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Hospital Outcomes Based on Physician Versus Non-Physician Leadership

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This is to certify that the doctoral dissertation by

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has been found to be complete and satisfactory in all respects,
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Abstract

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DBA, Argosy University (U.S.), 2013

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Dissertation Submitted in Partial Fulfillment

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Abstract

Hospital performance metrics are an indicator of leadership performance. However, there is inadequate research on whether physician or nonphysician chief executive officers (CEOs) perform better in the U.S. hospitals. The purpose of this study was to examine which type of leaders is better. Leadership trait, situational leadership, and leadership behavior theories constituted the theoretical foundation. The key research question examined the relationship between a hospital's outcomes, which in this study, included hospital net income, patient experience ratings, and mortality rates, and the type of CEO in that hospital: physician or non-physician. A quantitative, causal comparative design was used to answer this question. Three hypotheses were tested using multivariate analysis of variance. The dependent variable was hospital outcomes: hospital net income, patient experience ratings, and mortality rates. The independent variable was the type of hospital CEO: physician and nonphysician. Datasets from 2014-2015 were used, which were publically available on the websites of U.S. based hospitals, research organizations, and journals. A sample of 60 hospitals was drawn from U.S. non-federal, short-term, acute care hospitals, based on number of staffed beds (n = 60). No significant differences were found between nonphysician and physician CEOs on hospitals' net income (p = .911), patient experience ratings (p = .166), or mortality rates (p = .636). Thus, the null hypotheses were retained. Findings suggest that physician and non-physician CEOs may produce similar outcomes in the hospitals they lead. Based on these findings, hospital boards can view CEO applicants equally when considering whom to hire and understanding U.S. hospital leadership.

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Dedication

This study is dedicated to all people in the world who do not have the opportunities to have formal education. Such people are deprived of formal education because of wars, poverty, bad governance, and bad cultural practices. Given the opportunity, these people might make it all the way to graduate level. These are very smart people, who could have helped develop their families, communities, countries, and, indeed, the world. I am very grateful that God gave me the opportunities, and I do not take it for granted.

Acknowledgments

My special acknowledgement goes to Dr. John Nemecek, my dissertation chair, for his continuous reviews of my dissertation drafts and timely feedback, guidance, support, and encouragement throughout the process of conducting this study. I also acknowledge Dr. Lee Bewley, my dissertation committee member, for his reviews of my drafts and timely feedback. Last, but not least, I acknowledge Dr. Patrick Tschida, my university research reviewer, for his timely reviews. Special acknowledgement goes to U.S.-based hospitals, the American Hospitals Directory, the Centers for Medicare and Medicaid Services, Doctors Dig, and Becker's Hospital Review for having made available on their websites data that were used in this study. Lastly, I am grateful to the staff and faculty of Walden University for the great work they are doing to help students achieve their goals.

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Chapter 1: Introduction to the Study

Hospitals must provide quality health care and, at the same time, make a good return on their investment. Doing so requires very effective leadership (Ellis & Normore, 2015). With the advent of the Patient Protection and Affordable Care Act 2010 (Congress.Gov 2010), U.S. hospitals are finding it increasingly difficult to provide good value for money for their patients and quality-focused delivery frameworks which are better than volume-focused delivery frameworks (Delmatoff & Lazarus, 2014). Again, hospitals require very effective leadership (Ellis & Normore, 2015).

Leadership candidates in any industry have on-the-job experience, certifications, and academic qualifications (Dotson & Nuru-Jeter, 2012). In hospitals, such candidates are medical doctors. However, physicians are not directly involved with day-to-day business management of the hospitals as non-physician managers in various hospital management departments. The non-physician mangers are then found to have required on-the-job experience which physicians do not have because of the jobs.

In this study, I wanted to find out who was best suited for hospital leadership: physician chief executive officers (Physician CEOs) of non-physician chief executive officers (Non-Physician CEOs). I analyzed three types of hospital outcomes: net incomes, patient experience ratings, and mortality rate. Study findings may help hospital boards in choosing CEOs who can meet the standards stipulated in the Affordable Care Act (CMS, 2016), like: quality-focused delivery frameworks which are better than volume-focused delivery frameworks. Study findings may also provide insight about who is better at leading hospital management teams: physician CEOs or non-physician CEOs. Goodall

(2011) found that physicians CEOs outperform non-physician CEOs on overall hospital quality scores. Goodall used digestive disorders, heart, and heart surgery as dependent variables. However, I used a different set of variables to determine the hospital outcomes. The hospital outcomes for this study net income, patient experience ratings, and mortality rate.

This study might trigger a desire in both physicians and non-physicians who aspire to become hospital CEOs and be a part of the hospital management system. They may be spurred to take courses in health care management and administration (American Association for Physician Leadership, 2016), as well as business management and administration in order to be prepared for such positions. This study might contribute to positive social change in understanding hospital leadership; could impart knowledge to the public on hospital outcomes, physician CEOs and non-physician CEOs; and could encourage academic researchers to carry out further studies in this area, thus enhancing knowledge base on this subject.

Chapter 1 covers the background of the study, the problem statement, research question and hypotheses, theoretical framework, the significance of the study, assumption, delimitations, and limitations of the study.

Background

Health care in the U.S. is a 3 trillion dollar industry (Moses et al., 2013). Like all industries, the CEO is key to the achievement of organizational goals (Mendenhall et al., 2013). Most U.S. hospitals' mission statements include quality service and stakeholder satisfaction (Young, 2013). Profitability is not included in all hospital mission statements,

but it is key to the growth of an organization (Mendenhall et al., 2013). However, the main challenge facing hospital CEOs is lack of finance for expansion and operations "limited finance" (American College of Healthcare Executives, 2015). The major goal for any business, including hospitals, is creating profit or surplus, which are key to growth (Strine, 2012; Young, 2013).

In this study, I analysed the following he key variables: return on investment (i.e., profitability, or being able to have surplus that can be used for development), patient satisfaction, and reduction of mortality rate (i.e., lower than the national average) as indicators of hospital outcomes because mortality rate is a direct result of care. These dependent variables were key in understanding the difference in performance of a physician hospital CEO and non-physician hospital CEO. Most professions and industries have leaders who have evolved as leaders in their positions and the system. They become experts in their fields and then leaders (Delmatoff & Lazarus, 2014; Ellis & Normore, 2015). Physicians may make effective hospital leaders, as Goodall underscored that physician CEOs outperform non-physician CEOs in her study (Goodall, 2011). However, based on my review of the literature, researchers have not compared performance among physician and non-physician CEOs using my three dependent variables.

Physicians are trained to provide quality health care; as such, their skills are centered on clinical medicine. Non-physicians who assume CEO positions in hospitals typically pursue training to assume leadership positions. The non-physician CEOs just like CEOs of other industries assume skills that are centered on leadership, as in

Skinner's theory "operant conditioning" (as cited in De Houwer, Barnes-Holmes, & Moors, 2013). In essence, physicians develop clinical management skills, which are essential for providing quality health care, while nonphysicians assume administrative management skills, which are essential for leadership (Angood & Birk, 2014). Table 1 illustrates performance outcomes for physician CEOs versus non-physician CEOs, coined by Angood and Birk as "medicine versus leadership" (Angood & Birk, 2014).

Table 1.

Matrix of Perceived Performance Outcomes for Physician Versus Nonphysician CEOs

Medicine Versus Leadership	
The Nature of Medicine	The Nature of Leadership
Prescribe and expect compliance	Lead, influence and collaborate
Immediate and short-term focus and results	Short, medium- and long-term focus and results
Procedures/episodes	Complex processes over time
Relatively well-defined problems	Ill-defined, messy problems
Individual or small-team focus	Larger groups crossing many boundaries, integrated approach
Being the expert and carrying the responsibility	Being one of many experts and sharing the responsibility
Receiving lots of thanks	Encountering lots of resistance
Respect and trust of colleagues	Suspicion of being a "suit"

Goodall (2011) examined physician-leaders and hospital performance and found a strong positive association between the ranked quality of a hospital and whether the CEO was a physician ($p < 0.001$). Goodall's study determined that physician-leaders outperform non-physician leaders. However, Goodall conducted a cross-sectional study and used one particular hospital quality ranking, which was one of the study's major limitations. Therefore, the findings did not entirely prove that physicians make more effective leaders than non-physicians. The Goodall study used digestive disorders, heart, and heart surgery

as dependent variables. This study used net income, patient experience ratings, and mortality rates.

The hoped is that this study's results are a better reflection of the U.S. hospitals' leadership, considering that the variables used reflect hospital's mission statements and goals: high quality health care, advanced patient care, and patient safety. In their mission statements, hospitals exclude mention of money or profitability in mission statements. But, in order for hospitals to provide high quality service, money is needed (Mendenhall et al., 2013). This assertion by Mendenhall et al. is supported by research conducted yearly on hospitals by American College of Healthcare Executives ([ACHE], 2015), that hospital CEOs' had ranked financial challenges No. 1 on their list of top concerns in the past 4 years. The research by ACHE which uses U.S. hospital CEOs answers on surveys sent to them relates to the theories supporting this study: trait theory, situational leadership theory, and behavioral theory which are key in the framework of this study's results.

This study will help hospital boards ascertain the right quality of leadership for hospitals, determine what can be done to improve hospital leadership, and achieve better health outcomes.

This study is needed because of the advent of the Affordable Care Act. This legislation has made it difficult for hospitals to achieve good value for their money, and/or achieve quality-focused delivery frameworks rather than volume-focused delivery frameworks (ACHE, 2015). Balancing effective delivery frameworks requires highly effective leadership (ACHE, 2015).

Problem Statement

Hospital performance metrics are an indicator of leadership performance (Patient safety & quality, healthcare reform implementation, financial challenges, governmental mandates, care for the uninsured or underinsured, patient satisfaction, physician-hospital relations, population health management, technology, and personnel shortages) (ACHE, 2015). However, physician and non-physician CEOs may produce similar outcomes in the hospitals they lead. The purpose of this study was to examine which leader performed better; physician CEOs or non-physician CEOs.

U.S. Hospitals performance and outcomes in the United States are known, published yearly by various journals, and hospital websites, but what is not known is which leadership does a better job – physician CEOs or non-physician CEOs. This problem is relevant and significant because U.S. hospitals are increasingly showing very low net incomes, timid growths, and lower revenues despite being a 3 trillion dollar industry (Macdonnell & Darzi, 2013). Hospital CEOs are grappling with patient care, patient safety, and hospital quality with minimum financial resources (ACHE, 2015).

Research has found that the number one challenge facing hospital CEOs is financial (ACHE, 2015). CEOs have a duty to stakeholder to come up with outcomes that best serve their organizations. Some CEOs manage this challenge while some CEOs do not manage. According to Drummond (2013), physicians who have become CEOs have problems coping with leadership roles because they are used to issuing orders, working independently, and being a center of attention. Many physician CEOs expect complete adherence to their orders and instant action (Drummond, 2013). However, this physician

leadership phenomenon does not work outside of the trauma room (Drummond, 2013; Blendon, Benson, & Hero, 2014; McCullough, 2012; Saunders & Hagemann, 2009).

Literature I have read has also shown that non-physician CEOs are better able to cope with leadership roles, as they are groomed for leadership and have the requisite qualifications in hospital finance, administration, strategic management, and management in general to be successful (Drummond, 2013; Blendon, Benson, & Hero, 2014; McCullough, 2012; Saunders & Hagemann, 2009). Therefore, the problem was that while it is known what the physician CEO brings to the position of hospital leadership and what the non-physician CEO brings to the position of hospital leadership, it is not known how the two groups compare in performance based on the variables of this study.

Considering that, the healthcare industry is a 3 trillion dollar industry and comparatively, the pricing of U.S. hospitals to consumers is much higher than that of most hospitals in the world (Macdonnell & Darzi, 2013), U.S. hospitals must be making a lot of money just like the fortune 500 companies. What sets apart the Fortune 500 companies from U.S. hospitals is their effective leadership (Egan, 2015).

It was from this premise that this study wanted to understand the leadership of hospitals in order for the hospitals to start having healthy net incomes, increased growths, and higher revenues. Such change would give rise to better facilities, satisfied employees, satisfied owners, and ultimately satisfied patients/customers. Effective leadership does not mean increased prices to make more money but prudent cost effective management of business processes/hospital processes (Garrett & Camper, 2015).

Gap in Research Literature

There has been one major study on U.S. hospital leadership that looked at physician-leaders and hospital performance, the results indicated a strong positive association between the ranked quality of a hospital and whether the CEO was a physician ($p < 0.001$) (Goodall 2011). The study established that physician-leaders outperform non-physician leaders. However, Goodall asserted that the results were cross-sectional associations and used one particular hospital-quality ranking and thus it was one of the major limitations. The Goodall study variables were overall hospital quality scores using digestive disorders, heart, and heart surgery are not congruent to measures of business success. Therefore, I believed it was imperative to include business success measures in my study. These include healthy revenue, high net income, very good return-on-investment, good customer engagement/customer satisfaction, employee satisfaction, and owner satisfaction (Mauboussin, 2012).

However, the measure of success for hospitals also includes quality care and patient safety (CMS, 2015). As with other businesses the measure of success is based on revenue and stakeholder satisfaction (patients or customers, employees, and shareholders) (ACHE, 2015). Major, Johnson, and Deary (2014) found that satisfied hospital staff members give their best to the employer, and vice-versa. The result is that the business flourishes, business has less damages to products and few accidents. This can be equated to less hospital ER error, less infections, and less mortality rates than the national averages (McAlearney et. al., 2013).

For this study, the measure of success for hospitals is referred to as "Hospital Outcomes" and is based on net income, patients experience ratings, and mortality rate. The hospital measures of performance came from U.S. hospitals for the period of 2014-2015 because it was most recent published data. My assumption was that the hospital measures were accurate because most major hospitals have their financials audited (American Hospital Association, 2016; American Hospital Association, 2012; American Hospital Directory, 2016). Also, various organizations publish hospital audited ratings in all areas (American Hospital Association, 2016; American Hospital Association, 2012; American Hospital Directory, 2016). Hospital outcomes, business outcomes, or measure of business success is reflective of leadership (Delmatoff & Lazarus, 2014; McAlearney et al., 2013; Osmani, 2013). I extracted and aggregated data for this study from credible sources: U.S. hospitals, the American Hospitals Directory (AHD), the Centers for Medicare & Medicaid Services Website (CMS), Doctors Dig, and Becker's Hospital Review.

