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Program Evaluation of a Hospital Patient Transportation Service

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Abstract

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MSA-HCM, California State University Bakersfield, 2011

BS, California State University Bakersfield, 2008

Doctoral Portfolio Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

A hospital inpatient transportation process may decrease the time it takes patients to receive care and improve hospital quality and safety outcomes by providing timely and efficient patient handling. Grounded in agency theory, the purpose of this program evaluation was to evaluate the efficacy of the request for transport to measure against hospital objectives. Two specific program goals were to achieve an average 19-minute transport request-to-completion time and a 10-minute response from the time transport request is received when the transporter arrives. Data were collected from a survey, semistructured interviews, focus groups, and archival data analysis. The one sample t-test results indicated that the transportation department transport request-to-completion time was significantly less than the average 19-minute objective, $t(62,260) = -302.82$, $p = .001$. However, the time transport request received to the time the transporter arrived results indicated that the transportation department wait time was significantly greater than 10 minutes, $t(62,260) = 33.60$, $p = .001$. This result further showed that, on average, patients wait 2 minutes longer than the desired goal of 10 minutes. A key theme emerged from the thematic analysis indicating the lack of coordination caused a hospital staff perception of delay in transporter response. A key recommendation is to develop a structured hospital committee to reduce lab completion and doctor order delays to improve the time it takes to prepare the patient for transportation. The implications for positive social change include the potential for increased patient safety, satisfaction, and quality of care.

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Dedication

I dedicate this study to God for blessing me with the strength and knowledge to do all things through his Son, Jesus. To my beautiful wife (Maria) and three children (Amber, James, and Cadence). Without your love and support I would have not had the determination to take the necessary steps to complete this doctoral journey. To my mom, dad, sister and brother, thank you for being positive role models throughout my life.

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Section 1: Background and Context

Historical Background

The goal for healthcare organizations is to provide accurate and timely care in the safest and most efficient manner (Schram et al., 2016). In doing so, it is sometimes impossible to avoid moving the patient from one area to another. An area of interest that warranted additional literature is the distinction between the transport of patients within and outside the hospital walls. Knight et al. (2015) described the transportation of patients inside the hospital or *intrahospital transport* as the transportation of the patient from one space to another without leaving the hospital. Haque, Derksen Calado, and Foster (2015) examined the means and rationale for patient transport from one facility to another or *interfacility patient transport*. Both Knight et al. and Haque et al. validated the need for patient transport services while stressing the importance of patient safety and quality of care.

Organizational Context

The patient transportation program provides patient transportation services to all emergency room and hospital patients who require transport within the hospital. There are two specific program goals: (a) achieve an average 19-minute transport request to completion time, and (b) accomplish a 10-minute response from the time the transport request received to the time the transporter arrives. The core values of the program are integrity, collaboration, accountability, professional development, and leadership. The mission of the program is to provide timely patient transportation services to the organization (Director of transportation, personal communication, February 18, 2018).

The vision of the program is to exceed the goals set by the organization. The organization is a 250-bed, faith-based, nonprofit, acute care hospital located in the central valley region of California. The hospital is centrally located in a large metropolitan area serving a wide and diverse population. There is a total of four other competing medical facilities in a 10-mile radius of the hospital.

Problem Statement

The hospital inpatient transportation process may decrease the time it takes patients to receive care and improve hospital quality and safety outcomes by providing timely and efficient patient handling; however, requesting departments often cause delays by inappropriate utilization of the transportation department (Hitti et al., 2017). Harish et al. (2016) found that patient transportation within the hospital should take place when the appropriate personnel evaluates the need for transport. Hospitals may address transportation concerns by developing dedicated transportation teams that provide the necessary level of care during transportation (Venkategowda, Rao, Mutkule, & Taggu, 2014). The goals of the transportation department are reviewed annually by the program director and the vice president of ancillary services.

There are numerous scholarly examinations of patient transportation within the hospital walls. Comeau, Armendariz-Batiste, and Woodby (2015) found that a lack of assessing the patients' needs before transport led to unintended harm to patients. Schram et al. (2016) found that while most patients may benefit from nursing staff transportation due to continuity of care, the downside includes nursing shortages in the sending department and underutilization of the nursing staff. Leaders of the transportation

department have evaluated the efficacy of the request for transport to measure against

hospital objectives and need a formal program evaluation to validate program findings.

Purpose Statement

The purpose of this formative program evaluation was to determine how effective

the transportation request rationale and process is in meeting the needs of the hospital.

The transportation department provides patient transfer services for a midsize community

hospital located in the central valley region of California. Participants included the

transportation department director, hospital leadership, and hospital staff. The

implications for positive social change include identifying best practices that positively

affect hospital quality and safety and improve services to the hospital patients.

Target Audience

This program evaluation targeted a transportation department within an acute care

hospital that provides a full scope of medical care services. Specific department goals

include (a) accomplish an average 19-minute transport request-to-completion time, and

(b) accomplish a 10-minute response from the time transport request is received to the

time the transporter arrives. The department employs 22 full-time equivalents and has

been providing service for 8 years. Participants consisted of the transportation department

director, hospital leadership, and hospital staff. Transport leadership included the patient

transport director and supervisors. Hospital leadership included managers, directors, and

executives employed in the acute care hospital. Hospital staff included patient

transporters, requesting, and sending department staff. Figure 1 is a graphical depiction of

the logic model.

Hospital Transportation Department
Logic Model

Inputs	Activities	Outputs	Outcomes		
*Hospital Contract *Contract Staff *Hospital Staff *Organizational Resources	Transportation department provides transportation services to patients within the hospital seven days a week, between the hours of 5:00 am to 3:00 am Monday – Friday and 6:00 am to 1:00 am Saturday and Sunday	*Response Time *Total Trip Time # of cancelations # of reschedules # of delays # of Requests # of Total Trips # of Trips per Labor Hour	Achieve average 19 min. request to complete time	Achieve average request to transport of 10 mins. or less	Patients are transported safely and efficiently through the hospital

Figure 1. Transportation department program evaluation logic model.

Research Questions

Quantitative Research Questions

RQ1: Are patients' transportation wait times significantly less than the average 10-minute wait time?

RQ2: Are patients' transportation request to completion times significantly less than 19 minutes?

RQ3: How do participants rate the transportation department response time?

RQ4: How do participants rate the total trip time?

RQ5: How many daily total cancelations are there?

Qualitative Interview Questions

IQ1: What prompts a need for patient transport? (focus groups)

IQ2: Who ultimately determines which patient will be transported next?
(semistructured interviews)

IQ3: What are some of the key reasons why patients are rescheduled?
(semistructured interviews)

IQ4: Are transportation services used efficiently? (semistructured interviews)

IQ5: What are the advantages and/or disadvantages of the push versus pull
system? (semistructured interviews)

IQ6: What are the challenges facing the nurse coordination of the patient
transportation system?

IQ7: Who approves the coordination of care? (focus groups)

IQ8: How is the ongoing education of patient transportation practices delivered?
(focus groups)

Data Collection and Analysis

The purpose of this formative program evaluation was to determine if the
transportation request rationale and process is effective in meeting the needs of the
hospital. Tables 1and 2 depict quantitative and qualitative data collection and data
analysis techniques, respectively.

Table 1

Quantitative Data Collection and Data Analysis Techniques

Research question	Data collection	Data analysis
1. Are patient's transportation wait times significantly less than the average 10-minute wait time?	Archival data	Descriptive statistics: mean (*M*) and Standard deviation; one sample *t* test
2. Are patient's transportation request-to-completion times significantly less than 19 minutes?	Archival data	Descriptive statistics: mean (*M*) and Standard deviation; one sample *t* test
3. How do participants rate the transportation department response time?	Survey	Descriptive statistics: mean (*M*) and Standard deviation (*SD*)
4. How do participants rate the total trip time?	Survey	Descriptive statistics: mean (*M*) and Standard deviation (*SD*)
5. How many daily total cancelations are there?	Archival data	Descriptive statistics: mean (*M*) and Standard deviation (*SD*)

Table 2

Qualitative Data Analysis and Data Analysis Techniques

Interview question	Data collection	Data analysis
1. What prompts a need for patient transport?	Focus groups	Thematic analysis
2. Who ultimately determines which patient will be transported next?	Semistructured interviews	Thematic analysis
3. What are some of the key reasons why patients are rescheduled?	Semistructured interviews	Thematic analysis
4. Are transportation services used efficiently?	Semistructured interviews	Thematic analysis
5. What are the advantages and/or disadvantages of the push versus pull system?	Semistructured interviews	Thematic analysis
6. What are the challenges facing the nurse coordination of patient transportation system?	Focus groups	Thematic analysis
7. Who approves the coordination of care?	Focus groups	Thematic analysis
8. How is the ongoing education of patient transportation practices delivered?	Focus groups	Thematic analysis

Significance

This program evaluation is significant to the transportation department leadership to help validate existing concerns, which may lead to improvement action items and improved patient transportation services. The results may contribute to social change by evaluating the rationale and process hospital staff employ while requesting patient transport services. Additional implications for positive social change include identifying best practices that positively affect hospital quality and safety and improve services to the hospital patients. The focus on quality and safety goals may contribute to positive social change by creating an improved and sustainable culture of patient quality and safety within the central valley region of California.

