EDs for non-emergent complaints
Inputs
Outputs
Outcomes
Locations
Improved access to primary care
Decreased wait times
EMTALA Guidelines
Explore feasibility of Medicaid Clinic
Increased market share
Healthcare costs
Massive Education of what constitutes an emergency
Decreased left without being seen
Patients using the ED for non- emergent complaints
Access to primary care

Appendix C: Data Collection Tool

Acuity	Pt ID	Age	ED Disposition	Discharge Disposition	Arrival Date/Time	Discharge Date/Time	Arrival to MD assign	Total LOS

Appendix D Approval Letters

REGIS UNIVERSITY

Academic Grants

3333 Regis Boulevard, H-4
Denver, Colorado 80221-1099

303-458-4206
303-964-5528 FAX
www.regis.edu

IRB – REGIS UNIVERSITY

January 14, 2014

Joyce Jeffries
1404 Fianna Place Court
Fort Smith, AR 72908

RE: IRB #: 14-009

Dear Ms. Jeffries:

Your application to the Regis IRB for your project, "Providing a Mid-Level Provider in Triage to Perform an Evidence-Based Medical Screening Exam on Patients who Present to the Emergency Department with Non-Emergent Complaints: A Quality Improvement Initiative," was approved as an exempt study on January 13, 2014. This study was approved per exempt study category 45CFR46.101.b(#4).

The designation of "exempt" means no further IRB review of this project, as it is currently designed, is needed.

If changes are made in the research plan that significantly alter the involvement of human subjects from that which was approved in the named application, the new research plan must be resubmitted to the Regis IRB for approval.

Sincerely,

Patsy Cullen

Patsy McGuire Cullen, PhD, PNP-BC
Chair, Institutional Review Board
Professor & Director
Doctor of Nursing Practice & Nurse Practitioner Programs
Loretto Heights School of Nursing
Regis University

cc: Dr. Colleen McCallum

Mercy Hospital
7301 Rogers Ave.
Fort Smith, AR 72903
phone 479-314-6000
fax 479-314-1770
mercy.net

February 10, 2014

Joyce Jeffries, MSN, RN
1404 Fianna Place Court
Fort Smith, AR 72908

Dear Joyce,

Thank you for the submission of your project ***"Providing a mid-level provider in triage to perform an evidence-based medical screening exam on patients who present to the emergency department with non-emergent complaints: A quality improvement initiative"*** to the Mercy Hospital Fort Smith Institutional Review Board.

After reviewing the information that you have provided, the IRB determines that the project is exempt from IRB review.

It is my understanding that the project will involve the collection or study of existing data, documents, records, pathological specimens or diagnostic specimens and will be recorded in such a manner that the results will be completely anonymous with no identifiers used to link the results to the participants in any way.

Please feel free to contact the Institutional Review Board at 479-314-5726 if you have any questions.

Sincerely,

William T. Huskison, M.D.
Mercy Hospital Fort Smith IRB Chair

Appendix E: CITI Training Certificate

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI)

THE RCR FOR SOCIAL & BEHAVIORAL CURRICULUM COMPLETION REPORT

Printed on 12/04/2013

LEARNER	Joyce Jeffries (ID: 3216071) 8501 Southridge Drive Fort Smith Arkansas 72908 USA
DEPARTMENT	DNP nursing
PHONE	901-497-8002
EMAIL	jjeffries@worldclass.regis.edu
INSTITUTION	Regis University
EXPIRATION DATE	11/21/2015

THE RCR FOR SOCIAL & BEHAVIORAL : This course is for investigators, staff and students with an interest or focus in **Social and Behavioral** research. This course contains text, embedded case studies AND quizzes.

COURSE/STAGE:	RCR/1
PASSED ON:	11/21/2012
REFERENCE ID:	9214135

REQUIRED MODULES	DATE COMPLETED
Introduction to the Responsible Conduct of Research	11/21/12
Research Misconduct (RCR-SBE)	11/21/12
Case Study - Truth or Consequences (RCR-Physical Sciences)	11/21/12
Case Study - In the Field, No One Will Know (RCR-Humanities)	11/21/12
Case Study Plagiarism (RCR-SBE)	11/21/12
Research Involving Human Subjects (RCR-Interdisciplinary)	11/21/12

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI Program participating institution or be a paid independent Learner. Falsified information and unauthorized use of the CITI Progam course site is unethical, and may be considered research misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Program Course Coordinator

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI)

CITI CONFLICTS OF INTEREST CURRICULUM COMPLETION REPORT

Printed on 12/04/2013

LEARNER	Joyce Jeffries (ID: 3216071) 8501 Southridge Drive Fort Smith Arkansas 72908 USA
DEPARTMENT	DNP nursing
PHONE	901-497-8002
EMAIL	jjeffries@worldclass.regis.edu
INSTITUTION	Regis University
EXPIRATION DATE	11/20/2016

CONFLICTS OF INTEREST

COURSE/STAGE:	Stage 1/1
PASSED ON:	11/21/2012
REFERENCE ID:	9214136

REQUIRED MODULES	DATE COMPLETED
CITI Conflict of Interest Course - Introduction	11/21/12
Financial Conflicts of Interest: Overview, Investigator Responsibilities, and COI Rules	11/21/12
Institutional Responsibilities as They Affect Investigators	11/21/12

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI Program participating institution or be a paid independent Learner. Falsified information and unauthorized use of the CITI Progam course site is unethical, and may be considered research misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Program Course Coordinator

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI)

IRB CHAIR CURRICULUM COMPLETION REPORT

Printed on 12/04/2013

LEARNER	Joyce Jeffries (ID: 3216071) 8501 Southridge Drive Fort Smith Arkansas 72908 USA
DEPARTMENT	DNP nursing
PHONE	901-497-8002
EMAIL	jjeffries@worldclass.regis.edu
INSTITUTION	Regis University
EXPIRATION DATE	11/21/2015

IRB CHAIR

COURSE/STAGE:	Basic Course/1
PASSED ON:	11/21/2012
REFERENCE ID:	9214137

REQUIRED MODULES	DATE COMPLETED
Role and Responsibilities of an IRB Chair	11/21/12
IRB Chair Meeting Responsibilities	11/21/12
The IRB Chair's Role Outside of the IRB Meeting	11/21/12

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CITI Program Course Coordinator

Appendix F: Letters of Support

Mercy

Mercy Hospital
7301 Rogers Ave.
Fort Smith, AR 72903
phone 479-314-6000
fax 479-314-1770
mercy.net

December 4, 2013

Regis University
3333 Regis Blvd
Denver, CO 80221

Re: DNP Capstone Project

Dear: Dr. Colleen McCallum, DNP, RN, FNP-C, (Capstone Chair)

Mercy Hospital Fort Smith proudly supports Joyce Jeffries, RN, Director of Emergency Services at Mercy, as she conducts a study that will involve collecting data of emergency department patients in fulfillment of the Doctor of Nursing Practice Degree from Regis University. I understand IRB approval from the hospital must be granted for program completion.

Sincerely,

Jennifer Thomas
Vice President Ancillary Services
Mercy Hospital Fort Smith
Fort Smith, Arkansas

Mercy continues the healing ministry of the Sisters of Mercy improving community health needs across a seven state area

Appendix G: Timeframe