A meaningful gap in the current research literature was lack of knowledge whether physician and non-physician CEOs may produce similar outcomes in the hospitals they lead. This in turn will help in ascertaining the right quality of leadership for hospitals, what can be done to improve hospital leadership, and for hospitals to achieve health outcomes at this time and age.

Purpose of the Study

The purpose of this study was to examine whether physician and non-physician CEOs may produce similar outcomes in the hospitals they lead. This quantitative, causal

comparative research study hoped to determine the difference in hospital net income between types of CEOs the hospitals employed non-physician CEO and physician CEO. Additionally, the difference in hospital patient experience ratings between types of CEOs the hospitals employed non-physician CEO and physician CEO. Lastly, the difference in mortality rates between types of CEOs the hospitals employed non-physician CEO and physician CEO. A single research question, along with three hypotheses was used to inform for this study.

Research Question and Hypotheses

The research question, hypotheses, and variables were coded as follows: Net Income "NI", Patient Experience Rating "PER", Mortality Rate "MR", Physician CEO "PCEO", and Non-Physician CEO "NPCEO".

In an attempt to answer a single research question, three hypotheses were tested: Is there any difference in NI, PER, and MR outcomes between hospitals led by PCEOs and hospitals led by NPCEOs? This research used a single dependent variable and a single independent variable. The dependent variable was hospital outcomes and was composed of net income, patient experience ratings, and mortality rate. The independent variable criterion was hospital leadership, and it had two categories: physician CEO and non-physician CEO.

Research Hypotheses

$H_0$1: There is no difference on NI between type of CEO employed at the hospital PCEO and NPCEO.

$H_1$1: There is a difference on NI between type of CEO employed at the hospital PCEO and NPCEO.

The dependent variable: NI, the independent variable: PCEO and NPCEO, and statistical analysis: MANOVA (Creswell, 2013; Field, 2013, Mertler & Vannatta, 2013).

$H_0$2: There is no difference in hospital PER between type of CEO employed at the hospital PCEO and NPCEO.

$H_1$2: There is a difference in hospital PER between type of CEO employed at the hospital PCEO and NPCEO.

The dependent variable: PER, the independent variable: PCEO and NPCEO, and statistical analysis: MANOVA (Creswell, 2013; Field, 2013, Mertler & Vannatta, 2013).

$H_0$3: There is no difference in hospital MR between type of CEO employed at the hospital PCEO and NPCEO.

$H_1$3: There is a difference in hospital MR between type of CEO employed at the hospital PCEO and NPCEO.

The dependent variable: MR, the independent variable: PCEO and NPCEO, and statistical analysis: MANOVA (Creswell, 2013; Field, 2013, Mertler & Vannatta, 2013).

Theoretical Foundation and Conceptual Framework

Three theories were used to inform and guide this research; leadership trait theory (LTT), situational leadership theory (SLT), and leadership behavior theory. All three

theories provided elements from which this study was drawn. The theories relate to the study approach in such a way that the independent variable PCEO and NPCEO must be effective in order to produce good outcomes. The personality traits of an effective leader must be exemplarily, must be situational – task-relevant, and must be created from environmental conditioning rather than genetic factors (Caprara et al., 2013). The theories related to the study research questions, in such a way that the research question was formulated to extract information on leadership effectiveness. Leadership effectiveness is dependent on type of leadership (De Houwer et al., 2013).

Leadership Trait Theory

Trait theory is an approach to studying human personality that identifies and measures the degree to which certain personality traits – recurring patterns of thought and behavior, such as anxiousness, shyness, and openness to new things that exist from individual to individual (Caprara et al., 2013). The study involves a set number of personality traits (although the number of traits can vary wildly) and assigns the degree that a trait exists, which then determines the individual's personality (Caprara et al., 2013).

In addition to trait theory, behavioral theory, as defined by Skinner (De Houwer et al., 2013), was used to guide this theory. In psychology, the theory of planned behavior (abbreviated TPB) is a theory that links beliefs and behavior. The concept was proposed by Icek Ajzen to improve on the predictive power of the theory of reasoned action by including perceived behavioral control (Ajzen, 2005). It is one of the most predictive persuasion theories. It has been applied to studies of the relations among beliefs,

attitudes, behavioral intentions, and behaviors in various fields such as advertising, public relations, advertising campaigns, and healthcare (De Houwer et al., 2013).

Situational Leadership Theory

Situational leadership (theory) is a leadership model developed by Hersey and Blanchard in the 1970s (Hersey, 1985). The theory was first introduced as the Life Cycle Theory of Leadership but was later renamed Situational Leadership theory (Hersey, & Blanchard 1977). The tenants of situational leadership theory purports that there is no single best style of leadership; rather, effective leadership is task-relevant. The authors theorized that the most successful leaders adapt their leadership style to the maturity of the individual or group they are attempting to lead or influence. According to the theory, they (a) set high but attainable goals, (b) demonstrate willingness and ability to take responsibility for the task, and (c) procure relevant education and/or experience of an individual or a group for the task (Hersey, & Blanchard 1977). Accordingly, effective leadership varies by person's or group's influence and depends on the task, job, or function that needs to be accomplished.

Leadership Behavioral Theory

In reaction to Trait Leadership Theory, behavioral theorists offered a new approach that focused on behaviors of the leaders rather than their mental, physical, or social characteristics (De Houwer et al., 2013). Behaviorist theorized that behaviors were a function of conditioning and therefore posited that leaders were created from environmental conditioning rather than genetic factors (De Houwer et al., 2013). With the evolutions in psychometrics, researchers were able to measure behavioral characteristics

that were related to leadership. The basic tenant assumes that anyone blessed with the right conditioning could have access to the executive boardroom enjoyed by gifted leaders. In other words, leaders are made not born (De Houwer et al., 2013; Hersey, 1985; Hersey, & Blanchard 1977).

Operational Model

The operational model is depicted in Figure 1. The dependent variables are represented by ovals on the right of the model while the independent variables are represented on the left side by rectangles. Arrow represent the direction of effect, and eta-squared (η^2) represents the size of the effect.

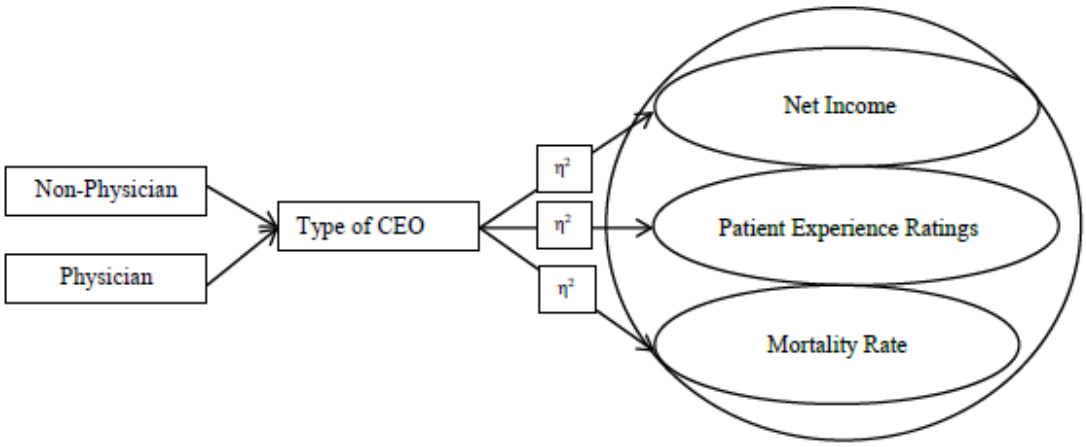

Figure 1. Operation model depicting the hypothesized relationship between CEO type and three hospital performance metrics.

Conceptual Framework

The three theories provide elements from which this study was drawn. This study was looking at effectiveness in leadership between physician CEOs and non-physician CEOs for hospitals. In general, effective leadership requires inspiration, optimism,

integrity, facilitation, confidence, communication, and decisiveness (De Houwer et al., 2013; Hersey, 1985; Hersey, & Blanchard 1977). The three leadership theories are the foundation of effective leadership.

In this study, the physicians were perceived to have developed leadership traits that were in tune with their work environment like the ER or examination rooms – (where they were used to issuing orders, work independently, and were a center of attention) (Drummond, 2013). While non-physicians were perceived to have develop leadership traits that were in tune with their work environment like the general offices where they worked with teams, were groomed for leadership, and have qualifications in hospital finance, administration, strategic management, and management in general (Drummond, 2013; Blendon, Benson, & Hero, 2014; McCullough, 2012; Saunders & Hagemann, 2009). The traits developed by both groups were tested based on the dependent variable Hospital Outcomes and the hypotheses.

The tenants of situational leadership theory purports that there is no single best style of leadership; rather, effective leadership is task-relevant (Hersey, & Blanchard 1977). Situational leadership theory plays the role of putting together hospital leaderships, both groups physician CEOs and non-physicians CEOs in the same situation in order to eliminate biases. The hospitals for this study were of similar levels (minimum 450 staffed beds), therefore functions of the CEOs were deemed similar. The qualifications of the CEOs, experiences, and hospital goals were similar. This gave the independent variables equal situations.

Behaviorist theorized that behaviors were a function of conditioning and therefore posited that leaders were created from environmental conditioning rather than genetic factors (De Houwer et al., 2013; Hersey, 1985; Hersey, & Blanchard 1977). It was perceived that the leadership behavioral theory would play the role of determining the behaviors of the CEOs. However, the initial environments for both groups of CEOs were different, the ER or examination rooms is different from the administration, accounting, and management offices. It was from this premise that this study wanted to understand which environment prepared the most effective hospital leadership – effective hospital leadership based on the dependent variable: Hospital Outcomes (net income, patient experience rating, and mortality rate).

Nature of the Study

A quantitative, causal comparative research design was used via the use of archival data, to test the three hypotheses. Quantitative designs are considered a deductive reasoning technique, and are used to support theory, while qualitative studies are inductive by nature. Deductive reasoning reaches specific conclusions based on generalizations, while inductive reasoning examines events and creates generalizations (Sternberg, 2009). Because of the possibility of generating three hypotheses from theories, a quantitative approach was appropriate for this study. According to Alreck and Settle (2004), comparative research studies measure the difference between two groups on some continuously scaled variable. Measures of effect for the study were *p*, *F*, and *eta-squared*. *P* represented the probability of error, *F* reflected the ratio between, and within groups while eta-squared was the effect size. *P* was set at $< .05$ meaning that the

probability of error found from testing the hypotheses had to be less than 5% in order to be considered significant (Alreck & Settle, 2004; Creswell, 2013).

Hypothesis 1, 2 and 3 were tested using multivariate analysis of variance (MANOVA). The purpose of MANOVA, in this study, was to determine if Type of CEO affected hospital performance, both independently and at a multivariate level. The dependent variables for Hypothesis 1, 2, and 3 were Net Income, Patients Experience Ratings, and Mortality Rate while the predictor variable was Type of CEO employed by a hospital.

The research commenced in Fall 2016. Approximately 100 hospitals were be targeted. The researcher utilized archival data published in 2015. The data was pulled from public domain websites, coded into Excel, and analyzed in Statistical Package for the Social Sciences (SPSS). The data sources were as follows:

1. American Hospital Directory, the website has data and statistics for over 6,000 American hospitals. The data that was pulled from this website were net income, number of staffed beds, and patient experience rating.
2. Doctors Dig, the website has data and statistics for over 6,000 American hospitals as well. The data that was pulled from this website was mortality rates.
3. Becker's Hospital Review, the website has data on health care organizations, management, leadership, and leadership type. The data that was pulled from this website was hospital physician CEOs.
4. Hospital Compare, is a consumer-oriented information center run by the Centers for Medicare and Medicaid Services. The website has complete patient experience

rating data from over 6,000 hospitals. The data that was pulled from this website was patient experience rating.

5. Selected (60) Hospitals' websites. The sites was used for double check data on types of CEOs from Becker's review data. The verification was important because of any possible errors or changes on the types of CEOs for the selected hospitals.

Overall, the data is free for public use from the websites listed. However, American Hospitals Directory requires a yearly membership fee of $355 for 2 to 5 users, which I did not pay because my data was deemed very little. All the data was crosschecked for validity. Data was not collected from individuals, thus there was no confidentiality issues of concern. No hospital was asked to participate in any way.

Definitions

Mortality rate: A figure that represents the number of patient deaths due to three major diseases: heart attack, heart failure, and pneumonia. The national average figures are as follows:

a. Heart Attack in two sectors: 30-day admission, national average at 16.6% and 30-day readmission, national average at 19.9% (AHD; 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015).
b. Heart failure in two sectors: 30-day admission, national average at 11.1% and 30-day readmission, national average at 24.5% (AHD; 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015).

c. Pneumonia in two sectors: 30-day admission, national average at 11.5% and 30-day readmission, national average at 18.2% (AHD; 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015).

Therefore, the overall national average used for this study was the sum of the national averages divide by the 6 sectors (16.6 + 19.9 + 11.1 + 24.5 + 11.5 + 18.2) ÷ 6 = 16.97.

Net income: A company's total earnings (profit and/or surplus). Net income is calculated by taking revenues and adjusting for the cost of doing business, depreciation, interest, taxes, and other expenses (Jackson, 2015)

Non-physician CEO: A top-ranking hospital corporate position, responsible for overseeing overall hospital operations. Sometimes known as a hospital's president, the CEO reports to the chairperson of the board and board members (Goodall, 2011).

Patient experience rating: A five-star rating system published quarterly by CMS. The summary rating includes an average of hospitals' performance on each of the 11 publicly reported measures from the Hospital Consumer Assessment of Healthcare Providers and Systems survey (CMS, 2015). The star ratings are based on measures or "composites, individual items, and global items" laid out by HCAHPS. Each measure is awarded one star and the measures are as follows:

1. HCAHPS Composites
    a. Communication with Nurses
    b. Communication with Doctors

c. Responsiveness of Hospital Staff

d. Pain Management

e. Communication about Medicines

f. Discharge Information

g. Care Transition

2. HCAHPS Individual Items

viii. Cleanliness of Hospital Environment

ix. Quietness of Hospital Environment

3. HCAHPS Global Items

x. Overall Hospital Rating

xi. Recommend the Hospital

Thus, there are twelve star ratings: one for each of the 11 publicly reported HCAHPS measures, plus one additional HCAHPS "summary star" making it 12 stars. These twelve stars are calculated to find the summary rating of 1 star to 5 stars. HCAHPS is a national, standardized survey of hospital patients about their experiences during a recent inpatient hospital stay (CMS, 2015).