Conceptual Framework

The foundation of this program evaluation was the agency theory. The agency theory was first proposed by Ross in 1973. Mitnick (1975) further developed the foundation of the agency theory in 1975. Agency theory is a fundamental social theory that can assist in the analysis of the relationship between individuals or parties who act by the responsible party or owner of the organization (Ross, 1973). Mitnick (1975) suggested that the important construct to agency theory is the relationship between an agent and the owner. Agency theory can be used to help explain the relationship between the management of an organization and the organizational leaders (Glinkowska, & Kaczmarek, 2015). A fundamental assumption regarding agency theory is that stability within the governing structure of an organization may produce maximum performance and financial returns (Harris, Johnson, & Souder, 2013). Agency theory was an

appropriate conceptual framework for this program evaluation because the transportation department is an agent within the acute care hospital.

Representative Literature Review

The purpose of this program evaluation was to determine if the transportation request rationale and process effectively meet the hospital's patient transportation needs. The target population was hospital transportation department leadership and hospital leadership. The program sponsor had questions regarding the efficacy of the request for transport to measure against hospital objectives and needed formal program evaluation to validate program findings. The program evaluation findings can help the program sponsor by identifying best practices that positively affect hospital quality and safety. Results from the program evaluation may also lead to positive social change by improving services provided to hospital patients. The transportation department of a midsize community hospital located in California's central valley requested a program evaluation. A review of the literature explored the most current literature in the patient transportation study. I also examined program theory and hospital leadership in this literature review.

The Walden library was the primary search resource for the articles used for this literature review. The databases used to find scholarly articles and other referenced sources were ABI/Inform Collection, Academic Search Complete, and Business Source Complete. Database searches included the following words and phrases:

- *interfacility transportation*
- *intrahospital transportation*

- *transport of patients*

- *patient transfer*

- *intrahospital transport*

- *patient transport services*

- *nonemergency patient transport*

- *program theory*

- *program evaluation*

The overall project consisted of 103 sources, while the literature review consisted of 80 sources, all of which were retrieved from peer-reviewed journal articles. 75% of the sources were published in 2015 or after.

The first section of the literature review focused on general patient transportation literature, including emergency and nonemergency patient transport, ground transport, and air transport. I then explored the general literature on patient transportation, followed by the specific literature on hospital patient transportation. I concluded the literature review with the review of the conceptual framework and program theory literature.

General Literature

Patient transportation occurs during an emergency and scheduled appointments by personal accommodations, public transportation, and air. This discussion begins with the distinction between emergency and nonemergency patient transportation. Hains, Marks, Georgiou, and Westbrook (2011) suggested that nonemergency patient transport is as important as emergency transport but is often underrepresented in hospital transportation considerations. In contrast, Fogue et al. (2016) noted that nonemergency and emergency

patient transportation must be considered two distinct topics. Fogue et al. also suggested that nonemergency patient transportation has increased due to the demographic shifts within society. These findings were significant to review because not all patient transportation goals are the same. This discussion of patient transportation includes both nonemergency and emergency patient transport.

Patient transportation is a complex process that takes multiple resources to accomplish. Broman et al. (2016) found in a survey of more than 2,000 patient transports, only 20% of the transfers to other hospitals were necessary. Haque et al. (2015) noted that care coordination between the receiving and sending facility is critical to maintaining a successful patient transfer. Studies like these suggest that coordination between providers and facilities would significantly improve patient outcomes and reduce unnecessary movement in the healthcare system. There are no limitations as to when and where patients are transported from or to.

Transportation from one facility to another, or interfacility transfers, have been discussed frequently in recent literature. Davies and Chesters (2015) suggested that patients transported from one hospital to another need to be treated with the same amount of care during transport as they would during their hospital stay. Schreiber et al. (2017) suggested that transportation from one hospital to another becomes complicated because of the lack of resources and staff to care for the patient appropriately. Patient care teams must consider what resources are needed while transporting patients from one facility to another. This discussion of interfacility transportation addresses the more extensive matter of the appropriate level of care during patient transportation.

Research has shown the importance of both air and ground transportation services. Weerheijm, Wieringa, Biert, and Hoogerwerf (2012) distinguished between air transport and ground transportation and suggested air transport is always faster than the ground. Still, ground transport allows medical responders to provide additional lifesaving interventions during transport. Oberscheider and Hirsch (2016) studied the efficiencies of ambulance services and suggested that specific patient transportation routes may accelerate patient transportation and reduce public roadway congestion during transportation. What is essential to mention regarding the distinction between air and ground transportation services is that each mode of transportation is used for specific reasons. Several authors have expanded on the need and benefits of air transportation.

Air transportation is used to transport both nonemergency and emergency patients. Kashyap, Anderson, Vakil, Russi, and Cartin-Ceba (2016) suggested that the benefit of air transport is realized only when the receiving facility can treat the patient at the time of arrival. Lockwood and Ackery (2014) suggested that care providers who travel along with patients transported by air transportation services typically stay on as part of the patient's treatment team at the receiving facility until the patient becomes stable. Cheung, Delgado, and Staudenmayer (2014) suggested that despite the common belief that nonemergency patients often misuse air transport, the authors found that most of the cases studied were emergency medical transport. All three studies agreed that air transportation is efficient and achieves the desired result of immediate medical attention. Additionally, Maddry et al. (2017) found that air transportation significantly improves

patient transportation time over other patient transportation methods. The critical issues regarding patient transportation are universal.

Patient transportation is a global topic. Smith, Fortnum, Ludlow, Mathew, and Toy (2015) explored the transportation methods of dialysis patients in Australia and found that patients travel with the assistance of friends, public transport, ambulance, and dialysis center vans. In comparison, Sankar et al. (2015) explored prehospital transportation methods for children in India. They found no established protocols or best practices to ensure the quality and safety of the patients. Mowafi et al. (2016) suggested that underserved healthcare areas have limited access to prehospital transportation services. Patient transportation is consistent with healthcare trends by region in that low socioeconomic areas may have less access to quality care. Patient transportation has also been studied in different settings.

There is a wide range of interfacility patient transportation research. Britt et al. (2017) found that a smaller hospital often requires patient transportation to larger facilities for surgical coverage. Isakov et al. (2015) studied the infection control training for emergency medical transportation responders and found that all emergency transporters must be competent in dealing with possible contagious patients. In contrast, Hullick et al. (2016) noted that individuals living in assisted care living or retirement communities require additional care during transport due to possible fall risks. These studies have important implications for patient transportation because they validate the need for further research and consideration for prehospital and emergency medical transportation.

Specific Literature

The specific literature in this section reflected patient transportation services within the hospital setting. Patient transportation services include nonemergency and emergency patient transport within the hospital walls. Knight et al. (2015) suggested that patients should only be transported from one area to another within the hospital if there is a clear benefit for transportation. Gimenez et al. (2017) suggested that hospital transportation within the hospital often occurs without the necessary planning to successfully transport patients. Both Knight et al. and Gimenez et al. inferred that patient transportation is a process that should not happen without the patient's safety in mind. Harish et al. (2016) noted that patient transportation should only occur when the risks and concerns are addressed to ensure patient safety. Patient transportation is a necessary process that frequently occurs within the hospital, but many authors concluded that the preplanning required for safe patient transport is often neglected.

An interesting finding in the hospital patient transport literature is that transporting patients may extend patients' stay in the hospital. Reimer, Schiltz, Koroukian, and Madigan (2016) found that the time spent in a hospital increases for patients transported to other departments in the hospital. Gimenez et al. (2017) suggested that hospital transportation within the hospital is susceptible to adverse events such as patient falls and lack of the appropriate level of care. Similarly, Alamanou and Brokalaki (2014) suggested that transport within the hospital may worsen a patient's condition. All three sources argued that patient transportation may prolong patients' stay in a healthcare facility.

Although patient transportation may increase a patient's length of stay, there are undeniable benefits of transportation. Patient transportation services within the hospital provide patients access to necessary medical care. Harish et al. (2016) suggested that patient transportation may offer a safe means of taking patients from their room to diagnostic and therapeutic services. Comeau et al. (2015) noted that transportation to procedural areas is necessary; the patients needing transportation services require great medical care.

Patient transportation services offer a reliable and safe way for patients to be moved within the hospital. Schreiber et al. (2017) suggested that the appropriate level of care while transporting patients from one hospital to another is greatly reduced when transporting patients within the hospital. The need for transportation must overcome the risk associated with hospital patient transportation. Several authors indicated that hospital transportation services are susceptible to safety and quality concerns. Schram et al. (2016) suggested that transporting patients requiring constant nursing care within the hospital may present safety and quality issues for the patients who remain on the unit the nurse is leaving. The concern is the reduction of nursing staff on the sending unit while the nurse accompanies the transported patient. Alamanou and Brokalaki (2014) noted that nurses should be aware of any potential quality and safety concerns before patient transportation. Both Schram et al. and Alamanou and Brokalaki agreed that patient safety must be addressed before any patient is moved within the hospital. Safety issues impacting not only the patient but also others are also mentioned in current patient transportation literature.