Physician CEO: A medical doctor (MD) or doctor of osteopathy (DO) in a top-ranking hospital corporate position, responsible for overseeing overall hospital operations.

Staffed beds: Beds that are licensed and physically available for which staff is on hand to attend to the patient who occupies the bed. Staffed beds include those that are occupied and those that are vacant (AHD; 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015).

Unstaffed beds: Beds that are licensed and physically available and have no current staff on hand to attend to a patient who would occupy the bed (AHD; 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015).

Assumptions

The assumption of this study was that a CEO of a company or organization must be effective, able to deliver company's goals. The personality traits of an effective leader are that she/he must be exemplarily, must be situational – task-relevant, and must be created from environmental conditioning rather than genetic factors (McAlearney et al., 2013). The CEO that is self-assessing, with sharp perception, responsive to the group's needs, and knows the organization well (Kanter, 1983).

The selection of leadership in any industry is based on job experience, experience gained being on-the-job, certifications, and academic qualifications (Egan, 2015). In manufacturing industries those that have been in production and have gone up the ladder do make it to leadership levels (Egan, 2015). In hospitals, the physicians head various medical departments and therefore must be the right candidates for hospital leadership. However, most physicians are not directly involved with business management aspects of running hospitals as do non-physician managers, as a result only 5% of hospitals are led by physician CEOs (Becker's Hospital Reviews, 2015; Robeznieks, 2014).

The reasons why the assumptions were necessary in the context of this study were because of the study by Goodall in 2011. She found that physicians CEOs outperformed non-physician CEOs on overall hospital quality scores using Digestive Disorders, Heart, and Heart Surgery as dependent variables. What comes to mind is why hospitals' boards

are not hiring more physicians as CEOs. The reasons could be that there are very few physicians that qualify or those willing to work as Hospital CEOs. Also, that the boards are looking for candidates that can be up to the standards as stipulated in the Affordable Care Act (CMS, 2016). The study by Goodall did not represent overall hospital performance. The choices of variables for this study represent the three key areas of hospital performance (outcomes): income & customer satisfaction (productivity) and death rate (the downside). The hospital performance (outcome) for this study was: net income, patient experience ratings, and mortality rate.

Scope and Delimitations

This study used data from hospitals that have a minimum of 450 staffed beds (AHD; 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015). This minimum was set to balance out work load for the CEOs, because some of the hospitals in the complete roster of US hospitals have a few number of staffed beds making their management work load lower that those with hundreds of beds. Therefore, management of such small hospitals cannot be at the same level as hospitals with above hundreds of staffed beds (AHD; 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015). The limit did not go down to 100 staffed beds as was envisaged in the proposal; it remained at 450 staffed beds. This minimum number did not limit the study's outcomes but rather gave the study credible data to work with. The sample was 60 non-federal, short-term, acute care hospitals, these formed two groups of 30 hospitals labeled as A and B. This sampling strategy was based on the accepted number for quantitative study using inferential statistics (Alreck & Settle 2004). The sampling frame was based on availability of non-

federal, short-term, acute care hospitals with physician CEOs, considering that there are just 5% physician CEOs. This required adjusting the range of participating hospitals, and the range as indicated above was dropped to a minimum of 450 staffed beds and the highest was 2382 staffed beds (AHD; 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015). This study can be generalized to all hospitals with staffed beds because the 60 "number of hospitals" is an accepted representation in quantitative study using inferential statistics (Alreck & Settle 2004).

Delimitations of a study as pointed out by Mitchell, Wirt, and Marshall, (1986) are choices that can be made by the researcher, which should be mentioned. These are the boundaries made by the researcher. Therefore, this study's population and sample are employed using inclusion and exclusion criteria. The extent of this study was the addressing of the hypotheses and not exceeding the theoretical foundation of this study's basis (Creswell, 2013; Field, 2013). The scope of the study was limited to a specified sample of hospitals that have published data available for public use. Further, the study design was limited to a quantitative approach, which reduces the effect of researcher bias. This means that the likelihood of researcher bias influencing findings is reduced (Creswell, 2013; Field, 2013). Finally, inferential statistics were used to assess viability of the research questions. This reduced the likelihood of common error emanating from interpretation of semantic phrases that would have affected the findings (Creswell, 2013; Field, 2013).

Some weaknesses of the study ranged from sampling technique, inferential statistics, and the type of statistical analysis that was used. As indicated earlier, that a

convenience sampling methodology was used, it must be understood that generalization to the greater population could be affected (Creswell, 2013; Field, 2013). However, it was assumed that the data obtained was a representative sample of the hospitals under study.

In addition, since inferential statistics were used to draw conclusions, the possibility of committing a Type I error existed; that is, where a true null hypothesis could have been incorrectly rejected (Creswell, 2013; Field, 2013). However, to mitigate this concern, the confidence level to determine acceptance of the null hypothesis was set at .05 (Creswell, 2013; Field, 2013). This means that the probability of committing the error was less than 5%. Finally, statistics that use the general linear model naturally limit generalizability given the nature of the variables. That is, the independent and dependent variables in this study were predefined by environmental course. Accordingly, a true experiment using random assignment could not be used. Thus, only relationships, rather than causation, were inferred from results (Creswell, 2013; Field, 2013).

Limitations

This study relied on the integrity of data to ensure quality of results. As such, data was sourced from archival sources that were published for open consumption. This process of compiling data, in itself, was limited given that mistakes (unintended or otherwise) could have been made and inaccuracies subsequently reported. Potential weaknesses of the study included sampling technique, inferential statistics, and type of statistical analysis used (Creswell, 2013; Field, 2013). Since a convenience sampling methodology was used, generalization to the greater population could have been affected.

However, it was assumed that the data obtained was a representative sample of the population under study.

In addition, since inferential statistics were used to draw conclusions, the possibility of committing a Type I error existed; that is, where a true null hypothesis could have been incorrectly rejected. However, this was mitigated by setting the confidence level to determine acceptance of the null hypothesis at .05 (Creswell, 2013; Field, 2013). This means that the probability of error was less than 5%. Finally, statistics that use the general linear model naturally limit generalizability given the nature of the variables. That is, the independent and dependent variables in the study were predefined by environmental course. Accordingly, a true experiment using random assignment could not be used. Thus, only relationships, rather than causation, were inferred from results (Creswell, 2013; Field, 2013).

The outcome of the study could have been affected by variables that are unknown to the researcher at the time the study was conducted. This study relied on integrity of data to ensure quality of results. As such, data was sourced from archival sources that had been published for open consumption. This process of compiling data, in itself, was limited given that mistakes (unintended or otherwise) could have been made and inaccuracies subsequently reported.

Some weaknesses of study range from sampling technique, inferential statistics, and the type of statistical analysis used. Since an archival sampling methodology was used, it must be understood that generalization to the greater population may be affected (Creswell, 2013; Field, 2013). However, it is assumed that the targeted sample was a

representative sample of the population under study. In addition, since inferential statistics was used to draw conclusions, the possibility of committing a Type I error existed; that is, where a true null hypothesis is incorrectly rejected (Creswell, 2013; Field, 2013).

The scope of the study has been limited to hospitals meeting specific inclusion criteria to reduce the effect of confounding variables. Further, the study design was limited to a quantitative approach, which reduces the effect of researcher bias. This means that the likelihood of researcher bias influencing findings was reduced.

Significance

This study might fill a gap in understanding whether or not there was any significant differences in the success of physician CEOs vs. non-physician CEOs of U.S. hospitals, based on their outcomes. The significance of this study is that it will contribute to positive social change regarding hospital leadership. No study to date has been conducted that explores this problem, therefore this study intended to provide that information and fill that gap in the literature for all hospital stakeholders, corporations, politicians, scholars, and the public on hospital leadership – physician CEOs vs. non-physician hospital CEOs.

Significance to Theory

This study will play a part in the advancement of knowledge in leadership theories: leadership trait theory, situational leadership theory, and leadership behavior theory.

Leadership Trait Theory, the study's outcomes will be related to how trait theory relates to professions.

Situational Leadership Theory, was tested to understand how leaders (a) set high but attainable goals, (b) demonstrate willingness and ability to take responsibility for the task, and (c) procure relevant education and/or experience of an individual or a group for the task (Hersey, & Blanchard 1977).

Leadership Behavior Theory, the study's outcomes will be related to the theory of planned behavior (abbreviated TPB) a theory that links beliefs and behavior.

Significance to Practice

The current status quo is that 95% of hospital CEOs are non-physicians, meaning that just few physicians are able to advance to leadership levels in hospital management. The study results will advance the need for training more physicians in business management and possibly making a policy change: making it mandatory for physicians who would like to assume hospital leadership role to take classes in management while at residence level or immediately after residence.

Significance to Social Change

The significance of this study is that it will contribute to positive social change regarding hospital leadership. No study to date has been conducted that explores this problem, therefore this study is intended to provide the information and fill that gap in the literature for all hospital stakeholders, corporations, politicians, scholars, and the public on hospital leadership – physician CEOs vs. non-physician hospital CEOs. Physicians will be able to focus higher in their career, not just the ER but overall hospital leadership.

Summary

The chapter discussed the problem and the importance of the study. Hospitals in the U.S. are a core part of the healthcare industry and just like all industries, leadership is key to overcoming competitors, pricing, customer retention, higher revenues and growth. Discussed was how this study would fill the gap in literature on hospital leadership and how it affected hospital outcomes. The research question and hypotheses were revealed. The theoretical foundation and its operational model was discussed in line with the research theories. The definition of term, the assumption of the study, the scope & delimitations of the study, limitation of the study, and the significance of the study were presented in detail. The following chapter is literature review and the chapter will discuss the literature in line with the study and portray how the gap in literature will be filled with this study.

Chapter 2: Literature Review

The problem is that U.S. hospital outcomes are known, but leadership outcomes between physician CEOs and non-physician CEO is not known. This problem is current, continuous, relevant, and significant to the discipline because U.S. hospitals are increasingly showing very low net incomes, timid growth, and lower revenues despite being a 3 trillion dollar industry (Macdonnell & Darzi, 2013). The purpose of this quantitative, causal comparative research study was to determine the difference in hospital net income between two types of CEOs; the difference in hospital patient experience ratings between the types of CEOs; and lastly, the difference in mortality rate between two types of CEOs. The study answered a single research question by testing three hypotheses.

Considering that, the healthcare industry is a 3 trillion dollar industry and comparatively, the pricing of U.S. hospitals to consumers is much higher than that of most hospitals in the world (Macdonnell & Darzi, 2013), U.S. hospitals must be making a lot of money just like the fortune 500 companies. What sets apart the Fortune 500 companies from U.S. hospitals is their effective leadership (Egan, 2015). It is from this premise that I would like to understand leadership of U.S. hospitals. Research findings may help administrators achieve healthier net incomes, increased growth, and higher revenues. My assumption is that such change could also give rise to better facilities, more satisfied stakeholders. Effective leadership does not mean increasing prices to make more money. Rather, it means providing more prudent and cost effective management of business and hospital processes (Garrett & Camper, 2015).

In this chapter, I hope to shed more light on my study's conceptual framework, the problem background, research methodology, and leadership perspectives on organizational performance and outcomes. In examining the literature, I consider the importance of leadership strategies to organizational performance. This discussion reinforces how imperative it is for hospitals to embrace specific leadership practices to improve their outcomes as stipulated in this study (ACHE, 2015).

Leadership Within Contemporary Hospital Organizations

U.S. Hospital CEOs are grappling with patient care, patient safety, and hospital quality with minimum financial resources. Research has shown that the number one challenge facing U.S. hospital CEOs is financial (ACHE, 2015). CEOs have a duty to their stakeholder to produce outcomes that best serve their organizations (ACHE, 2015). Some CEOs manage to overcome financial challenges and bring better outcomes to their hospitals, other CEOs do not.

The literature I have read show that physician turned CEOs have problems coping with leadership roles because they trained to work in environments that require issuing of orders, they work independently, and are a center of attention (Drummond, 2013). Medical doctors expect complete adherence to their orders and instant action (Drummond, 2013). However, this does not work outside of the trauma room (Drummond, 2013; Blendon, Benson, & Hero, 2014; McCullough, 2012; Saunders & Hagemann, 2009). Again, literature I have also read show that non-physician CEOs are able to cope with leadership roles because they are groomed for leadership roles and have qualifications in hospital finance, administration, strategic management, and management

in general (Drummond, 2013; Blendon, Benson, & Hero, 2014; McCullough, 2012; Saunders & Hagemann, 2009). Therefore, the problem is that while it is known what the physician CEO brings to the position of hospital leadership and what the non-physician CEO brings to the position of hospital leadership, it is not known how the two compare in performance.

Like all industries, the CEO is key to the achievement of organization goals (Mendenhall et al., 2013). Studies I have read show that effective leaders manage complexity through honesty, confidence, commitment, positive attitude, creativity, intuition, inspiration, and have right approaches through communication, and delegation (Aarons, et al., 2015; Humphries & Howard, 2014; Popescu, 2013). They manage businesses, foster innovations, leverage networking, inspire engagement, and create an environment of "learning agility" (Krohn, 2012; Schoepp & Skuba, 2014; Williams, 2015). They are also strategic and adaptable. The physician CEO and the non-physician CEO must have such leadership traits in order to be successful.

Most hospitals' mission statements are focused on quality service and stakeholder satisfaction. Profitability is not included in most mission statements (American Hospital Association, 2016; American Hospital Association, 2012; American Hospital Directory, 2016). But, it is key to the growth of the organization (Major, Johnson, & Deary, 2014; Mendenhall et al., 2013) and the overall challenge facing hospital CEOs limited finance (ACHE, 2015). Therefore, what can be concluded is that the major goal for any business including hospitals is profit or surplus which are key for growth.