Patient safety regarding a patient's size is an important component of patient transportation. Some authors have viewed safety as a condition of the patients' ability to harm self or others due to their size. Labaste et al. (2016) studied adverse events related to patient transfer and found patients may be at a greater risk while being transported within the hospital. Gable, Gardner, and Celik (2014) suggested that larger patients' movement is a risk to both the patient and transporter and requires specific training and competency to ensure safety for all involved. Both Labaste et al. (2016) and Gable et al. (2014) infer that patient safety must be considered before patient transportation.

The structure of the hospital transportation department may impact the focus on patient safety. Naesens and Gelders (2009) performed a single case study on a large hospital. They found that the organization had negative perceptions of the transportation department relating to the total patient transportation time. Naesens and Gelders found that the transportation department could improve negative perceptions by adopting a decentralized patient transportation approach. Naesens and Gelders noted that the organization's size made it hard to promptly send transportation resources to the requested areas. Swickard, Swickard, Reimer, Lindell, and Winkelman (2014) noted there was no consistent triage system within hospitals to determine which patient to transport first. One of the end goals for this program evaluation was identifying and understanding the patient request rationale for hospital patients within the acute care hospital.

Hospital Leadership

Organizational leaders are tasked with aligning the business's needs with the motivation of others to achieve results. Artiz, Walker, Cardon, and Zhang (2017) described leadership as a process that occurs in a group context to achieve desired outcomes through a leader influencing individuals to follow. The motivation to follow exists when individuals are led by ethical leaders driven by the organization's mission and values (Mo & Shi, 2017). Organizational leaders are equipped with the tools to motivate and achieve results by maintaining a strong link with the organization's mission and values. Hospital leaders, too, must focus on the alignment between the mission and values of the hospital.

Hospital leaders are tasked with motivating individuals to provide care to a diverse group of individuals. Medical leadership is often taught as a set of attributes or behaviors that must be achieved to become a leader (Gordon, Rees, Ker, & Cleland, 2015). This would suggest that leaders in a hospital setting typically strive to meet predetermined growth goals based on behavioral traits. Bradd, Travaglia, and Hayen (2017) suggested there is limited research on allied health leader development. Sarto and Veronesi (2016) indicated that there are uncertainties around the involvement of clinically trained staff in leadership roles. Leadership is often viewed as a learned skill, and some may argue that formal education must include leadership preparedness.

Hospital leaders include the chief executive officer, department directors, managers, and physician leaders. Dual leadership is a concept that refers to the joint administration of individuals with equal authority (Thude, Thomsen, Stenager, &

Hollnagel, 2017). In a hospital, dual leadership can be applied to a department or the hospital's joint management, between a physician and a nurse. Physicians may be less willing to colead within the hospital environment. According to Byrnes (2016), physician leadership is the only way to improve clinical outcomes because physicians are reluctant to change their practice behavior unless a peer or a physician leader presents the need to change. Physicians are less likely to aspire to become leaders in organizations that focus on sharing leadership responsibilities (Mascia, Russo, & Morandi, 2015). This idea suggests that physician leaders will thrive in a setting where they are the ultimate decision-maker. Individual leadership aspiration is not determined by the need to coexist. Physicians may provide specific leadership qualities in their designated field; however, there is no definitive evidence that physicians oppose dual leadership structures.

Physician and nurse leadership are the most discussed types of leadership in hospital settings; however, the literature also highlights other types of healthcare leaders. Bradd et al. (2017) performed a literature review of allied health leaders and found seven articles that met the inclusion criteria. The authors found that allied health leaders who had specific leadership training scored higher in transformational leadership measures. Gordon et al. (2015) suggested a misalignment existed between how healthcare leaders are taught and the actual expectations of healthcare leaders. Allied health leaders are often selected from skilled healthcare providers. Both Bradd et al. (2017) and Gordon et al. (2015) suggested that allied health leaders may benefit from additional leadership training. Although physician and nurse leaders are the most visible leaders in healthcare

organizations, several other leaders benefit from having specific healthcare leadership training.

Hospital Quality

Hospital quality is a key data point for the effectiveness of the services and care provided by the organization. Kandilov, Coomer and Dalton (2014) examined the effect of hospital-acquired conditions (HACs) on Medicare payments during inpatient and outpatient hospital visits. The study population consisted of all Medicare patients during the study period between October, 2008, and June, 2010, who had an HAC. Kandilov et al. (2014) found that the amount paid for patients who obtained an HAC averaged an extra $146 million per year. Although the authors found significant results indicating that Medicare payments for HACs present a hardship on the Medicare program, there may have been research bias because the Centers for Medicare and Medicaid Services sponsored the study. In addition, the authors did not include data from other insurers to compare reimbursement costs. Ford, Huerta, Diana, Kazley and Menachemi (2013) studied the relationship between hospital quality and patient survey scores. The study sample included a portion of hospitals in the United States that were impacted by government-sponsored programs. The sample consisted of 1,952 hospitals in the United States and found that there is a positive correlation between hospital quality and patient satisfaction scores. Both Kandilov et al. (2014) and Ford et al. (2013) attempted to examine the quality of care provided at a large sample of organizations by reviewing key quality indicators reported to government sponsors. The studies expanded the current

knowledge of the impact of hospital quality and focus on aligning hospital quality with patient outcomes.

Top performing hospitals focus on quality and patient outcomes, showing evidence of the use of best practices. Duarte, Goodson and Dougherty (2014) explored hospital best practices in an attempt to identify key factors that affect hospital innovation and quality outcomes. The study sample included 15 Malcolm Baldridge National Quality Award (MBNQA) recipients. The MBNQA is given to hospitals that meet rigorous quality excellence measures. The authors found that hospitals with optimal organizational alignment incorporate innovation leadership in the organization's mission, vision statement, and values. Duarte et al. (2014) made no mention to how non-MBNQA hospitals measure quality and found little correlation between the strategies in place at the 15 hospitals studied; however, these findings cannot be applied to organizations that have not participated in the MBNQA process. Lieberthal and Comer (2014) explored hospital quality outcome factors through the use the Pridit approach. The Pridit approach is a variable prioritization method that is used to normalize data into a common measure. Lieberthal and Comer explained that data for the study was collected from the Centers of Medicare and Medicaid Services website and included demographic, process, outcomes, and patient satisfaction data. Lieberthal and Comer found that the Pridit approach can be applied to hospitals to predict hospital outcome performance. Both Duarte et al. (2014) and Lieberthal and Comer (2014) explored popular hospital quality models that have been known to improve hospital quality and patient outcomes. Panda and Das (2014) explored variables that affect hospital and hospitality services quality outcomes and

categorized quality in two groups, operational quality and marketing-based quality. Operational quality identifies customers' perceptions of the overall quality based on the service provided. Marketing-based quality reflects the customers perceived quality using targeted promotions. Panda and Das found that reliability, assurance, and tangibility were important factors that improve patient satisfaction. Hospital quality may take different forms within an organization; however, organizations must first understand their current quality data.

Hospital Safety

Hospital safety can be viewed as a subcategory within the hospital quality literature or a standalone data point. Clark, Zickar, and Jex (2014) explored the differences between safety culture and employee engagement. Hospital nurses were the population for this study and the sample consisted of 94 nurses that completed paper surveys. Clark et al. (2014) found that nurses that had engagement functions within their job descriptions had a stronger relationship between safety cultures than those who did not. Clark et al. (2014) made no mention on strategies to improve poor safety cultures. and focused on techniques that other authors explored. Although work environments with low safety occurrences may also have high workforce engagement, there may be additional attributes that have a significant correlation with organizational safety. Geiger (2013) explored a program that was implemented in an Israeli hospital to reduce patient and staff injuries and found that physical therapist intervention helped reduce avoidable patient and staff injuries. Although Geiger identified that the strategy helped the studied organization, additional research is needed to validate these finding.

High performing organizations align patient safety and quality measures to improve patient outcomes. Popescu (2013) explored factors that affect patient safety, quality and management within the healthcare setting. The target audience for this article includes healthcare managers and leaders. Popescu (2013) found that leadership training has a direct relationship with patient safety, and hospital quality. Popescu (2013) only focused on leader driven safety and quality initiative improvement strategies. Although the leader may affect change, front line staff members have the biggest impact on patient safety and quality. Dobrzykowski, McFadden, and Vonderembse (2016) explained that there is a need to implement lean and quality improvement processes to improve financial outcomes and patient safety. Popescu (2013) and Dobrzykowski et al. (2016) both examine patient safety and quality within the healthcare setting. Patient safety and quality initiatives are driven by the organization and the structure set in place to monitor and improve outcomes.

Hospital Structure

The hospital model is similar to the structure of a for-profit organization. Hospitals performance and improvement efforts are usually directed by the president of the organization who reports to the governing board (Sarto & Veronesi, 2016). Stahl, Covrig, and Newman (2014) studied the role of the governing board chair in healthcare organizations and found that the most successful board chairs are transformational leaders as opposed to transactional or laissez faire. Hospital types are discussed as being nonprofit, for-profit, and government owned. There are also freestanding and multiple hospital system ownerships. In the United States, there are three main types of hospital

ownership structures which include nonprofit, for-profit and government owned hospitals (Song, Lee, Alexander, & Seiher, 2013). This subsection reviewed the various types of hospital structures.

The nonprofit hospitals are the dominate hospital structure types in the United States. Mukerjee, Rahahleh and Lane (2016) identified that since the late 1970's nonprofit organizations have been the most prevalent hospital ownership type in the US with 59% of hospitals classed as nonprofit. Mukerjee et al. 2016 further explained that for-profit hospitals make up 16% and government owned represent 25%. Song et al. 2013 identified that not-for profit hospitals report more charitable community benefits. The author further suggested that nonprofit hospitals are viewed as more trustworthy with better quality outcomes as compared to for-profit hospitals. In addition, the authors noted that with an increase of ethical concerns and a changing healthcare landscape the IRS has taken additional steps to define what it takes for hospitals to claim not-for profit status. Lachmann, Trapp and Wenger (2016) found that nonprofit hospitals tend to base clinical performance reviews on organizational commitment and loyalty, where for-profit hospital are likely to use more objective criteria. Andritsos and Aflaki (2015) explored the relationship between nonprofit and for-profit hospitals and found that for-profit hospitals may perform well in a competitive environment. In relation to wait times and patient delay for care, Andritsos and Aflaki identified that patients who expect prompt care are more willing to receive care from for-profit hospitals. Mukerjee et al. (2016) identified that hospitals cannot compete in the same ways of businesses in other industries because of major differences of healthcare operations against that of major industry. In their

limitations section, Ge and Anderson (2016) suggested that additional research to examine the quality provided to customers and the impact to hospital profitability. Activities not directly related to patient care contribute to the overall profitability of a healthcare organization (Ge & Anderson, 2016). Nijmeijer, Huijsman, and Fabbricotti (2014) explored hospital ownership structure with a focus on franchise models. Granderson and Tauchen (2016) explored hospital system membership and productivity. Granderson and Tauchen found that large hospital systems may have an advantage over single or smaller hospital system productivity by technological advances shared by the system. Kaissi, Patrick and Roscoe (2016) studied hospital system alignment with retail clinics and/or urgent care centers. The authors identified that a majority of the hospital systems in the US are interested in acquiring or partnering with urgent care centers.

Hinna and Scarozza (2015) and Raelin and Bondy (2013) are two examples of authors that explored the relationship of the governing board of an organization through the theoretical lens of the agency theory. Hinna and Scarozza (2015) focused on the relationship among public administrators and board members. While, Raelin and Bondy (2013) explored corporate governance and ethical relationships between principles and agents. Both Hinna and Scarozza (2015) and Raelin and Bondy (2013) identified that the monitoring function of the governing board is a key concept that lies within the utilization of the agency theory. Although the agency theory is the key construct for both articles, the stakeholder theory and stewardship theory also aids the understanding of the governing board.

Governing boards are faced with unique challenges including role definition of board members, internal and external differences in mission and culture and differing board member inputs (Millar, Freeman, & Mannion, 2015; Salmon, 2016). Existing literature explores the make-up of governing board members and the importance of diversity. Wright (2015) explored the role of patients on the hospital governing board and suggested that this population of governing board representatives are typically excluded from governing board leadership roles. Salmon (2016) discussed the role of nurse leadership on governing boards and identified actions nursing professionals may take to gain membership. Both Wright (2015) and Salmon (2016) concluded that different perspectives and experiences on the governing board have the potential to positively affect the care provided to patients. This discussion of the role of patients and nursing leads into the conversation regarding males and females on the governing board.

The structure of the governing board may affect hospital outcomes. Veronesi, Kirkpatrick and Altanlar (2015) found that governing boards with a significant amount of clinical minded individuals has a positive effect on hospital outcomes. Rotar et al., (2016) suggested that hospitals have a greater ability to improve clinical outcomes when led by individuals with clinical knowledge. Clinical knowledge on the governing board is presented as a benefit to patient and hospital outcomes. Governing board members that are clinically trained bring caregiver perspective and patient focused attention to the governing board.

Agency Theory

Agency theory was the conceptual framework for the program evaluation. Agency theory fits into the discussion of hospital transportation by framing the relationship between the transportation department and the hospital. The agency theory was built on the framework of the theory of the firm (Jensen & Meckling, 1976). Jensen and Meckling sought to develop a working theory that would help explain the relationship between owners of an organization and individuals tasked to manage the day-to-day operations. Agency theory has been found to be a reoccurring theory used in organizational and management research fields (Bosse & Phillips, 2016). Governing board members are responsible for monitoring the actions of organizational leaders (Hinna & Scarozza, 2015). Both Bosse and Phillips (2016) and, Hinna and Scarozza (2015) describe the agency theory as a dominant theory in relation to hospital oversight and organizational leadership. The agency theory is applicable to this study because transportation programs are a function within the hospital setting that is managed by hospital leadership.

There are various definitions and applications of the agency theory. Bosse and Phillips (2016) described the agency theory as an act of "value creation". A group initiates the value creation process, the principles, delegating control to another group or individual, the agent. While Tumbat and Grayson (2016) noted that existing literature explores how much control principles delegate to agents. Bosse and Phillips (2016) explored the existence of a monitoring body, while Tumbat and Grayson (2016) acknowledged the governing boards role and also questioned how much influence governing board members have within the principle – agent relationship. Steinle, Schiele,

and Ernst (2014) suggested principles identify the desired outcomes expected of the agents. This idea would indicate that the governing board members, as principles, set the goals and objectives for the agents of the organization. Researchers attempting to understand agency theory have found that there may be an issue with the agency theory.

Agency theory researchers have identified the agency problem, which is the misalignment of objectives between the principle and the agent (Bosse & Phillips, 2016). Lopes (2016) suggested that agents have the ability to take on their own agenda at the expense of the principle. However, to reduce any misdirection by the agent, the principle may offer financial rewards to the agent to produce the desired results (Lopes, 2016). Miller and Sardais (2011) explained that a common belief about the agency theory is that agents, if allowed to do so, would act in the best interest of oneself, instead of the principle or organization. Similar explanations have been made by Steinle et al. (2014) who noted that individuals would promote personal gain if the situation allows. A high functioning governing board must understand the agency problem to reduce potential misalignment between the board and the organization it serves.

While researchers use the agency theory to explain the relationship between a principle and an agent, it may also be used to understand and limit misalignment between a principle and an agent. Tumbat and Grayson (2016) explained that a key component of the agency theory is to explore social arrangements that will prevent agency problems. Coletta (2013) described the agency theory as a system put in place to identify which reward structures produce the greatest rewards in the organizational model. Both Tumbat and Grayson, and Coletta explored strategies to prevent the agency problem. A greater

understanding of the agency theory may provide an opportunity for alignment between governing board members and the organizations they serve.

Program Theory

Several authors have investigated the purpose of program theory. Harman and Azzam (2018) explained that program theories help individuals understand the goals of a certain program. Similarly, Van Urk, Grant, and Bonell (2016) suggested that logic models help with the understanding of complex or multifaceted processes. The articles referenced both suggest that the use of program theory will help individuals understand the basis of the explored program. Johnson et al. (2016) found that the use of program theory helped program stakeholders understand the purpose and the goals of the program. All three articles highlight the need for a program definition and suggest that the purpose of a program theory is to help guide program stakeholders with understanding of the specific program.

The topic regarding how to utilize program theory has been addressed by several scholars. Burbaugh, Seibel, and Archibald (2017) emphasized that not enough research has been conducted on the need to create a program theory before conducting program evaluation. Johnson et al. (2016) suggested that program theory is typically an afterthought for program managers. While there is no set practice in regard to what stage the program theory may best be utilized, program managers could benefit from the development of a working program theory before implementing the program. Harman and Azzam (2018) suggested that focus groups and social media is a beneficial way to validate program theories. Johnson et al. (2016) indicated that the use of program theory

was created to explain how a program operates. Harman and Azzam, and Johnson et al. introduced important considerations for program theory by suggesting why there is a need for a program theory and how to prove a developed theory. Despite the existing literature supporting the benefits of program theory, authors argue program managers underutilize program theory.

Program theory can be used to validate performance improvement efforts. Van Urk, Grant, and Bonell (2016) noted that process improvements or program evaluations based theory are considered to be more trustworthy than studies not grounded by theory. Smith, Mitton, Cornelissen, Gibson, and Peacock (2012) explained that program evaluations are typically used to interpret the value of a certain program or process. Both Van Urk et al. (2016) and Smith et al. (2012) have recognized the value of utilizing a program theory. Hassan (2013) conducted a study on the use of program theory within a tutor training program and found that the program theory helped program sponsors understand the needs of the program recipients. Baghbanian and Torkfar (2012) utilized a program theory of complexity to understand economics within the healthcare industry and found that healthcare leaders benefit from the use of theory to develop strategies to collect important data. Both authors use the basis of program theory to develop working theories for specific programs.