After reviewing many areas that form part U.S. hospital productivity, profit or surplus form a major part. In this study the areas that form the dependent variable are return on investment (profitability or being able to have surplus that can be used for development), patient satisfaction, and reduction of mortality rate. The selection of three areas was based on mirroring the business success measures: healthy revenue, high net income, very good return-on-investment, good customer engagement/customer satisfaction, employee satisfaction, and owner satisfaction (Mauboussin, 2012). However, it must be noted that hospitals have more to their "barometer" or measure of success, the range is extended to quality care and patient safety (CMS, 2015). Just like all businesses, the key areas are revenue, patient/customer satisfaction, employee satisfaction, and owner satisfaction (ACHE, 2015). Thus, these areas that form the dependent variable for this study are key in understanding the difference in performance of a physician hospital CEOs and non-physicians hospital CEO. The variables are net income, patient experience ratings, and mortality rate. Most professions and industries have leaders who have advanced in the system. They become experts in their fields and become leaders (Oostrom et al., 2012). My feeling is that physicians must make effective hospital leaders and Goodall's study pointed to that effect: that physicians CEOs outperform non-physician CEOs (Goodall, 2011). However, based on my review of the literature, there is no study that used this study's three variables. Physician are groomed to provide quality health care, as such their skills are centered on medicine, while nonphysicians are groomed for leadership positions and they assume skills that are centered on leadership, as in Skinner's theory "operant conditioning" (as cited in De Houwer, Barnes-Holmes, &

Moors, 2013). In essence, physicians assume management skills which are essential for providing quality health care. While non-physicians assume management skills and leadership skills which are essential for leadership (Angood & Birk, 2014).

Goodall (2011) study conduction based on physician leaders and hospital performance, and the results indicated a strong positive association between the ranked quality of a hospital and whether the CEO was a physician ($p < 0.001$). The study found that physician-leaders outperform non-physician leaders. However, Goodall asserted that the results were cross-sectional associations and used one particular hospital-quality ranking and thus it was one of the major limitations of the study. Therefore, the findings did not prove that physicians make more effective leaders than non-physician. The Goodall (2011) study used digestive disorders, heart, and heart surgery as dependent variables. This study is using net income, patient experience ratings, and mortality rate. My assumption is that this study's results will be a better reflection of the hospitals' outcomes as perceived in mission statements and overall goals of hospitals (Mendenhall et al., 2013) and supported by the research results conducted by ACHE (2015), that financial challenges have been ranked No. 1 on the list of hospital CEOs' top concerns the past 4 years. The theories that supported this study (trait theory, situational leadership theory, and behavioral theory) are key in the framework of this study's results. This literature review was on the variables of this study, type of leadership, and leadership theories that form the basis of this study.

Literature Search Strategy

The literature search strategy was prompted by literature reviews conducted in the courses I took for my area of study: "Health Services – Leadership." The major electronic data bases that I frequently visited for my literature were: EBSCO, ProQuest, Google Scholar, Medline, PubMed, major health care sites, and major business sites. Stogdill (1975), Burns (1978), Johns & Moser (1989), and Bass (1990) being some of the old but major commentators on the history of the leadership role within organizations, were cross referenced with current literature on leadership role within organizations. Also works by Bass and Avolio (1990a, 1990b), Burns (2003), and Lussier (2001) are cross referenced with current literature on the three leadership styles examined and discussed: laissez-faire leadership, transactional leadership, and transformational leadership and the complex characteristics of leadership and the influence they have on 21st century organizations.

The focus surrounded an exploration of distinct leadership traits and styles and the relevant messages they convey within contemporary organizations. Trait theory is an approach to studying human personality that identifies and measures the degree to which certain personality traits – recurring patterns of thought and behavior, such as anxiousness, shyness, and openness to new things – exist from individual to individual. Trait theory involves a set number of personality traits (although the number of traits can vary wildly) that exists within an individual and which, theoretically speaking, determines the individual's personality (Abbas Haider, 2015; Frederickson, Petrides, and Simmonds, 2012; Siegling, Nielsen, & Petrides, 2014).

Subsequent segment selections of representative literature were used to focus discussion on specific elements and characteristics of leadership. The aim was to find support for the leadership phenomenon as a predictor of positive organizational outcomes. It is critical to examine leadership found in successful hospitals to be able to know the right state of leadership within contemporary hospitals

Again, the literature search strategy was prompted by literature reviews conducted in the courses I took for my area of study: health services leadership. I looked at the types of leaderships in health services but I realized that it was too broad, narrowed it to hospitals. I started reviewing literature on hospital leadership and I found out that there were less physician CEOs for hospitals than non-physician CEOs. Further literature search gave the actual numbers that there is only 5% physician CEOs for hospitals in the USA. The interest grew as to why there are very few physician CEOs, how do they perform against non-physician CEOs, and this quest for knowledge drove me to look for more literature on studies that have been conducted on this subject area.

Databases and Search Engines

The library databases and search engines, and search terms I used are listed in the following paragraphs.

Through Walden library I accessed Business Source Complete, ABI/Inform Complete (ProQuest), Academic Search Complete, etc. the search terms I used were:

a. Hospital leadership, physician leadership, non-physician leadership, leadership skills, types of leadership, effective leadership, physician

leader vs. non-physicians leader, healthcare leadership studies, and hospital leadership studies.

b. Leadership Trait Theory, Situational Leadership Theory, and Leadership Behavior Theory.

Through Google scholar, I was able to get articles which were referred back to Walden library, Journals, and scholarly websites. The search terms I used to get the right articles were:

a. Hospital leadership, physician leadership, non-physician leadership, leadership skills, types of leadership, effective leadership, physician leader vs. non-physicians leader, healthcare leadership studies, and hospital leadership studies.

b. Leadership Trait Theory, Situational Leadership Theory, and Leadership Behavior Theory.

Through MEDLINE – U.S. National Library of Medicine or PubMed, I was able to get articles and the search terms I used were:

a. Hospital leadership, physician leadership, non-physician leadership, healthcare leadership skills, types of hospital leadership, effective hospital leadership, physician leader vs. non-physicians leader, healthcare leadership studies, and hospital leadership studies.

Through the Centers for Disease Control and Prevention (CDC), I was able to get data on my study variables and the search term I used were:

a. Hospital statistics by state: Number of staffed beds and Patient Experience Rating.

Through the Centers for Medicare & Medicaid Services (CMS) "Hospital Compare", I was also able to get data on my study variables and the search terms I used were:

a. Hospital statistics by state: net income, number of staffed beds, and patient experience rating.

Through the American Hospitals Directory, I was also able to get data on my study variables and the search terms I used were:

a. Hospital statistics (statistics for non-federal, short-term, acute care hospitals) summarized by state: net income, number of staffed beds, and patient experience rating.

Through Doctors Dig, I was able to get data on my study variables and the search term I used were:

a. Profiles on CEOs and CFOs currently leading acute-care hospital and health systems across the USA: Physician CEOs.

Through Becker's Hospital Review, I was able to get data on my study variables and the search terms I used were:

a. Hospitals statistics by state: mortality rate – based on Hospital 30-day death (mortality) rates for heart failure, heart attack, and pneumonia.
b. CEOs profiles
c. Published Financial Statements: net income

d. Hospital profiles: number of staffed beds, patient experience rating, mortality rate and national rating.

It took me 12 months to figure out how to collect the data and I was comfortable that I was going to be able to get credible data. There were more than enough data sources to use and be able to crosscheck and aggregate the data for validity.

Hospital Leadership Studies

There is more literature on hospital leadership from articles with credible archival data but just a few fully fledged studies. There are many studies on leadership based on different perspectives, but there is just one study by Goodall (2011) which is close to this study. Thus far, only Amanda H. Goodall has conducted studies on hospital leadership. Her main hospital leadership study was "Physician-leaders and hospital performance: Is there an association?" She followed this study with discussions and articles that supported the findings of her study as well as the assertion of other scholars (Dwyer, 2010; Goodall, 2013; Stoller, 2014) – that hospitals are "better run by medical doctors than non-medically trained managers" (Goodall, 2013, p. 37). The study that is closely related to this study looked at physician-leaders and hospital performance, the results indicated a strong positive association between the ranked quality of a hospital and whether the CEO was a physician ($p < 0.001$). It was established that physician-leaders outperform non-physician leaders (Goodall, 2011). However, Goodall (2011) asserted that the results were cross-sectional associations and used one particular hospital-quality ranking and thus it was one of the major limitations. Therefore, the findings did not prove

that physicians make more effective leaders than non-physician. The Goodall (2011) study used Digestive Disorders, Heart, and Heart Surgery as dependent variables.

Theoretical Foundation

Three theories were used to inform and guide this research; specifically, leadership trait theory, situational leadership theory and leadership behavior theory. All three theories provide elements from which this study was drawn.

Historical Overview of Leadership

Leadership is a part of life that humans cannot do without, an area of discussion, and study that forms a great part of our history. Successes and failures are a part of leadership complexities, therefore understanding of leadership and its history is not just an important element in life but a scholarly challenge. Past, early, and current scholars perceive leadership as the center of organizational societies and change agent (Rast, 2015). Past works found and presented leadership theory and philosophy as a circumstantial product of group activities (the environmentalists' perspective) or as an empowering trait in humans, which influences followership (the personalists' perspective). Irrespective of positions that can be taken, scholars from both schools agree that the importance of leadership to organizational outcomes is indisputable (Bass, 1990; Stogdill, 1975; Wren, 1995).

Leadership theory has spawn eagerness and attention among scholars ages ago (Lussier, 2001). History has shown that there is no social undertaking more interesting and fascinating, yet more arduous, or complicated than leadership (Bass, 1990; Johns & Moser, 1989; O"Toole, 1996; Wren, 1995). Human's concern with leadership

imagination and concerns that have affected communities and societies dates back thousands of years through the works of scholars. The scholars on leadership refer to Aristotelian eras and biblical history for manifestation of how characteristics of leadership have impacted communities and societies (Bass, 1990; Johns & Moser, 1989; Van Seters & Field, 1990). The investigation process of leadership goes back thousands years and gives a multifaceted structure that portrays leadership as one of the most perceived and idolized, but at the same time it is a concept that is least understood, as such many perceptions come into play (Bass, 1990; Johns & Moser, 1989). Leadership practices are key in influencing organization development and structure. Therefore, examination of how leadership practices influence organizational development and structures is a must, because without the examination we would not know the level of influence leaders exert upon organizational outcomes (Rast, 2015).

Perceptions on leadership have evolved over time. Literature has shown that leadership philosophies and theories have grown from just simple concepts to detailed, analyzed, and not so analyzed frameworks as perceived by scholars, organizations, and societies with common goals (Burns, 1978; Dering, 1998; McCauley, Moxley, & Van Velsor, 1998). One other interesting aspect to leadership came from behavioral scientists. They put their attention on what leaders are like, instead of what leaders do. These two aspects must be tackled together in order to understand leadership (Dering, 1998). What leaders are like and what they do forms the basis of understanding of leadership as a complex set of behaviors and skills that can be observed, evaluated, and developed (Dering, 1998; McCauley et al., 1998; Wren, 1995).

Leadership is a phenomenon that is multifaceted as seen throughout history of humanity and the impact it made and still making on the societies, communities, governments, etc. (Johns & Moser, 1989). Leadership trends: traits and behavior are key to organizational development and organizations failure when the leaders do not have what it takes to be an effective leader. When we look back at this premise (traits and behavior) on leadership, we find out that we cannot simply apply them to a situation and get the best results but rather we can compare similar organizations and similar leaders to know which type did better (Cooney, Landers & Williams, 2002; Shirazi et al., 2014).

The concepts of leadership from historic evolution in all sectors has shown the critical position leadership plays in organizations, communities, and societies. Leadership has made or broken organizations, communities, and societies in history. From farming, production, industrialization, science, technology, etc. leadership has been the key element that drove the processes throughout history. Some analyses of the leadership through history have been based on what the leadership were like, instead of what leadership did and how they did it (Dawson, 2003; Morgan, 1998; Schein, 1997). Scholars and commentators of leadership put leadership as the main mechanism for change and they feel it is very important for the evolution of the organization and its survival (Dawson, 2003; Kanter, 1989; Kuhn, 1996; Shafritz & Ott, 2001). Furthermore, a deeper review of literature on leadership reveals that concurrent prejudice towards organizational change is an outcome of powerful, inspired, imaginative, creative, inventive, ingenious, enterprising, and innovative leadership exercises. These concurrent exercises are in sync with continuous improvements and compensation for great

outcomes that improve the solvency of the organization (Bass, 1990; Burnes, 2004; Dawson, 2003; Shafritz & Ott, 2001).

High preforming organizations create interest from observers and scholars alike on their concepts, cultures, change strategies, and organizational arrangements. This interest triggers the need to understand the relationship between leadership and performance strategies in the organizations and their environments (Berson & Linton, 2005). From this perspective, the desire comes out to better comprehend leadership and its relationship with performance in regard to identification of types of leadership that produces high performance. Thus, using selective literature further focus is on pertinent fundamental leadership styles that serve as perfect fit predictors indices of organizational work performance (Rast, 2015).

Leadership Trait Theory

The link between leadership and a person's being is an old adage that is of interest to all. Thus, personality trait theory assumes that people born to be leaders show identifiable personality characteristics and tangible traits that set them apart from non-leaders (Bass, 1990; McCauley et al., 1998; Statistics Solution, 2011; Zampetakis, 2014). The eras of dyadic situational, and contingency leaderships-involvement (unidimensional) evolved to multi-focused leadership, which is linked to place, condition, and situation (Statistics Solution, 2011; Zampetakis, 2014). This did not stop here but went further as researchers wanted to expand the scope of leadership from the perspective of leadership in the context of group interactions to leadership as a major item in interactive process across an organization (Dering, 1998; Van Seters & Field, 1990).

Researchers in their past studies have found out that a leader's behavior has a direct impact on a team's performance, organization, and subsequently outcomes (Bass, 1990; Bass, Avolio, Jung, Berson, 2003; & Flood et al., 2000).

Contemporary researchers on leadership agree on the complication of leadership and outcomes that "leadership" has advanced and incorporates a broader scope. This diversity is analogous to differences in leadership styles. Early trait theorist studied the personality attributes that they believed were related to leadership effectiveness, rather than researching exceptional historical figures (i.e., the great man approach to leadership). Many early researchers viewed leadership as a unidimensional personality trait that could be reliably measured and was distributed normally throughout the population (i.e., an individual difference variable) (Abbas Haider, 2015; Frederickson et al., 2012; Siegling et al., 2014).

Most of the early empirical work on the trait approach focused on the differences between leaders and followers. It was assumed that individuals in elevated positions possess a greater degree of leadership acumen than those in lower-level positions. Trait theory is an approach to studying human personality that identifies and measures the degree to which certain personality traits – recurring patterns of thought and behavior, such as anxiousness, shyness, and openness to new things – exist from individual to individual (Caprara et al., 2013). The study involves a set number of personality traits (although the number of traits can vary wildly) and assigns the degree that a trait exists, which then determines the individual's personality (Caprara et al., 2013).