Transition

Section 1 introduced a historical background and organizational context. The program evaluation problem statement was identified along with the purpose statement and target audience. Next, the research questions and data collection and analysis were

presented. I explained the significance of the study and presented a review of the

professional and academic literature. In Section 2, I restated the purpose statement of the

program evaluation. I explored the research method and design, and discussed ethics as it

related to my role as the researcher.

Section 2: Project Design and Process

In Section 1, I introduced the historical background and organizational context of the study. I identified the problem statement along with the purpose statement and target audience. Also, I presented the research questions and data collection and analysis. I explained the significance of the study and presented a review of the professional and academic literature. In this section I discuss the study method and design, along with ethics.

Method and Design

Method

The purpose of this formative program evaluation was to determine how effective the transportation request rationale and process is in meeting the needs of the hospital. The transportation department provides patient transfer services for a midsize community hospital located in the central valley region of California. Participants included the transportation department director, hospital leadership, and hospital staff. The implications for positive social change include identifying best practices that positively affect hospital quality and safety and improve services to the hospital patients.

The program evaluation consisted of a survey, several semistructured interviews, focus groups, and archival data analysis. The survey consisted of two questions geared toward the satisfaction of the services provided in the organization. The participants for the semistructured interviews were selected by the length of employment, at least 3 months in the organization. All participants were allowed to opt out of the program evaluation at any time. The director of transportation provided a list of staff members in

the organization that aided in selecting members for the focus group. Finally, I analyzed

archival data to help determine the effectiveness of the program objectives. The archival

data was requested upon approval of the proposal. Cohen and Crabtree (2008) noted that

a strong evaluative analysis is built upon the experience of the researcher and the

understanding that there are multiple truths within a particular subject matter. Dixson and

Worrell (2016) addressed the opportunity to use formative and summative assessments as

tools to determine the effectiveness of educational development. Both authors attempted

to explain the subjectivity that is needed to make informed conclusions with qualitative

research. This study provided a detailed analysis of a transportation program in which the

conclusion was prepared with the understanding that researcher basis and participant

observations affected the outcome.

I used the survey questions to help understand the perception of the response

provided by the transportation department. The survey questions were presented to the

end users of the transportation service. Specifically, floor nurses and imaging staff were

asked to answer the two survey questions. Bentao and Wanhe (2018) used a survey

focused on the perspective of study subjects to obtain data relating to the success of the

study topic. The survey questions for my study were presented using a five-point Likert

scale (see Liu & Chalmers, 2018). I analyzed the information collected from the survey

questions using descriptive statistics. The mean denoted the average response amongst all

answers to the individual question and the standard deviation represented the spread of

the answers. The semistructured interviews consisted of four qualitative interview

questions. The individuals selected to participate in the semistructured interviews were

provided a time and location for the interview and were asked the same questions. I asked open-ended questions to ensure the interviewee was able to provide meaningful data. I used thematic analysis to make proper use of the qualitative data.

The discussion in this study's focus group evolved around four primary questions. The participants for the focus group included hospital leadership, nurses, transportation department staff, and imaging department staff. The questions were used to generate a conversation that provided the program evaluation depth and led to a meaningful understanding of the expectations of the transportation department objectives. I used thematic analysis to interpret the focus group data. Guest, Namey, Taylor, Eley, and McKenna (2017) explained that focus groups vary in size between six to 12 participants and are intended to spark a conversation between the participants regarding the study topic. Two of the research questions, RQ1 and RQ5, were addressed using archival data. Archival data was collected by the director of transportation services. The director of transportation services provided monthly indicators for fiscal year 2017 and 2018. I analyzed the first question with descriptive statistics including mean, standard deviation, and also a one sample t test. Bevan (2014) explored phenomenological research strategies and provided a structural guide to conducting qualitative research. Sallee and Flood (2012) suggested that qualitative research is often seen as inferior to quantitative studies in business settings and attributed such perception to the amount of time and effort it may take to use qualitative methodologies. While qualitative methods may entail additional time, the program evaluation benefited greatly from the use of both quantitative and qualitative methodologies.

Research Questions and Interview Questions

Quantitative Research Questions

RQ1: Are patients' transportation wait times significantly less than the average 10-minute wait time?

RQ2: Are patients' transportation request to completion times significantly less than 19 minutes?

RQ3: How do participants rate the transportation department response time?

RQ4: How do participants rate the total trip time?

RQ5: How many daily total cancelations are there?

Qualitative Interview Questions

IQ1: What prompts a need for patient transport? (focus groups)

IQ2: Who ultimately determines which patient will be transported next? (semistructured interviews)

IQ3: What are some of the key reasons why patients are rescheduled? (semistructured interviews)

IQ4: Are transportation services used efficiently? (semistructured interviews)

IQ5: What are the advantages and/or disadvantages of the push versus pull system? (semistructured interviews)

IQ6: What are the challenges facing the nurse coordination of the patient transportation system? (focus groups)

IQ7: Who approves the coordination of care? (focus groups)

IQ8: How is the ongoing education of patient transportation practices delivered?

(focus groups)

Design

The completed study was a program evaluation. Program evaluation is a research tool that can help individuals or organizations determine the value or effectiveness of a program or service (Stufflebeam & Coryn, 2014). The nature of this program evaluation was formative over summative. Formative evaluation is a tool used to evaluate the process, identify adjustments, and make recommendations for improved program success (Stufflebeam & Coryn, 2014). In contrast, a summative evaluation is a tool that may be used to evaluate the finished product or implementation of a program or service (Stufflebeam & Coryn, 2014). Farley and Battles (2009) explained that a formative program evaluation will produce information to help program sponsors improve a program, while a summative program evaluation will provide a report on how well a program or service met the needs of a given population or event. Because the hospital transportation service that was evaluated is an ongoing program, a formative evaluation was the most appropriate design.

The logic model helps the researcher explore the research topic. Figure 1 is a graphical depiction of the logic model that includes the inputs, activities, outputs, and outcomes of the hospital transportation department. The inputs included the hospital contract, which is the agreement between the hospital and the transportation department. Hospital leadership, along with the transportation service representatives, set the hours of operation and outlined expectations for the program (director of transportation, personal

communication, February, 2018). The short-term, midterm, and long-term goals are evaluated annually by the director of transportations and hospital leadership.

Hospital Transportation Department Logic Model

Inputs	Activities	Outputs	Outcomes		
*Hospital Contract *Contract Staff *Hospital Staff *Organizational Resources	Transportation department provides transportation services to patients within the hospital seven days a week, between the hours of 5:00 am to 3:00 am Monday – Friday and 6:00 am to 1:00 am Saturday and Sunday	*Response Time *Total Trip Time # of cancelations # of reschedules # of delays # of Requests # of Total Trips # of Trips per Labor Hour	Achieve average 19 min. request to complete time	Achieve average request to transport of 10 mins. or less	Patients are transported safely and efficiently through the hospital

Figure 1. Transportation department program evaluation logic model.

I used both qualitative and quantitative research methodologies to explore the hospital transportation program. Qualitative research allows the researcher to obtain a deeper understanding of the subject's practice by exploring the *how* of the process (Correia, 2013; Lee, 2014). Research studies are deemed qualitative for a descriptive study or quantitative for a study grounded in numerical analysis, whereas a study using a mixture of both is classified as a mixed methods approach (Marshall & Rossman, 2016)). The program evaluation used a mixed methods research methodology. The program evaluation of the patient transportation service included both quantitative and qualitative research inquiry.

Types of qualitative research approaches include: (a) phenomenology, (b) ethnography, and (c) grounded theory. Wells (2013) suggested that a phenomenological study should focus on the perceptions of the study subjects to better understand their lived experiences. Thus, this study had elements of a phenomenological research approach. The ethnographic theory approach is used to explore the background and social makeup of research participants (Salari, 2012). The ethnographic theory approach was not appropriate for this study because the purpose of the study was not to focus on the background and social makeup of the research participants. Grounded theory is an approach formed from the perspective of the participant's participation in the phenomena under review (Creswell, 2009). This study was guided by the perspective of the participants.

Semistructured interviews, focus groups and data analysis were the data collection techniques for this program evaluation. On site focus groups were conducted during service operating hours. I identified participants and scheduled appointments indicating the time and the location of each focus group. A focus group can be used to interview multiple people at once while allowing the discussion to evolve around active participants in the study subject (Qu & Dumay, 2011). The benefits to this strategy include the forming of themes from the collective group and the time saved versus interviewing a single person at a time. The potential downside to this strategy may be the effects of discussing difficult topics or organizational politics. The focus groups were led by this researcher with a semistructured interview format. The program evaluation also used quantitative data analysis techniques. O'Shaughnessy and Cavanaugh (2015) explained

that both a *t* test and analysis of variance (ANOVA) are statistical tools that, when used to calculate normally distributed data sets, inform the researcher whether there is a significant mean difference. Statistics in research describes the presentation of study results in terms of the study population produced by the study collection tools (Hashim, Qamar, Abid, & Ali, 2015). Hashim et al. (2015) explored the context of statistics within research and explained that all research must be proven statistically stable in order for the research to be deemed valid. I used the mean and standard deviation, as well as the one sample *t* test to analyze the quantitative research questions. The qualitative data were analyzed utilizing thematic analysis.