In addition to trait theory, behavioral theory, as defined by Skinner (De Houwer et al., 2013), was used to guide this theory. In psychology, the theory of planned behavior (abbreviated TPB) is a theory that links beliefs and behavior. The concept was proposed by Icek Ajzen to improve on the predictive power of the theory of reasoned action by including perceived behavioral control (Ajzen, 2005). It is one of the most predictive persuasion theories. It has been applied to studies of the relations among beliefs, attitudes, behavioral intentions, and behaviors in various fields such as advertising, public relations, advertising campaigns, and healthcare (De Houwer et al., 2013). In this study, the physicians were perceived to have developed leadership traits that are in tune with their work environment like the ER or examination rooms – where they are used to issuing orders, work independently, and are a center of attention (Drummond, 2013). While non-physicians were perceived to have developed leadership traits that are in tune with their work environment like the general offices where they work with teams, are groomed for leadership, and have qualifications in hospital finance, administration, strategic management, and management in general (Drummond, 2013; Blendon, Benson, & Hero, 2014; McCullough, 2012; Saunders & Hagemann, 2009). The traits developed by both groups were tested based on the dependent variable Hospital Outcomes and the hypotheses.

Situational Leadership Theory

Situational leadership (theory) is a leadership model developed by Hersey and Blanchard in the 1970s (Hersey, 1985). The theory was first introduced as the Life Cycle Theory of Leadership but was later renamed situational leadership theory (Hersey, &

Blanchard 1977). The tenants of situational leadership theory purports that there is no single best style of leadership; rather, an effective leadership is task-relevant. The authors theorized that the most successful leaders adapt their leadership style to the maturity of the individual or group they are attempting to lead or influence. According to theory, they (a) set high but attainable goals, (b) demonstrate willingness and ability to take responsibility for the task, and (c) procure relevant education and/or experience of an individual or a group for the task (Hersey, & Blanchard 1977). Accordingly, effective leadership varies by person's or group's influence and depends on the task, job, or function that needs to be accomplished.

Situational leadership theory plays the role of putting together hospital leaderships of both groups: physician CEOs and non-physicians CEOs within the same situations in order to eliminate biases. The hospitals were of similar levels (minimum 450 staffed beds), therefore functions of the CEOs were similar. The qualifications of the CEOs, experiences, and hospital goals were similar depending on group (physician or non-physician). This gave the independent variable equal situations.

Leadership Behavioral Theory

In reaction to Trait Leadership Theory, behavioral theorists offered a new approach that focused on behaviors of the leaders rather than their mental, physical, or social characteristics (Hersey, 1985; Hersey, & Blanchard 1977). Behaviorist theorized that behaviors were a function of conditioning and therefore posited that leaders were created from environmental conditioning rather than genetic factors. With the evolutions in psychometrics, researchers were able to measure behavioral characteristics that were

related to leadership (De Houwer et al., 2013). The basic tenant assumes that anyone blessed with the right conditioning could have access to the executive boardroom enjoyed by gifted leaders. In other words, leaders are made not born (De Houwer et al., 2013; Hersey, 1985; Hersey, & Blanchard 1977).

It was perceived that the leadership behavioral theory would play the role of determining the behaviors of the CEOs. The environments for both groups of CEOs were the ER or examination rooms, which is different to the administration, accounting, and management offices. It was from this premise that this study wanted to understand which environment makes more effective hospital leadership. Effective hospital leadership based on the dependent variables: Hospital Outcomes (net income, patient experience rating, and mortality rate).

Trait and Behavioral Theory

The link between leadership and a person's being is an old adage that is of interest to all. Thus, personality trait theory assumes that people born to be leaders show identifiable personality characteristics and tangible traits that set them apart from non-leaders (Bass, 1990; McCauley et al., 1998; Statistics Solution, 2011; Zampetakis, 2014). The eras of dyadic situational, and contingency leaderships-involvement (unidimensional) evolved to multi-focused leadership, which is linked to place, condition, and situation (Statistics Solution, 2011; Zampetakis, 2014). This did not stop here but went further as researchers wanted to expand the scope of leadership from the perspective of leadership in the context of group interactions to leadership as a major item in interactive process across an organization (Dering, 1998; Van Seters & Field, 1990).

Researchers in their past studies have found out that a leader's behavior has a direct impact on a team's performance, organization, and subsequently outcomes (Bass, 1990; Bass, Avolio, Jung, Berson, 2003; & Flood et al., 2000).

Contemporary researchers on leadership agree on the complication of leadership and outcomes that "leadership" has advanced and incorporates a broader scope. This diversity is analogous to differences in leadership styles. Early trait theorist studied the personality attributes that they believed were related to leadership effectiveness, rather than researching exceptional historical figures (i.e., the great man approach to leadership). Many early researchers viewed leadership as a unidimensional personality trait that could be reliably measured and was distributed normally throughout the population (i.e., an individual difference variable) (Bass, 1990; Bass, Avolio, Jung, Berson, 2003; & Flood et al., 2000).

Most of the early empirical work on trait theory focused on the differences between leaders and followers. It was assumed, back then, that individuals in elevated positions possessed a greater degree of leadership acumen than those in lower-level positions. Research conducted by Mann (1959) and Stogdill (1948) investigated the relationship between personality and leadership, but reported little supporting evidence. Despite the lack of early supporting evidence, research interest in this area remained strong. For example, Judge and Bono (2004) reported that 12% of all leadership research published between 1990 and 2004 included the keywords 'personality' and 'leadership'.

Lord, De Vader, and Alliger (1986) conducted a meta-analysis study that reviewed evidence of a relationship between personality and leadership. They

demonstrated that there were significant meta-analytic correlations between leadership and three human characteristics of intelligence, masculinity, and dominance. Limitations to the study involved the fact that the human characteristics were assessed via leadership perceptions, rather than leader behaviors or performance, and so do not necessarily reflect personal characteristics that may be related to leader effectiveness. Judge, Bono, Iles and Gerhardtl (2002) also conducted a meta-analytic study and found that the Big Five personality dimensions of agreeableness, conscientiousness, extraversion, neuroticism, and openness were significant predictors of both leadership emergence (explaining 28% of the variance) and leader effectiveness (explaining 15% of the variance). Subsequent paragraphs following this section concentrated on behavioral factors relating to leadership styles: Laissez-faire, Transactional, and Transformational.

Laissez-Faire, Laissez faire leaders (LFL) also known as delegative leadership, is a type of leadership style in which leaders are hands-off and allow group members to make the decisions. Researchers have found that LFL is generally the leadership style that leads to the lowest productivity among group members (Bass & Stogdill, 1990). LFL are often seen as uninvolved and withdrawn, which can lead to a lack of cohesiveness within the group. Since the leader seems unconcerned with what is happening, followers sometimes pick up on this and express less care and concern for the project (Bass & Stogdill, 1990; & Gillies, 1993). Expert observation of the characteristics of this style has resulted in the title of “non-leadership” (Bass & Avolio, 1990).

Transactional, in this style of leadership, a leader works through creating clear structures whereby it is clear what is required of their subordinates, and the rewards that

they get for following orders. Punishments are not always mentioned, but they are also well-understood and formal systems of discipline are usually in place (Flood et al., 2003; Haibin & Shanshi, 2014; Hamstra et al., 2014; Lussier, 2001). MacGregor Burns (2003) described the transactional leadership that it often uses management by exception, working on the principle that if something is operating to defined (and hence expected) performance then it does not need attention. Transactional leadership is a hierarchal leadership system based on (a) contingent reward that is defined by mutually agreeable contractual agreements between leader and follower and (b) management by exception in which leader intervention occurs when the desired standard is not met MacGregor Burns (2003). As such, transactional leaders come into action for intervention only when they see a problem (Antonakis, Avolio, & Sivasubramaniam, 2003). Transactional leaders facilitate growth of the leader/follower dyad; they are hands-off leaders (Bass, Jung, Avolio, Berson, 2003). Recent studies suggest that a combination of transactional and transformational leadership styles are effective leaderships and produce good outcomes (Bass & Avolio, 2003; Haibin & Shanshi, 2014; Hamstra et al., 2014).

Transformational, leadership style that can inspire positive changes in those who follow through a clearly articulated vision (Berson & Linton, 2005; Burns, 1978; Flood et al., 2000). Transformational leaders are generally energetic, enthusiastic, and passionate. Not only are these leaders concerned and involved in the process; they are also focused on helping every member of the group succeed as well. This exchange raises the ethical aspirations of both leader and subordinate (Bass, 1985; Burns, 1978; Flood, et al., 2000; MacGregor Burns, 2003).

Transformational leaders not only challenge the status quo; they also encourage creativity among followers. The leader encourages followers to explore new ways of doing things and new opportunities to learn. The leaders stimulate the intellect of their followers (Lynch, 2015; Odetunde, 2013). Transformational leadership also involves offering support and encouragement to individual followers (Bass & Avolio, 1995). In order to foster supportive relationships, transformational leaders keep lines of communication open so that followers feel free to share ideas and so that leaders can offer direct recognition of the unique contributions of each follower (Avolio, 1994; Judge & Bono, 2000; Keller, 1992). Transformational leaders have a clear vision that they are able to articulate to followers. These leaders are also able to help followers experience the same passion and motivation to fulfill these goals (Lussier, 2001; Schein, 1997; Senge, 1994; Quinn, 1996). The transformational leader serve as a role model for followers. Because followers trust and respect the leader, they emulate this individual and internalize his or her ideals (Kouzes & Posner, 2003).

Leadership as a Predictor of Positive Organizational Outcomes

The fast organizational change, competitive market, and fragile economies in connection with global business norms require the type of leadership that is grounded in intent, vision, direction, and goal attainment (Hesselbein, Goldsmith, & Beckhard, 1997; Shuliang, Hanming, & Peng, 2014). This preposition reflects and supports the notion that effective leadership promotes individuals, teams, and organizations to bring success. This is true with hospital leadership, especially with the advent of the Affordable Care Act has made it even more difficult for hospitals to go deeper into good value for money and

quality-focused delivery frameworks than volume-focused delivery frameworks (Delmatoff & Lazarus, 2014).

Successful leaders, leadership is learned behavior that becomes unconscious and automatic over time. However, effective and successful leadership comes by perfecting the "learned behavior" (Baczyńska & Rowiński, 2015; Bourdieu, 1991; Cooper, 2015; Garrett & Camper; Williams & Clark Gardner, 2012). Effective leaders make others feel safe to speak-up, they deflect attention away from themselves and encourage others to voice their opinions (Baczyńska & Rowiński, 2015; Dawson, 2001; Schein, 1998). Successful leaders are expert decision makers having mastered the art of politicking and thus do not waste their time on issues that disrupt momentum. They facilitate dialogue to empower their teams to reach a strategic conclusion and if it fails, they do it themselves (Baczyńska & Rowiński, 2015; Luthans, 2002; Kanter, 1985). Successful leaders are great communicators – their vision is properly translated and actionable objectives are properly executed. They understand their teams' mindsets, capabilities, and areas for improvement and are able to use this knowledge or insight to challenge their teams to think and stretch them to reach for more (Frankle, 1984; Baczyńska & Rowiński, 2015; Garrett & Camper, 2015; Gazzaniga, 1998). Successful leaders are accountable to others – they allow their colleagues to manage them. This does not mean they are allowing others to control them – but rather becoming accountable to assure that they are being proactive to their colleagues needs (Collins, 2001; Cooper, 2015; Huber, 1984; Nonaka and Nishgushi, 2001). Successful leaders lead by example, they practice what they preach and are mindful of their actions (Baczyńska & Rowiński, 2015; Luthans, 2002; Kanter,

1985). Successful leaders are mindful of results, they measure and reward performance. They review the numbers and measure performance – return on investment (ROI), they are active in acknowledging hard work and efforts irrespective of the result (Garrett & Camper, 2015; Giblin & Amuso, 1997; Hillman, 1996; Mccullough, 2002; Van Seters & Fiek, 1990). Successful leaders provide continuous feedback, properly allocate and deploy talent, ask questions to seek counsel, they solve problems, they do not procrastinate, they have positive energy and attitude, are great teachers, they invest in relationships, and they genuinely enjoy responsibility – they love being leaders, not for the sake of power but for the meaningful and purposeful impact they create (Baczyńska & Rowiński, 2015; Camper, 2015; Cooper, 2015; Garrett & Camper, 2015; Lakoff and Johnson, 2003; Schein, 1997 & 1999).

These qualities of successful leaders are what hospitals require in order to be productive and successful through increased net incomes, high patient experience ratings, and lower than national average mortality rates.

Contemporary Hospital Organization Leadership, according the American Hospital Association (2012), there is a workforce shortage of over 116,000 nurses, decreased employee satisfaction, and decreased patient satisfaction. Hospitals can overcome such situations by employed the leadership that is congruent to the successful leaders discussed in this study – leaders that make others feel safe to speak-up (Baczyńska & Rowiński, 2015; Dawson, 2001; Schein, 1998). Leaders that are expert decision makers, facilitate dialogue (Baczyńska & Rowiński, 2015; Luthans, 2002; Kanter, 1985). Leaders that are great communicators – their vision is properly translated

and actionable objectives are properly executed (Frankle, 1984; Baczyńska & Rowiński, 2015; Garrett & Camper, 2015; Gazzaniga, 1998). Leaders that are accountable to others (Collins, 2001; Cooper, 2015; Huber, 1984; Nonaka and Nishgushi, 2001). Lead by example, they practice what they preach and are mindful of their actions (Baczyńska & Rowiński, 2015; Luthans, 2002; Kanter, 1985). Leaders that are mindful of results, they measure and reward performance. They review the numbers and measure performance, and are active in acknowledging hard work and efforts irrespective of the result (Garrett & Camper, 2015; Giblin & Amuso, 1997; Hillman, 1996; Mccullough, 2002; Van Seters & Fiek, 1990). Leaders that provide continuous feedback, properly allocate and deploy talent, ask questions to seek counsel, solve problems, do not procrastinate, have positive energy and attitude, are great teachers, invest in relationships, and genuinely enjoy responsibility. Leaders that love being leaders, not for the sake of power but for the meaningful and purposeful impact they create (Baczyńska & Rowiński, 2015; Camper, 2015; Cooper, 2015; Garrett & Camper, 2015; Lakoff and Johnson, 2003; Schein, 1997 & 1999).

Hospitals boards on the other hand, have the duty to make available environments where expertise, communication, insight, and a vision for the future are supported by extraordinary efforts of leadership irrespective of being physician or non-physician (Augustine-Shaw, 2015; Hagenow, 2015; Pendleton & King, 2002). However, appointments to hospital leadership if left to personal relationships other than proven track records and expertise continues to severely impact hospital outcomes (Augustine-

Shaw, 2015; Bigelow & Arndt; 2000; Burke, 2003; Dye, 2000; Hagenow, 2001 & 2015; Kilpatric & Hosclaw, 1996; Morrison, 2000).

It is from the above that contemporary hospital boards can identify and uncover solutions to the leadership type that can succeed and overcome the crisis of the current volatile hospital environments.

There are many models of defining a hospital leader, like the model developed by the National Center for Healthcare Leadership (NCHL) (2015), which has twenty six competencies set into three domains: transformation, execution, and people. It also has five leadership competency areas personal skills and knowledge, social skills, transactional leadership skills, TFL skills, and knowledge of policy and procedures (Berson & Linton, 2005; Cartine, & Morris, 2013; Faulkner, Cartine, & Morris, 2013; Harwood & Burnham, 2015; Hudson, 2013; Judge & Bono, 2004).

Conceptual Framework

Three theories were used to inform and guide this research; specifically, Leadership Trait Theory (LTT), Situational Leadership Theory (SLT) and Leadership Behavior Theory. All three theories provided elements from which this study was drawn. The study was looking at effectiveness in leadership between physician CEOs and non-physician CEOs for hospitals. In general, effective leadership requires inspiration, optimism, integrity, facilitation, confidence, communication, and decisiveness (Cartine, & Morris, 2013; Faulkner, Cartine, & Morris, 2013; Harwood & Burnham, 2015; Hudson, 2013).

The Qualities of a Healthcare Leader

The three leadership theories were the foundation of effective leadership. The three leadership theories were revealed in the results – how the independent variables affected the dependent variables. Previous researchers who have studied leadership agree that core leadership competencies regarding healthcare leadership are similar worldwide and are similar to those of other health sectors or public administration (Dolan, 2013; Edmonstone, 2013; Smith, 2014). There are many models of defining a health care leader, like the model developed by the NCHL (2015), which has twenty six competencies set into three domains: transformation, execution, and people. It also has five leadership competency areas personal skills and knowledge, social skills, transactional leadership skills, TFL skills, and knowledge of policy and procedures. The model by Healthcare Leaders Alliance (2014), has eight sets of skills:

1. Analytic/Assessment Skills
2. Policy Development/Program Planning Skills
3. Communication Skills
4. Cultural Competency Skills
5. Community Dimensions of Practice Skills
6. Healthcare Sciences Skills
7. Financial Planning and Management Skills
8. Leadership and Systems Thinking Skills
    a. Core transformational competencies
    b. Political competencies

c. Trans-organizational competencies

d. Team building competencies

These qualities are a combination of the three theories that are forming the foundation of this study. The independent variables (physician CEOs and non-physician CEOs) must have these qualities in order to be effective in producing the best results.

Independent Variables and the Study Theories

The conceptual framework of the study revealed that the independent variables (physician CEOs and non-physician CEOs) have personality traits that determines the individual's personality of effective leadership. Must have adapted a leadership style through experience and maturity that is task-relevant, thus make them able to accomplish their job. But, at the same time, they must have had their behaviors conditioned by the environment they had been exposed to, rather than genetic factors. They are not born leaders, but leaders that have been trained, and have developed traits for effective leadership (Henson, 2016).

The conceptual framework of the study revealed that the dependent variables (Net Income, Patient Experience Ratings, and Mortality Rate) are a direct outcome of a type of leadership as influenced by the three theories (Leadership Trait Theory, Situational Leadership Theory, and Leadership Behavior Theory). The direct effect size was represented as eta-squared (η^2) (Figure 1).

Literature Review

The literature reviewed was based on the problem, background, choice of variables, purpose, and significance of this study.

Background

Healthcare in the USA is a 3 trillion dollar industry (Moses et al., 2013). Like all industries the CEO is key to the achievement of organization goals (Mendenhall et al., 2013). Most hospitals' mission statements are vested on quality service and stakeholder satisfaction. Profitability is not included in hospital mission statements but profitability/surplus are key to the growth of organizations, let alone hospitals (Mendenhall et al., 2013) and the overall challenge facing hospital CEOs is "limited finance" (ACHE, 2015). We can therefore say that the major goal for any business so too hospitals is profit/surplus which are key for growth. For the purpose of this study the main goals for hospitals are net income (profitability or being able to have sur plus that can be used for development), patient satisfaction rating, and reduction of mortality rate. These three areas form the basis of this study's variables, which are key in understanding the difference in performance of a physician hospital CEO and non-physicians hospital CEO.

Selected articles relating to healthcare leadership and its impact on outcomes in a healthcare environment are described here:

1. ACHE, (2015) conducts yearly surveys on issues surrounding the management of community hospitals (nonfederal, short-term, non-specialty hospitals). There are 10 major issues on the surveys:
    a. Patient safety and quality,
    b. Healthcare reform implementation,
    c. Financial challenges,

d. Governmental mandates,
e. Care for the uninsured/underinsured,
f. Patient satisfaction,
g. Physician-hospital relations,
h. Population health management,
i. Technology, and
j. Personnel shortages.

The results for the past 4 years in relation to these study variables have been:

a. Financial challenges at the position 1.
b. Healthcare reform implementation and Governmental mandates alternate on positions 2 and 3.
c. Patient safety and quality is at position 4.
d. While Patient satisfaction at position 6.

I chose to use financial challenges because they are a top issue. All the other nine issues are vested in patients' experience rating and ultimately how a hospital reduces mortality rate. It is from this premise and in relation to hospitals' mission statements that the variables of this study were reduced to three.

2. Angood and Birk (2014), posited that physician leadership would be key in attainment of higher quality, consistent safety, streamlined efficiency, and becoming value-based in hospitals. They asserted that there are only 5% physician leaders, therefore training of physicians is essential in achieving the higher quality, consistent safety, streamlined efficiency, and value-based. The assertion

agrees with the results of Goodall (2011) study results. But did not look into the financial aspect which is a major issue as pointed out by ACHE, (2015) in their study and publication.

3. Cohen (2014), examined an all-physician discussion on Medscape Connect and found out that most physician were not ready to take up an administration position. The reason for the physician not being ready to take up administration jobs ranged from unbearable stress and anguish that culminated to being regarded as radical change, to fear of taking MBA course. This puts another dimension in the understanding of what goes through the mind of a physician when given administrative roles and/or leadership role. This could mean that the physicians are more attuned to patient care than overseeing all departments of hospitals and going back to school to learn new skills in leadership is an unacceptable venture, considering what they already have in medicine. This is in agreement with the fact that there are only 5% physician leaders (Angood & Birk, 2014).
4. Drummond (2013) (a physician), pointed out the skills that are instilled in physicians throughout the 7 years in medical school and residency are centered on the ability to diagnose and treat. The medical school and residency training approach gives the physicians a top down leadership skillset of giving orders which can be dysfunctional in business management leadership roles. This is in line with what Cohen (2014) posited, that physicians are not ready to go back to school after being in college for 7 years. Thus, this study wanted to know how the

physician CEO does compared to a non-physician CEO since most literature is pointing negatively in their ability to work effectively as CEOs of hospitals.

5. Goodall (2011), in her study found out that there was a strong positive association between hospital quality (three specialties: cancer, digestive disorders, and heart & heart surgery) and whether the CEO was a physician. Goodall (2011) used the three specialties of "hospital quality" based on what she asserted as widely-used and generated by the media. However, a hospital's quality cannot end at the "three specialties" considering the advent of the Affordable Care Act, which has made hospitals to go deeper into good value for money and quality-focused delivery frameworks than volume-focused delivery frameworks (Cohen, 2014). It is from this perspective that this study used different dependent variables in order to understand who brings better hospital outcomes between the two types of CEOs.

Problem

Hospital CEOs are grappling with patient care, patient safety, and hospital quality with minimum financial resources. Research has shown that the number one challenge facing hospital CEOs is financial challenges (ACHE, 2015). CEOs have a duty to stakeholder to come up with outcomes that best serve the company, some manage, and some do not. Literature has shown that physician turned CEOs have problems coping with leadership roles because they are used to issuing orders, they work independently, and are a center of attention (Drummond, 2013). They expect complete adherence to their orders and instant action (Drummond, 2013). However, this does not work outside of the

trauma room (Drummond, 2013; Blendon, Benson, & Hero, 2014; McCullough, 2012; Saunders & Hagemann, 2009). While literature has shown that non-physician CEOs are able to cope with leadership roles because they are groomed for leadership and have qualifications in hospital finance, administration, strategic management, and management in general (Drummond, 2013; Blendon, Benson, & Hero, 2014; McCullough, 2012; Saunders & Hagemann, 2009). Therefore, the problem is that while we know what the physician CEO brings to the position and what the non-physician CEO brings to the position, we do not know how the two compare in performance.

The specific problem was that US hospitals are increasingly showing very low net incomes, timid growths, and lower revenues despite being in a 3 trillion dollar industry. Comparatively US hospitals pricing is much higher than most hospitals in the world, yet the hospitals are failing to emulate the Fortune 500 companies. What sets apart the Fortune 500 companies is their effective leadership (DiFebo, 2016). It was from this premise that this study wanted to understand the leadership of hospitals in order for the hospitals to have healthy net incomes, increased growths, and higher revenues. Such change would give rise better facilities, satisfied employees, satisfied owners, and ultimately satisfied patients/customers. Effective leadership does not mean increased prices to make more money but prudent cost effective management of business processes/hospital processes (Popescu, 2013).

Purpose of this Study

The purpose of this quantitative, causal comparative research study was to determine the difference in hospital net income between types of CEOs the hospitals

employed non-physician CEO and physician CEO. Additionally, the difference in hospital patient experience ratings between types of CEOs the hospitals employed non-physician CEO and physician CEO. Lastly, the difference in mortality rate between types of CEOs the hospitals employed non-physician CEO and physician CEO. A single research question, along with three hypotheses were used as a framework for this study.

The Choice of the Study Variables

The variable of this study are: Independent Variables (Physician CEOs and Non-Physician CEOs). Dependent variables (net income, patient experience Ratings, and mortality rate).

Physician CEOs, the choice was obvious because they form a part of the area of study so that the outcome told us what needs to happen or continued to be worked on in order to improve the hospital outcomes under this leadership. Angood and Birk (2014), posited that physician leadership would be key in attainment of higher quality, consistent safety, streamlined efficiency, and becoming value-based in hospitals. They asserted that there are only 5% physician hospital leaders, therefore training of physicians is essential in achieving the higher quality, consistent safety, streamlined efficiency, and value-based. The assertion agrees with the study results of Goodall (2011), but does not look into the financial aspect which is a major issue as pointed out by ACHE, (2015) in their study and publication. However, Cohen (2014) posited, that physicians are not ready to go back to school to study business management after being in college for 7 years.

Non-physician CEOs, again the choice was obvious because they form a part of the area of study so that the outcome told us what needs to happen or continued to be

worked on in order to improve the hospital outcomes under this leadership. They form 95% of Hospital Leadership. Angood and Birk (2014), posited that physician leadership would be key in attainment of higher quality, consistent safety, streamlined efficiency, and becoming value-based in hospitals. They asserted that there are only 5% physician hospital leaders, therefore training of physicians is essential in achieving the higher quality, consistent safety, streamlined efficiency, and value-based. The assertion agrees with the results of Goodall (2011) results, but does not look into the financial aspect which is a major issue as pointed out by ACHE, (2015) in their study and publication.

Net Income, the choice was based on the findings by American College of Healthcare Executives' yearly surveys on issues surrounding the management of nonfederal, short-term, non-specialty hospitals – financial challenge is the No. 1 challenge in hospital management (ACHE, 2015). A hospital that has a net income at the end of their financial year means that hospital was overcoming this challenge, therefore the assumption was that it had effective leadership.

Patient Experience Ratings, a five-star rating system rolled out quarterly by CMS. The summary rating includes an average of hospitals' performance on each of the 11 publicly reported measures from the Hospital Consumer Assessment of Healthcare Providers and Systems survey (CMS, 2015). The choice for this variable was based on American College of Healthcare Executives' acceptance of these ratings. The ratings are regarded as a yard stick to hospital quality and performance (ACHE, 2015). Patient Satisfaction was No. 6 challenge in hospital management (ACHE, 2015). According to Hanauer et al., (2014) patient experience rating is vital in decision made for the choice of

hospital. A hospital that has high patient experience ratings, means that it is overcoming this challenge, therefore it has effective leadership. There is a Star Ratings for each of the following HCAHPS measures:

1. HCAHPS Composites
    a. Communication with Nurses
    b. Communication with Doctors
    c. Responsiveness of Hospital Staff
    d. Pain Management
    e. Communication about Medicines
    f. Discharge Information
    g. Care Transition
2. HCAHPS Individual Items
    a. Cleanliness of Hospital Environment
    b. Quietness of Hospital Environment
3. HCAHPS Global Items
    a. Overall Hospital Rating
    b. Recommend the Hospital

Thus, there are twelve star ratings: one for each of the 11 publicly reported HCAHPS measures, plus an HCAHPS Summary Star Rating. These twelve stars are calculated to find the summary rating of 1 star to 5 stars. HCAHPS is a national, standardized survey of hospital patients about their experiences during a recent inpatient hospital stay (CMS, 2015).

Mortality Rate, the choice was based on the findings by American College of Healthcare Executives' yearly surveys on issues surrounding the management of community hospitals (nonfederal, short-term, non-specialty hospitals) – Patient safety and quality was No. 4 challenge in hospital management (ACHE, 2015). The closest variable that is measurable that I thought would be pertinent in the measure of patient safety was Mortality Rate. A hospital that has a lower Mortality Rate means that it is overcoming the challenge of patient safety and quality, therefore it has effective leadership.