I addressed validity and reliability by ensuring participants were offered the chance to review the finding. Cohen and Crabtree (2008) discussed internal and external validity as a means of understanding different interviewee perspectives. The authors described internal validity as the accuracy of accounts being made between two variables, while external validity is defined as the accuracy of the summary of themes. Andrade (2018) described validity and reliability as a model to examine research tools. Internal validity explains accuracy and consistency by the researcher, while external validity is concerned with the relationship with the study's results compared studies, contexts and populations. Both Cohen and Crabtree and Andrade have similar perspectives on external validity, however there is a difference in the purpose of internal validity. This may be due to the additional type of validity offered by Andrade. Ecological validity explores whether the research results can be applicable to real life setting instead of the controlled settings of a research study (Andrade, 2018). This study benefited from the ecological

validity conception since the program evaluation was designed around an ongoing program which has limited population control.

Validity and reliability were addressed within the study to ensure the accuracy of the study. Cohen and Crabtree (2008) noted that validity in qualitative research is achieved by consulting with others to ensure accuracy of information produced from the research. Reliability is a term that is often associated with quantitative methods but is applicable to qualitative research as well (Cohen & Crabtree, 2008). Cohen and Crabtree (2008) acknowledged two ways to address reliability in research; there is the case of the researcher who provides the information and requires the reader to interpret and assess reliability of the research findings or, the researcher may provide the reader with assurance that participants were given the chance to validate the findings. DeVon et al. (2007) explained that reliability is an important concept which examines reproducibility of the research outcomes. This researcher will ensure validity and reliability are addressed in the study.

Ethics

All the required participation consent and IRB approvals were obtained prior to the commencement of data collection. Both the Belmont Report and The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research were developed in response to the mishandling of cultural and ethnic research standards in the United States of America (Awad, Patall, Rackley, & Reilly, 2016). Although, there has been a shift to explore culture and ethnic sensitives within research some minority groups are still reluctant to participant in research studies. Awad et al.

(2016) argued that researchers should not measure minority groups to a controlled group, such as white individuals as a control group, but offered that outside researchers may ask for a control group. Awad et al. (2016) explained that it may not be appropriate or culturally sensitive to ask for a racial control group for research studies addressing specific ethnic groups. Trust building is a term used to foster a level of confidence between the researcher and study population (Awad et al., 2016). To build trust from the participants in this study I refrained from presenting personal bias and allowed all participants the same amount of time.

I informed all research participants that their participation with this study was voluntary and no monetary incentives were given. Participants were able to remove themselves from the study at any time. The informed consent document reiterated the voluntary nature of the research, information regarding the non-monetary agreement, and the participants acknowledgment of participation. Data from the study will be stored on a flash drive for 5 years to protect the rights of participants. This researcher did not begin collecting data until the sponsoring organization and the Walden IRB approved the proposal. The final IRB approval number was 09-11-19-0506296.

Transition and Summary

Section 1 introduced the historical background for the research and organizational context. The program evaluation problem statement was identified along with the purpose statement and target audience. Next, the research questions and data collection and analysis were presented. I explained the significance of the study and presented a review of the professional and academic literature. In Section 2, I restated the purpose statement

of the program evaluation, explored the research method and design, and discussed ethics

as it related to my role as the researcher. In Section 3, I will provide the purpose of the

program, along with the goals and objectives. In addition, I will give an overview of the

finding, and provide recommendations.

Section 3: The Deliverable

Executive Summary

In Section 2, I stated the purpose statement of the program evaluation, explored the research method and design, and discussed ethics as related to my role as the researcher. In this section, I further state the purpose of the program along with the goals and objectives. In addition, I provide an overview of the findings, recommendations for action, a communication plan for the program evaluation, and a summary of my skills and competencies.

Purpose of the Program

The purpose of this formative program evaluation was to determine how effective the transportation request rationale and process is in meeting the needs of the hospital. The transportation department provides patient transfer services for a midsize community hospital located in the central valley region of California. Participants included the transportation department director, hospital leadership, and hospital staff. The results of this program evaluation suggest the transportation department is effective in meeting the needs of the hospital. The continued positive performance can create a positive social change by assuring the use of best practices at this and similar hospital settings, which can help like hospitals improve hospital quality and safety and improve services to hospital patients.

Goals and Objectives

This program evaluation targeted a transportation department in an acute care hospital that provides a full scope of medical care services. Specific department goals

include (a) accomplish an average 19-minute transport request-to-completion time, and (b) accomplish a 10-minute response from the time transport request is received to the time the transporter arrives. The department employs 22 full-time equivalents and has been providing service for 8 years. Participants consisted of the transportation department director, hospital leadership, and hospital staff. Transport leadership included the patient transport director and supervisors. Hospital leadership included managers, directors, and executives employed at the acute care hospital. Hospital staff included patient transporters and requesting and sending department staff.

Overview of Findings

I performed this formative program evaluation to determine how effective the transportation request rationale and process is in meeting the needs of the hospital. The primary objective of the program is to meet the two specific goals which are (a) accomplish an average 19-minute transport request-to-completion time and, (b) accomplish a 10-minute response from the time transport request received to the time the transporter arrives. The findings of the study showed that the transportation department on average achieved a 12-minute response-to-completion time, which meets the goal of 19-minutes and 12-minute response from the time transport request is received to the time the transporter arrives, which presents an area of opportunity for the transportation department.

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Presentation of the Findings (Quantitative)

</div>

In this subsection, I present the results of the study for the quantitative research questions. RQ1 was as follows: Are patients' transportation wait times significantly less

than the average 10-minute wait time? RQ2 was as follows: Are patients' transportation request-to-completion times significantly less than 19 minutes? In addition, I provide details of the descriptive statistics that describe the data and present each assumption of the statistical test (t test). This section concludes with the results of the t test.

Descriptive Statistics

I analyzed the archived data and surveys through the use of the Statistical Package for Social Sciences (SPSS) software. The descriptive statistics were the mean and standard deviation. The archived data was retrieved from the transportation system that contained all hospital inpatient transportation jobs from April, 2018, to October, 2018. The RQs for the archived data were:

RQ1 Are patients' transportation wait times significantly less than the average 10-minute wait time?

RQ2: Are patients' transportation request-to-completion significantly less than 19 minutes?

RQ5: How many daily total cancelations are there?

The descriptive statistics inform the mean and standard deviation of each of the identified research questions. The archived data resulted in (N) 62,261 data points. The survey questions resulted in 36 responses. The survey data was collected on a five-point Likert scale from (1) strongly dissatisfied to (5) strongly satisfied.

Table 3 shows that the sample size for both the wait time and transportation request-to-completion time were the same ($Nn = 62,261$). Out of the 62,261 transports completed, the mean patient wait time was 12.03 ($SD = 15.08$). This data indicates that

on average patients waited 12 minutes from the time of dispatch to transporter arriving to

initiate the patient transport. The mean transportation to request-to-completion time was

11.48 (SD = 6.194). This data indicates that on average patient's request-to-completion of

the transport job was 12 minutes.

Table 3

Archival Data Research Questions

	N	M	SD
RQ1: Are patients' transportation wait times significantly less than the average 10-minute wait time?	62261	12.03	15.08
RQ2: Are patients' transportation request-to-completion times significantly less than 19 minutes?	62261	11.48	6.194
RQ5: How many daily total cancelations are there?	183	61.84	17.07

In reviewing the data, it was important to note how many jobs were canceled

which directly impacted the overall time of transportation. Out of 183 days, the mean

number of daily patient cancelations was 61.84 (*SD* = 17.07). These results indicate that

on average there are 62 cancelations in any 1 day. The number of cancelations is

significant because of the direct correlation with the amount of time it may take to

prepare a patient for transport and the staff's overall perception of total trip time.

The survey data was analyzed using descriptive statistics, which included the

mean and standard deviation. Participants for the survey included hospital staff who were

directly involved in the patient transportation process. The questions included (a) How would you rate the transportation department response time, and (b) How would you rate the total trip time?

Table 4 below shows that the sample size for both perception of department response time and perception of total trip time were the same ($N = 36$). Out of 36 surveys completed, the mean result for the perception of transportation department response time was 2.76 ($SD = .910$). This data indicates that the perception of the transportation department response time on average is somewhat dissatisfied. This result suggests that the participants on average had a negative perception of the transportation department response time. The mean result for the perception of the total trip time was 2.86 ($SD = .931$). This data indicates that the perception of the total trip time on average is somewhat dissatisfied or neutral. This result suggests that the participants on average had a negative perception of the overall patient transportation response time.