Why this Study is Significance

This research will fill a gap in understanding whether or not there was any significant differences in the success of physician CEOs vs. non-physician CEOs of U.S. hospitals, based on their outcomes. This research will fill a gap in understanding whether or not there is any significant differences in the success of physician vs. non-physician CEOs of U.S. hospitals, based on their outcomes. The significance of this study is that it will contribute to positive social change regarding hospital leadership. No study to date has been conducted that explores this problem, therefore this study intends to provide that information and fill that gap in the literature for all hospital stakeholders, corporations, politicians, scholars, and the public on hospital leadership – physician vs. non-physician hospital CEO.

Summary and Conclusions

The literature review covered all areas of this study: the operationalization of the variables, the theories, and the conceptual framework. What is known is that there are

only 5% physicians CEOs, but what is not known is how they perform compared to the 95% non-physician CEOs. This study will fill the gap in literature on the current status quo that 95% of hospital CEOs are non-physicians, meaning that the physician are unable to advance to leadership levels in hospital management, and what can be done to encourage the physicians to take up leadership roles. In Chapter 3, the study methodology is discussed in detail.

Chapter 3: Research Method

Hospital performance metrics are an indicator of leadership performance (Patient safety & quality, healthcare reform implementation, financial challenges, governmental mandates, care for the uninsured or underinsured, patient satisfaction, physician-hospital relations, population health management, technology, and personnel shortages) (ACHE, 2015). However, physician and non-physician CEOs may produce similar outcomes in the hospitals they lead. U.S. Hospitals' performance and outcomes are published yearly by various journals and hospital websites, but what is not known is which leadership does a better job – physician CEOs or non-physician CEOs. This problem is relevant and significant because U.S. hospitals are increasingly showing very low net incomes, timid growths, and lower revenues despite being a 3 trillion dollar industry (Macdonnell & Darzi, 2013). Hospital CEOs are grappling with patient care, patient safety, and hospital quality with minimum financial resources (ACHE, 2015).

Research has found that the number one challenge facing hospital CEOs is financial (ACHE, 2015). CEOs have a duty to stakeholder to come up with outcomes that best serve their organizations. Some CEOs manage this challenge while some CEOs do not manage. According to Drummond (2013), physicians who have become CEOs have problems coping with leadership roles because they are used to issuing orders, working independently, and being a center of attention. Many physician CEOs expect complete adherence to their orders and instant action (Drummond, 2013). However, this physician leadership phenomenon does not work outside of the trauma room (Drummond,

2013; Blendon, Benson, & Hero, 2014; McCullough, 2012; Saunders & Hagemann, 2009).

The purpose of this quantitative, causal comparative research study was to determine the difference in hospital net income between types of CEOs the hospital employed non-physician CEO, physician CEO. Additionally, the difference in hospital patient experience ratings between types of CEOs the hospital employed non-physician CEO, physician CEO. Lastly, the difference in mortality rate between types of CEOs the hospital employed non-physician CEO, physician CEO). A single research question, along with three hypotheses was used as framework for this study.

In Chapter 3, I outlined the purpose of the study, the research design, the setting and subjects, and the instrumentation, along with the process or procedures. Additionally, the limitations and delimitations and data processing and analysis procedures are discussed.

Research Design and Rationale

This is a quantitative, causal comparative research study, that was intended to determine the difference in performance of hospitals lead by non-physician versus physician CEOs using dependent variables: net income, patient experience ratings, and mortality rate. The study data were archival that were published in 2015. Sixty hospitals were targeted. The data were collected, coded into Excel, and analyzed in SPSS. Data collection were not from individuals and hospitals were not asked to participate in any way.

Multivariate analysis of variance (MANOVA) was used to test the Hypotheses (Creswell, 2013). The purpose of MANOVA, in this study, was to determine if type of CEO affects hospital performance, both independently and at a multivariate level (Creswell, 2013). The dependent variables for Hypotheses were net income, patient experience ratings, and mortality rate while the predictor variable was type of CEO employed by a hospital.

Methodology

In quantitative studies, "Quantitative Designs" use deductive reasoning technique, and are used to support theory, while qualitative studies are inductive by nature (Sternberg, 2009). When using deductive reasoning technique reasoning, specific conclusions are reached based on generalizations, while when using inductive reasoning techniques researchers examine events and subsequently create generalizations (Sternberg, 2009). Because the three hypotheses were generated from the research question based on this study's dependent variables and the independent variables being two groups, a quantitative approach was appropriate for this study. According to Alreck and Settle (2004), comparative research studies like this study researchers measure the difference between two groups on a continuously scaled variable. Measures of effect for the study were *p*, *F*, and *eta-squared*. *P* represented the probability of error, *F* reflected the ratio between and within groups, eta-squared represented the effect size. *P* was set at <.05, which means that the probability of error found from testing the hypotheses would need to be less than 5% to be considered significant.

I started data collection for this study in the Fall of 2016. My study population

was over 5,000 U.S. hospitals but my sample was 60 hospitals. I used archival data published in 2015. Data were collected, coded in Excel, and analyzed in SPSS. Data were not collected from individuals, and hospitals were not asked to participate in any way.

Three hypotheses were tested in an attempt to answer a single research question. A single dependent variable and a single independent variable were used in this research. The dependent variable "Hospital Outcomes" comprises net income, patient experience ratings, and mortality rate. While, the independent variable "Hospital Leadership Type" comprised hospitals that employ non-physician CEO compared to those that employ physician CEO.

I used data from hospitals that have a minimum of 450 staffed beds. This minimum balanced out work load for the CEOs, because some U.S. hospitals have few staffed beds making their management much easier than those that have hundreds of such beds (AHD, 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015). Therefore, management of hospitals with less than 450 staffed beds cannot be at the same level as hospitals with more staffed beds (AHD, 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015). The limit did not go down to less than 450 staffed bed, but my assumption was that if I increased the number of staffed beds I could have ended with less than 60 hospitals, thus being less than the statistical requirement. Using this minimum number did not limit the study's outcomes. Rather, I believe that it gave me credible data to work with.

The sample was 60 nonfederal, short-term, acute care hospitals. I formed two groups, one with physician CEOs (Group A), the other with non-physician CEOs (Group

B), and each group with 30 hospitals. The sampling strategy I used is the accepted number for per group in a quantitative study using inferential statistics (Alreck & Settle 2004). The sampling frame of 450 staffed bed limit was also influenced by the availability of non-federal, short-term, acute care hospitals with physician CEOs, considering that there are just 5% physician CEOs (AHD; 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015). Due to the fact that there are only 5% physicians CEOs in the entire U.S. non-federal, short-term, acute care hospitals, it required adjusting the range of participating hospitals and the range was set at a minimum of 450 staffed beds hospitals to highest 2382 staffed beds hospitals (AHD; 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015). This study can be generalized to all hospitals with staffed beds because the 60 number of hospitals is an accepted number for quantitative study using inferential statistics (Alreck & Settle 2004). The extent of this study was the addressing of the hypotheses and not exceeding the theoretical foundation of this study's basis (Creswell, 2013; Field, 2013). The scope of the study was limited to a specified sample of hospitals that have published data available for research. Further, the study design was limited to a quantitative approach, which reduces the effect of researcher bias. This means that the likelihood of researcher bias influencing findings was reduced. Finally, inferential statistics were used to assess viability of the research questions. This reduced the likelihood that common error from interpretation of semantic phrases affecting findings (Creswell, 2013; Field, 2013).

Some weaknesses of study ranged from sampling technique, inferential statistics, and the type of statistical analysis that was used. As indicated that a convenience

sampling methodology was used, it must be understood that generalization to the greater population could have been affected (Creswell, 2013; Field, 2013). However, it is assumed that the data was a representative sample of the hospitals under study.

In addition, since inferential statistics were used to draw conclusions, the possibility of committing a Type I error existed; that is, where a true null hypothesis was probably incorrectly rejected (Creswell, 2013; Field, 2013). However, to mitigate this concern, the confidence level to determine acceptance of the null hypothesis was set at .05 (Creswell, 2013; Field, 2013). This means that the probability of error was less than 5%. Finally, statistics that use the general linear model naturally limit generalizability given the nature of the variables. That is, the independent and dependent variables in the study were predefined by environmental course. Accordingly, a true experiment using random assignment could not be used. Thus, only relationships, rather than causation, were inferred from results (Creswell, 2013; Field, 2013).

The research question, hypotheses, and variables were coded in my dataset as follows: net income “NI”, patient experience rating “PER”, mortality rate “MR”, physician CEO “PCEO”, and nonphysician CEO “NPCEO”. The single research question and associated hypotheses were used as framework for this research are:

Research Question

RQ1: Is there any difference in NI, PER, and MR outcomes between hospitals led by PCEOs and hospitals led by NPCEOs?

Research Hypotheses

$H_0$1: There is no difference on NI between type of CEO employed at the hospital PCEO and NPCEO.

$H_1$1: There is a difference on NI between type of CEO employed at the hospital PCEO and NPCEO.

The dependent variable: NI, the independent variable: PCEO and NPCEO, and statistical analysis: MANOVA (Creswell, 2013; Field, 2013, Mertler & Vannatta, 2013).

$H_0$2: There is no difference in hospital PER between type of CEO employed at the hospital PCEO and NPCEO.

$H_1$2: There is a difference in hospital PER between type of CEO employed at the hospital PCEO and NPCEO.

The dependent variable: PER, the independent variable: PCEO and NPCEO, and statistical analysis: MANOVA (Creswell, 2013; Field, 2013, Mertler & Vannatta, 2013).

$H_0$3: There is no difference in hospital MR between type of CEO employed at the hospital PCEO and NPCEO.

$H_1$3: There is a difference in hospital MR between type of CEO employed at the hospital PCEO and NPCEO.

The dependent variable: MR, the independent variable: PCEO and NPCEO, and statistical analysis: MANOVA (Creswell, 2013; Field, 2013, Mertler & Vannatta, 2013).

Archival Data

The research commenced during end spring and summer months of 2016. Sixty hospitals were targeted. I utilized archival data published in 2015. Data was collected, coded in Excel, and analyzed in SPSS. Data was not collected directly from individuals, and the non-federal, short-term, acute care hospitals did not participate. Minimum hospital bed size was not less than 450 to ensure data fidelity. The data is available for public use from the websites of the hospitals, the American Hospitals Directory (a yearly membership fee of $355 for 2 to 5 users), Doctors Dig is free, Becker's Hospital Review is free, and "Hospital Compare" (CMS) is free as well. All the data was crosschecked for validity purposes. Below is the breakdown of type of data and source:

1. American Hospital Directory, the website has data and statistics for over 6,000 American hospitals. The data that was pulled from this website were net income, number of staffed beds, and patient experience rating.
2. Doctors Dig, the website has data and statistics for over 6,000 American hospitals as well. The data that was pulled from this website was mortality rates.
3. Becker's Hospital Review, the website has data on health care organizations, management, leadership, and leadership type. The data that was pulled from this website was hospital physician CEOs.
4. Hospital Compare, is a consumer-oriented information center run by the Centers for Medicare and Medicaid Services. The website has complete patient experience rating data from over 6,000 hospitals. The data that was pulled from this website was patient experience rating.

5. Selected (60) Hospitals' websites. The sites was used for double check data on types of CEOs from Becker's review data. The verification was important because of any possible errors or changes on the types of CEOs for the selected hospitals.

Overall, the data is free for public use from the websites listed. However, American Hospitals Directory requires a yearly membership fee of $355 for 2 to 5 users, which I did not pay because my data was deemed very little. All the data was crosschecked for validity. Data was not collected from individuals, thus there was no confidentiality issues of concern. No hospital was asked to participate in any way. No historical or legal documents were used as sources of data. The sources are credible USA health care industry resources centers.

Data Collection Steps

Ten steps were used to collect data from the data sources, recorded, and cleaned before analyzing:

1. Identification of non-federal, short-term, acute care hospitals.
2. Identification of Physician CEOs and aligning them with their hospitals that have a highest number of staffed beds.
3. Identification of Non-Physician CEOs and aligning them with their hospitals that have a highest number of staffed beds.
4. Selection of 30 Physician CEOs with hospitals that have the highest number of staffed beds.
5. Selection of 30 Non-Physician CEOs with hospitals that have the highest number of staffed beds.

6. Two groups of 30 hospitals each formed – one with Physician CEOs and the other with Non-Physician CEOs, and the groups labeled as A and B.
7. Collect – Net Income (NI) for the selected hospitals.
8. Collect – Patient Experience Rating (PER) for the selected hospitals.
9. Collect – Mortality Rate (MR) for the selected hospitals.
10. Data cleaning.

Instrumentation and Operationalization of Constructs

No instrument was used to collect data. Rather, raw financial data, published hospital statistics, and published information on CEOs background was obtained from the Internet and public domain databases. General information about each hospital was obtained and discussed to present a profile of the sample. Only data published in 2014-2015 was collected and processed.

Data Analysis Plan

Hospital Performances in this study was based on data that was obtainable from American Hospitals Directory, Doctors Dig, Becker's Hospital Review, and Hospital Compare. Hypotheses 1-3 were evaluated using MANOVA tests to determine if any significant differences in hospital net incomes, patient experience rating, and mortality rates exist between non-physician CEOs and physician CEOs. Specifically, the dependent variable for hypothesis 1 is hospitals' 2014-2015 net income as measured by the net income percentage (calculated from the gross patient revenue and net income) (American Hospitals Directory, 2016). The dependent variable for hypothesis 2 is hospitals' 2014-2015 productivity as measured by the patient experience rating and collected from the

American Hospitals Directory (2016). The dependent variable for hypothesis 3 was hospitals' 2014-2015 mortality rates and was collected from DoctorsDig.com (2016). The independent variable for hypotheses 1-3 is whether the hospital's CEO is a physician or not.

MANOVA was appropriate given the nature of the variables. That is, the DVs were scaled at the ratio level since overall scores are obtained via averaging responses across items. Further, the independent variable is scaled at the nominal level meaning that CEO type does not assume a mathematical relationship between response options. For example, it was assumed that there was no mathematical relationship between physician CEO and non-physician CEO.

Hypothesis 1, 2 and 3 was tested using multivariate analysis of variance (MANOVA). The purpose of MANOVA, in this study, was to determine if Type of CEO affects hospital performance, both independently and at a multivariate level. The dependent variables for Hypothesis 1, 2, and 3 is hospital net income, patient experience rating, and mortality rate while the predictor variable is Type of CEO employed by a hospital.