Table 4

Survey Data Research Questions

	N	M	SD
RQ3: How do participants rate the transportation department response time?	36	2.76	.910
RQ4: How do participants rate the total trip time?	36	2.86	.931

The descriptive statistics show the mean and standard deviation for the archived data and survey responses. The patient wait time and request-to-completion of the transport time were both expressed by the mean. In this case, the mean represented the average time of wait and completion. The results indicated that mean time for the patient wait time was greater than the goal of 10 minutes, while the mean for the request-to-completion of the transport time indicate that on average, the transportation department meets the desired goal of less than 19 minutes.

Assumptions

Prior to conducting the statistical test, several assumptions were tested and validated to ensure accuracy of the *t* test. The first assumption was that the independent variables were all nominal to properly perform the *t* test. This was achieved using the SPSS software and the accuracy of data entry. The second assumption was the normal distribution of the variables. I used the SPSS program to ensure the variables maintained a normal distribution. In addition, the assumption that the data did not contain any outliers was achieved, which resulted in the data being deemed appropriate for the statistical test.

Statistical Test

The purpose of the program evaluation was to determine if the patient wait time was significantly less than 10 minutes and if the transport to request-to-completion was significantly less than 19 minutes. I used a one sample *t* test to determine if both identified research questions met the program sponsor goals. The archived data was

retrieved from the transportation system that contains all hospital inpatient transportation jobs from April, 2018, to October, 2018.

I tested RQ1's following null hypothesis using a one sample *t* test.

RQ1: Are patients' transportation wait times significantly less than the average 10-minute wait time?

$H1_0$: The average patient wait time is not significantly less than 10 minutes.

$H1_A$: The average patient was time is significantly less than 10 minutes.

Patient wait time was measured by minutes and seconds using the time provided by the transportation system software.

I tested RQ2 using a one sample *t* test.

RQ2: Are patients' transportation request-to-completion times significantly less than 19 minutes?

$H1_0$: Patient's transportation to request-to-completion times are not significantly less than 19 minutes.

$H1_A$: Patient's transportation to request-to-completion times are significantly less than 19 minutes.

The patient's transportation request-to-completion times were measured by minutes and seconds using the time provided by the transportation system software.

Results of Research Questions

A one sample *t* test was utilized to determine if the patient wait time was significantly less than 10 minutes. The results indicate that the patients mean score is statistically significant. The results further indicate that I can reject the null hypothesis.

The average patient wait time is significantly greater than 10 minutes, $t(62,260) = 33.60$, $p = .001$ (see Table 5).

A one sample t test was utilized to determine if the transport to request-to-completion was significantly less than 19 minutes. The results indicate that patients transportation to request-to-completion is significantly less than 19 minutes $t(62,260) = -302.82, p = .001$.

Table 5

One Sample t *Test*

	t	df	p	Mean diff	95% CI of the difference	
					Lower	Upper
Patient wait time	33.30	62260	.001	2.03	1.91	2.15
Request-to-completion	-302.82	62260	.001	-7.52	-7.57	-7.47

The purpose of the one sample t test was to identify if the patient's wait time was significantly less than 10 minutes and to identify if patient's transportation to request-to-completion times are significantly less than 19 minutes. The null hypothesis that the average patient wait time is not significantly less than 10 minuets was accepted. The average patient wait is greater than 10 minutes. The null hypothesis that patient's transportation to request-to-completion are not significantly less than 19 minuets was

rejected. The results of the one sample *t* test indicate that the patient's transportation to request-to-completion are significantly less than 19 minuets.

Presentation of the Findings (Qualitative)

The overarching research objective for this formative program evaluation was to determine how the transportation request rationale and process is effective in meeting the needs of the hospital. The qualitative research questions were explored through the use of semistructured interviews and focus groups. The responses to both the interviews and focus groups provided key themes that identify areas of opportunity to improve the perception of the hospital transportation department. Eight interview questions were conducted with hospital staff to help answer the research objective. Four of the questions were collected through the use of semistructured interviews and four were collected through focus groups. There was a total of 29 interviews and four focus groups. All the study participants were directly employed by the organization or for the transportation services organization. The most frequent themes are displayed in Table 6 below.

Interview Questions

IQ2: Who ultimately determines which patient will be transported next?

There were seven key themes that emerged for IQ2 (see Table 6). The most reoccurring themes were, "the requesting department" and "the transportation department" which both had the same number of responses ($N = 11$).

Participant 3 (P3), a staff member within the transportation department, indicated the responsibility of identifying the next patient to be transported lays within the requesting department. Participant 8 (P8), an x-ray technologist with over 5 years of

employment within the hospital, suggested that the requesting department is responsible for the determining the next patient as long as the patient's labs and medication consent are complete. Participant 9 (P9), an CT technologist with over 5 years of employment within the hospital, noted that the receiving department will determine the next patient to be transported. Participant 13 (P13), a transportation staff member with over 2 years of employment within the organization, stated that the transportation department identifies the next patient to be determined. The interview participants were confident in their response to IQ2.

Table 6

Interview Questions

	Most Frequent Themes (*N*)	
IQ2: Who ultimately determines which patient will be transported next?	1. The requesting department (11) 2. The transportation department (11) 3. The transportation dispatcher (3) 4. Exam requirements (2) 5. The technologist (1) 6. The doctor (1)	
IQ3: What are some of the key reasons why patients are rescheduled?	1. Labs not complete (13) 2. Medication(s) not given (10) 3. Patient not ready (9) 4. Communication issues (6) 5. IV is not working (5) 6. EKG's are not done yet (5)	
IQ4: Are transportation services used efficiently?	**Yes** 1. Somewhat (6) 2. Most of the time (5) 3. We are using it efficiently (5)	**No** 1. No, not always (4) 2. We use our own staff to transport patients (3) 3. There are not enough transporters (1) 4. There are wasted jobs (1)
IQ5: What are the advantages and/or disadvantages of the push versus pull system?	**Push** 1. the advantage of a push system is when there is a quick exam (6) 2. The patients may wait a long time (6) 3. It depends on who is pushing vs pulling (4)	**Pull** 1. We can pull accordingly (5) 2. We get to determine the flow (3) 3. The pull system is better (2)

IQ3: What are some of the key reasons why patients are rescheduled?

There were six key themes that emerged for IQ3. The most frequently discovered theme from this question was "lab not complete" ($N = 13$) and "medication(s) not given" ($N = 10$). Participant 1 (P1), a transportation staff member with over 3 years of employment within the organization, stated that most of the time the nurse will explain that they are not ready because they have to give the patient medication. Participant 2 (P2), a transportation staff member with over 2 years of employment within the organization, stated that the primary reason for a patient being rescheduled is due to not having labs back. P3 indicated that the reason that patients are rescheduled are related to nursing not giving the patient's medication prior to transportation. Participant 4 (P4), an Emergency Room nurse with over 2 years of employment within the hospital, suggested that patients are rescheduled because labs, EKG's or IV placement issues. Out of all of the interview responses it is apparent that rescheduling may be a result of a need to ensure patient care can be sustained during transportation.

IQ4: Are transportation services used efficiently?

There were four positive themes and five negative themes that emerged from the IQ4. All of the interview participants ($N = 29$) answered the question. The most reoccurring response was "somewhat" ($N = 6$). P4 indicated that the system is sometimes helpful but it often takes too long to receive the patient. Participant 7 (P7) indicated that the transportation services are used efficiently. Participant 9 (P9) noted that the services are not used efficiently because there is often a lack of staff. P13 stated, "I think for the most part they are. Sometimes they just get bogged down". Participant 16 (P16) indicated

that the wait times for patients are usually high and the services are not used efficiently. Patients may not be transported until all safety concerns are addressed, however this attention to safety and quality may delay the patient transportation time.

IQ5: What are the advantages and/or disadvantages of the push versus pull system?

Seven key themes between push and pull system resulted for IQ5. The most dominate theme was, an advantage of the push system, "the advantage of the push system is when there is a quick exam" ($N = 6$), and the negative outcome of the push system, "the patient may wait a long time" ($N = 6$). P1 indicated that it depends on who is doing the pushing and pulling, specifically noting that if it is an outside department that is determining the flow of their own department the push system would not work. P2 indicated the pull system works efficiently because they have the ability to determine who is coming to the department next. P6 suggested that the pull system gives them the ability to control who will come to the department. P7 indicated that a push system is ideal because it allows the receiving department to continue to provide patient care while the transportation department ensures the patients are brought to the department on time. P9 indicated, "this is a push, there is no pulling. It's a constant push, there is no pull. there is not enough staff to do that. If we had a true pull system it would work a little bit better." P16 suggested that the system that is currently used is based off of patient priority and noted that the floor staff are usually not able to pull the next patient.

Focus Group Questions

Each focus group lasted an average of 5 minutes, while all members of each group actively participated in answering the questions. The focus group questions were:

IQ1: What prompts a need for patient transport?

IQ6 What are the challenges facing the nurse coordination of the patient transportation system?

IQ7 Who approves the coordination of care?

IQ8 How is the ongoing education of patient transportation practices delivered?

There was a total of four focus groups. Each focus group had a participant size between three to five participants (see table 7). Focus Group one (FG 1) consisted of five Emergency Room nurses who all had over 2 years of employment within the hospital. Focus group two (FG2) consisted of four transportation department staff members who all had one or more years of employment within the organization. Focus group three (FG3) consisted of five staff members within the radiology department. Focus group four (FG4) consisted of three telemetry department nurses. The focus groups focused on semistructured interview questions.

Table 7

Focus Group Questions

	Most frequent themes (*n*)
IQ1: What prompts a need for patient transport?	1. The physician order (3) 2. Nursing services (1)
IQ6: What are the challenges facing the nurse coordination of the patient transportation system?	1. The transportation system (2) 2. Unavailable nursing staff (1) 3. Pain level (1)
IQ7: Who approves the coordination of care?	1. The nurse (3) 2. The house supervisor (1)
IQ8: How is the ongoing education of patient transportation practices delivered?	1. Education is delivered through a top down approach (2) 2. Education is delivered well (1) 3. Education is not sustained (1)

IQ1: What prompts a need for patient transport?

Focus Group two (FG 2), Focus Group 3 (FG3) and Focus Group four (FG4) agreed that the need for the patient transport was prompted by the physician order, while Focus Group one (FG1) identified the need to transport a patient as a function of the nursing services, see Table 6. FG 1 indicated the need for transport is identified at the designated time for a procedure. FG 2 suggested that the need comes from the order that is placed in the system. FG 3 had a discussion evolving around the orders that are placed in the system and agreed that the floor nurse may not be aware of the need for transportation. FG4 stated the need for a transport is dependent on if the patient is going for a procedure or discharging. The focus group discussion around this question led the

staff to think of specific encounters that prompted a need for transportation. All of the focus group participants used each other to expand and continue the conversation around the need for patient transportation.

IQ6: What are the challenges facing nurse coordination of the patient transportation system?

The emerging themes from IQ6 were: (a) the transportation system ($n = 2$), (b) unavailable nursing staff ($n = 1$), and (c) pain level ($n = 1$). FG1 suggested that individuals coordinating the services may not have the knowledge about specific patient needs and patient acuity. One nurse suggested that they do not get to coordinate who gets to go next. The team also noted that they cannot designate who gets to go next unless they call for a fast pass. FG2 based the discussion around the pain level being an indicator in how the nurses coordinate the care. FG3 discussed not being able to contact the nurse when we the need them. The group further noted there are times where other departments get upset when we have the patient first or when we need a patient but they are not ready because they are in another area. FG4 discussed the role of the bedside nurse suggesting the nurse only has control of the transport process when the patient is going to be discharged. Specifically, the group suggested that the receiving department handles the process of when a patient goes to a procedure. The group agreed that the patient flow is determined by the transportation system. All four focus groups identified the transportation function as a process specific to their own area.

IQ7: Who approves the coordination of care?

The emerging themes for IQ7 were: (a) the nurse, and (b) the house supervisor. FG1 noted that the coordination of care occurs through the receiving nurse, but in busy times the house supervisor approves the coordination of care. The team said it is usually a chain of command activity. FG2 discussed the nurse's role in the coordination of care and concluded that the nurse approves the coordination. FG3 discussed role of the nurse. They also suggested that the transporter needs to be in communication with the nurse. FG 4 discussed the role of the nurse and concluded the nurse or charge nurses are determining who is transported next.

IQ8: How is ongoing education of patient transportation practices delivered?

There were three emerging themes for IQ8: (a) education is delivered through a top down approach ($n = 2$), (b) education is delivered well ($n = 1$), and (c) education is not sustained ($n = 1$). FG1 identified that they are not familiar with the training provided to the transportation staff but indicated that they would hope that a focus of the education would include time management. They all agreed that when new things are implemented it begins strong for the first few days but most change is not sustained. They noted that it seems like the transportation department are always short staff. FG2 discussed the education delivery system within the hospital transportation department and suggested that the way staff are trained is efficient. The group noted that the education begins with the director and then the staff that have been trained train new staff. FG3 agreed that the communication regarding education is not delivered well, noting that the information is not delivered to the end users. The group concluded, it seems that the education is not delivered to all transporters. FG4 discussed specific educational processes that occur in

the hospital and suggested that education that is driven from the floor goes from the manager to their director to the staff. The team concluded that the education model may be a little broken. The results indicate that among the focus group questions asked limited number of themes were produced. The results of the focus group questions along with the interview questions suggest that the hospital staff are aware of the opportunities, challenges and best practices of the transportation department.

Recommendations for Stakeholder Action

The purpose of this formative program evaluation was to determine how the transportation request rationale and process is effective in meeting the needs of the hospital. The results of this study show that the transportation department is meeting the specific objective of the program to accomplish an average 19-minute transport request-to-completion time, while the transportation department is failing to accomplish a 10-minute response from the time transport request received to the time the transporter arrives. The findings of the study show that the transportation department on average achieved a 12-minute response-to-complete time and 12-minute response from the time transport request received to the time the transporter arrives, which presents an area of opportunity for the transportation department.

The key recommendation of this program evaluation is for the organization to consider developing a hospital transportation committee to increase the level of awareness of the hospital transportation expectations. The study results indicated that hospital staff are often unaware of the expectation of the transportation department. The committee should identify department champions to bring forth practical ideas to reduce

the time from transport request to the time the transporter arrives. The use of a committee will help the organization play an active role in the performance improvement of the transportation department. In addition, the identified transportation department champions may be able to provide clarity to their peers regarding the hospital transportation process.

It is apparent from the survey results that hospital staff have a somewhat negative perception of both the patient wait times and the total trip time. Out of 36 survey responses both survey questions had a mean of 2, which falls on the somewhat negative score based on the 5 point Likert scale. The specific recommendation for the transportation department is to provide department based transportation in-services to educate hospital staff on the transportation departments role within the facility. As evident by the interview responses the transportation department staff are limited by external factors of patients not being ready, labs not complete and medication not given yet. The transportation department may improve their overall perception by partnering with hospital departments.

<div align="center">**Communication Plan**</div>

The results of this formative program evaluation will be emailed to the Director of Transportation Services, and the Vice President of Operations. In addition, I will schedule a conference call meeting with the individuals listed to discuss results, significant findings, and possible next steps. I will provide enough time to answer any questions the individuals may have and will provide clarification where needed.

Furthermore, I will seek permission from the sponsoring organization to submit this study to relevant scholarly journals.

Implications for Social Change

This program evaluation contributed to the transportation department leadership to help validate existing concerns which impact improvement action items and patient transportation services. The results contribute to social change by evaluating the rationale and process hospital staff employ while requesting patient transport services. Additional implications for positive social change include identifying best practices that positively affect hospital quality and safety and improve services to the hospital patients. The focus on quality and safety goals contribute to positive social change by creating an improved and sustainable culture of patient quality and safety within the central valley region of California.

This program evaluation has a specific contribution to social change by exploring the relevance of a transportation department within a midsize community hospital. Patient care is directly impacted by the timeliness of services provided within the hospital. The transportation department provides a crucial service to patient's while they are at one of their most vulnerable times. A focus on patient quality and safety in terms of patient transportation will play a vital role in the patient's journey to wellness.

Skills and Competencies

Through my formal education in a Master's Degree in Healthcare Management from California State University, Bakersfield, and completing the course requirements for the Doctor of Business Administration, I have obtained the formal training to

successfully complete a project of this level. I have completed a representative literature review on topics related to patient transportation within and outside of the hospital setting and have utilized the above-mentioned education to complete this evaluation.

While completing this doctoral study I have worked as a Program Manager, Lean Six Sigma Improvement Professional, Department Manager, and Director of Quality, Risk Management and Performance Improvement. I have direct experience advising mid-level professionals, unit managers, and hospital executives. My years of study, and hands-on healthcare experience validate my knowledge to initiate and complete this program evaluation. In addition, my DBA project portfolio can be found at https://waldenu.optimalresume.com/previewDoc.php?tkn=29cc26d583eb7ef1df3c7eafa4 630905-p1055976.

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Appendix. Research Questions and Interview Questions

Survey questions

- How would you rate the transportation department response time?

- How would you rate the total trip time?

Archived data questions

- Are patients' transportation wait times significantly less than the average 10 minute wait time?

- Are patients' transportation request-to-completion times significantly less than 19 minutes?

- How many daily total cancelations are there?

Interview questions

- Who ultimately determines which patient will be transported next?

- What are some of the key reason patients are rescheduled?

- Are transportation services used efficiently?

- What are the advantages and/ or disadvantages of the push versus pull system?

Focus group questions

- What prompts a need for patient transport?

- What are the challenges facing the nurse coordination of patient transportation system?

- Who approves the coordination of care?

- How is the ongoing education of patient transportation practices delivered?