Prior to analyzing the research question, data cleaning and data screening was undertaken to ensure the variables of interest met appropriate statistical assumptions. Thus, the following analyses were assessed using an analytic strategy in that the variables were first evaluated for missing data, univariate outliers, normality, and homogeneity of variance. Finally, MANOVA analysis was conducted to test the hypotheses. Parametric assumptions were not met thus; three non-parametric Kruskal-Wallis tests were run.

Again, data was collected from the minimum sample of 60 hospitals within the United States.

Threats to Validity

Based on the positivist perspective, it was assumed that true objectivity as an external observer (researcher) was possible. In contrast, an anti-positivist perspective assumes that the knower and known are interdependent and that social science is essentially subjective (Lee, 1992). Theoretically, positivism attempts to study the parts to understand the whole, which includes uncovering relationships to understand and predict the social world. To the anti-positivist, the social world can only be understood by occupying the frame of reference of the participant in action. Accordingly, this study assumed the positivist perspective where internet published data collection methodology revealed the truth about the phenomenon under study.

External Validity

The anonymous and non-voluntary nature of participation in this research study intrinsically increased the likelihood of honest data that was published for public consumption. Thus, the researcher assumed that honesty would prevail to reveal an objective reality. It was also assumed that the convenience sampling methodology generated a representative sample. That is, despite its obvious limitations, convenience sampling provided an opportunity to collect information from participants that mirror or replicate the population under study. There were no external threats to the validity of the variables' data because it was data that has been captured and analyzed by credible sources. The sources being: American Hospitals Directory, Doctors Dig, Becker's

Hospital Review, and “Hospital Compare” (CMS). The researcher further crosschecked and aggregated the data for use in this study.

Internal Validity

There were no threats to the internal validity because the data was crosschecked within the sources and aggregated “data cleaning and data screening” was conducted to ensure the variables of interest met appropriate statistical assumptions (Creswell, 2013; Field, 2013).

Construct Validity

There was no threats to the construct or statistical conclusion validity because prior to analyzing the research question, data cleaning and data screening was undertaken to ensure that the variables of interest met appropriate statistical assumptions. Thus, the following analyses were assessed using an analytic strategy in that the variables were first evaluated for missing data, univariate outliers, normality, and homogeneity of variance. Finally, MANOVA analysis was conducted to test the hypotheses. Parametric assumptions were not met therefore, three non-parametric Kruskal-Wallis tests were run (Creswell, 2013; Field, 2013).

There were no threats to statistical conclusion because this study was a comparative research study; comparative research studies measure the difference between two groups on some continuously scaled variable. Measures of effect for the study were *p*, *F*, and *eta-squared*. *P* represented the probability of error, *F* reflected the ratio between, and within groups while eta-squared was the effect size. *P* was set at <.05 meaning that the probability of error found from testing the hypotheses must have been

less than 5% to be considered significant (Alreck & Settle, 2004; Creswell, 2013). Thus, the statistical conclusion was valid.

Ethical Procedures

This study used archival data that is published for public use by American Hospitals Directory, Doctors Dig, Becker's Hospital Review, and "Hospital Compare" (CMS). There were no agreements with the participating hospitals and their CEOs.

Institutional Review Board (IRB), approved this study because it met Walden University's ethical standards. There was no need to get permission from participant (hospitals) to use their data because the data is archival and published public use. There was no human participants. The level of institutional review that was required for this research design, methods, participants, and type of data was exempt level review, because there was no risk on the participants, they were not required make any responses or were there any invasive paradigms that could have harmed them (Walden University, n.d.).

Ethical Concerns Related to Recruitment, There were no ethical concerns related to recruitment of participants because there was no recruitment of participants, participants were selected based on the available published data.

Ethical Concerns Related to Data Collection, there were no ethical concerns related to data collection because the data was and is archival and published for public use

Data, when the archival data was collected it was kept in flash drive and backed in researcher's Apple iCloud virtual storage. The data was aggregated and crosschecked across all data sources used. This data was and is not confidential and there will be no

concerns related to its use because it was and is published for public use. The data was and will be accessible to me only for the purpose of this study and possible future studies. The data will not be destroyed because I intend to continuously analyze similar yearly data for the next 10 – 20 years so that I can be able to see and ascertain the changes in the years.

There was no conflict of interest on my part because I am not a hospital CEO nor am I affiliated to any hospital. My position was and is that of a scholar and observer, trying to understand and solve the study problem, come up with an answer to the research question, and to accept or refuse the research hypotheses.

Summary

The chapter discussed in detail the methodology of the study. The areas covered were: Research design and rationale, research question, research hypotheses, archival data, instrumentation and operationalization of constructs, data analysis plan, treats to validity and ethical procedures. The following chapter will be chapter 4 where the results of the study will be discussed in detail.

Chapter 4: Results

The purpose of this study was to examine whether physician and non-physician CEOs may produce similar outcomes in the hospitals they lead. In this quantitative, causal comparative research study, I hoped to determine the difference in hospital net income between types of CEOs the hospitals employed non-physician CEO and physician CEO. Additionally, the difference in hospital patient experience ratings between types of CEOs the hospitals employed non-physician CEO and physician CEO. Lastly, the difference in mortality rates between types of CEOs the hospitals employed non-physician CEO and physician CEO. A single research question, along with three hypotheses was used to inform for this study.

Research Question

Is there any difference in hospital outcomes (NI, PER, and MR) between hospitals led by PCEOs compared to hospitals led by NPCEOs?

Research Hypotheses

$H_0$1: There is no difference on NI between type of CEO employed at the hospital PCEO and NPCEO.

$H_1$1: There is a difference on NI between type of CEO employed at the hospital PCEO and NPCEO.

$H_0$2: There is no difference in hospital PER between type of CEO employed at the hospital PCEO and NPCEO.

$H_1$2: There is a difference in hospital PER between type of CEO employed at the hospital PCEO and NPCEO.

$H_0$3: There is no difference in hospital MR between type of CEO employed at the hospital PCEO and NPCEO.

$H_1$3: There is a difference in hospital MR between type of CEO employed at the hospital PCEO and NPCEO.

Chapters 4 includes discussion of data collection and study results. I conclude with a summary of the chapter.

Data Collection

I started collecting data in the Fall of 2016. The sample was 60 hospitals. I collected and utilized archival data published in 2015. Data were collected, coded in Excel, and analyzed in SPSS. Data were not collected directly from individuals, and the non-federal, short-term, acute care hospitals did not participate. The sample had a minimum of hospitals with 450 staffed beds to ensure data fidelity (Creswell, 2013; Field, 2013).The data were available for public use from the websites of the hospitals, the American Hospitals Directory, Doctors Dig, Becker's Hospital Review, and "Hospital Compare" (CMS). All the data were crosschecked for validity purposes. Below is the breakdown of type of data and source:

- The website of the American Hospital Directory, which has data and statistics for over 6,000 U.S. hospitals (AHD, 2015). The data I pulled from this website was net income, number of staffed beds, and patient experience rating.
- Doctors Dig, the website has data and statistics for over 6,000 American hospitals as well. The data that I pulled from this website was mortality rates.

- Becker's Hospital Review, the website has data on health care organizations, management, leadership, and leadership type. The data that I pulled from this website was hospital physician CEOs.
- Hospital Compare, is a consumer-oriented information center run by the Centers for Medicare and Medicaid Services. The website has complete patient experience rating data from over 6,000 hospitals.
- Hospital websites. The sites was used to double check data on types of CEOs from Becker's review in order to verify if there could have been some changes on the types of CEOs for the hospitals.
- The sample (60) Hospitals' websites. The sites was used for double checking data on types of CEOs from Becker's review data. The verification was important because of possible errors or changes on the types of CEOs for the selected hospitals.

Overall, data was free for public use from the listed websites. However, American Hospitals Directory requires that users pay a yearly membership fee of $355 for 2-5 users. I did not pay to pull the data because the data I collected were low in volume because the website blocks you when you exceed a set level. I crosschecked all data for validity purposes. Data were not collected from individuals. No hospitals actively participated in this process. No historical or legal documents were used as sources of data. The sources are credible U.S. health care information resources.

Data Collection Steps

Ten steps were used to collect data from the data sources and record and clean them before analyzing:

1. Identification of non-federal, short-term, acute care hospitals.
2. Identification of physician CEOs and aligning them with their hospitals that have a highest number of staffed beds.
3. Identification of non-physician CEOs and aligning them with their hospitals that have a highest number of staffed beds.
4. Selection of 30 physician CEOs with hospitals that have the highest number of staffed beds.
5. Selection of 30 non-physician CEOs with hospitals that have the highest number of staffed beds.
6. Formation of groups: Two groups of 30 hospitals each were formed – one with physician CEOs and the other with non-physician CEOs, and the groups labeled as A and B.
7. Collection of data: net income (NI) for the selected hospitals.
8. Collection of data: patient experience rating (PER) for the selected hospitals.
9. Collection of data: mortality rate (MR) for the selected hospitals.
10. Data cleaning.

The data were saved in my cloud and flash drive so that in the vent that I lost my flash drive I could be able retrieved the cleaned data.

Study Results

Inferential statistics were used to draw conclusions from the sample tested. The SPSS was used to code and tabulate scores collected from the survey and provide summarized values where applicable including the mean, central tendency, variance, and standard deviation. Independent-samples t-tests were used to evaluate the research question and hypotheses.

Prior to analyzing the research question, data cleaning and data screening were undertaken to ensure the variables of interest met appropriate statistical assumptions. Thus, the following analyses were assessed using an analytic strategy in that the variables were first evaluated for missing data, univariate outliers, normality, and homogeneity of variance. Finally, three independent samples t-tests were run to evaluate the research question and hypotheses.

Table 2

Summary of Variables and Statistical Tests Used to Evaluate the Research Question and Hypotheses

Hypothesis	Dependent variable	Independent variable	Statistical test
H1	Hospital net income	Type of CEO	Independent-samples t-test
H2	Experience rating	Type of CEO	Independent-samples t-test
H3	Mortality rate	Type of CEO	Independent-samples t-test

Demographics

Data were collected from a sample of 60 hospitals within the United States (N = 60). Specifically, 30 hospitals employed physician CEOs (n = 30) and 30 hospitals employed non-physician CEOs (n = 30). The 30 hospitals with non-physician CEOs had an average of 984.5 beds (SD = 395.9) with Trinity Hospital in North Dakota having the

least number of beds (n = 542) and the Florida Hospital of Orlando, FL having the greatest number of beds (n = 2382). The 30 hospitals with physician CEOs had an average of 858.7 beds (SD = 392.1) with St. Peter's Hospital in New York having the least number of beds (n = 482) and the New York-Presbyterian Hospital/Weill Cornell Medical Center having the greatest number of beds (n = 2373). Displayed in Appendix A, tables 8 and 9 are summary details of the 60 hospitals' names, location, and number of beds by CEO types.

Analysis of Hypotheses 1-3

Hypotheses 1-3 were evaluated using independent-samples t-tests to determine if any significant differences in hospital profits, productivity, and mortality rates existed between non-physician CEOs and physician CEOs. Specifically, the dependent variable for hypothesis 1 was hospitals' 2014-2015 profits as measured by the net income percentage (American Hospitals Directory, 2016). The dependent variable for hypothesis 2 was hospitals' 2014-2015 productivity as measured by the patient experience rating and collected from the American Hospitals Directory (2016) and CMS, (2015). The dependent variable for hypothesis 3 was hospitals' 2014-2015 mortality rates and were collected from DoctorsDig.com (2016). The independent variable for hypotheses 1-3 were weather the hospital's CEO was a physician (n = 30) or not (n = 30), data were collected from Becker's Hospital Reviews, (2015).

Data Cleaning

Data were collected from a valid sample of 60 hospitals within the United States. Before the data were evaluated, the data were screened for missing data and univariate

outliers. Missing data were investigated using frequency counts and no cases were found to exist. The data were screened for univariate outliers by transforming raw scores to z-scores and comparing z-scores to a critical range between - 3.29 and +3.29, $p < .001$ (Tabachnick & Fidell, 2007). Z-scores that exceed this critical range were more than three standard deviations away from the mean and thus represented outliers. The distributions were evaluated and two cases with univariate outliers were found within the distribution of hospital's net income (Mayo Clinic Hospital - Saint Mary's Campus, MN, and California Pacific Medical Center). Although two univariate outliers were found, the cases were not removed from the analysis of hypothesis 1 since similar results were found from independent samples t-test when using the two cases with outliers as compared to the results found with the two cases removed. Thus, data were collected from a sample of 60 hospitals and 60 were evaluated by the independent-samples t-tests for hypotheses 1-3 (n = 60). Descriptive statistics of hospitals' net income, patient experience rating, and mortality rates by CEO types (non-physician CEO, physician CEO) are displayed in Table 3.

Table 3.

Descriptive Statistics of Hospitals' Net Income, Patient Experience Rating, and Mortality Rates by CEO Types

Dependent variable	*n*	Min	Max	Mean	Std. deviation	Skewness	Kurtosis
Nonphysician CEOs							
Net income	30	-0.170	14.790	3.050	3.200	2.541	7.382
Patient experience	30	1.000	4.000	3.000	0.695	-0.661	1.395
Mortality rate	30	7.450	14.300	10.470	1.611	0.726	0.817
Physician CEOs							
Net income	30	-1.410	16.400	2.722	3.247	2.796	10.718
Patient experience	30	2.000	4.000	3.167	0.531	0.192	0.459
Mortality rate	30	7.550	14.800	10.410	1.828	0.512	-0.097

Note. Total n = 60

Normality

Before the research question was analyzed, basic parametric assumptions were assessed. That is, for the dependent variables (hospitals' net income, patient experience rating, and mortality rates) assumptions of normality and homogeneity of variance were tested. To test if the distributions were normally distributed the skew and kurtosis coefficients were divided by the skew/kurtosis standard errors, resulting in z-skew/z-kurtosis coefficients. This technique was recommended by Tabachnick and Fidell (2007). Specifically, *z*-skew/z-kurtosis coefficients exceeding the critical range between -3.29 and +3.29 ($p < .001$) may indicate non-normality. Thus, based on the evaluation of the z-skew/z-kurtosis coefficients, one distribution (net income) was found to be significantly skewed (*z-skew* < 3.29) and kurtotic (*z-kurtosis* < 3.29). Since the aforementioned distribution violated the assumption of normality, net income scores were transformed using a square root transformation. Results indicated that the transformed distribution was still significantly

skewed and significantly kurtotic. Therefore, the transformed scores were used to affirm the results of the independent-samples t-test conducted for hypothesis 1. Additionally, a non-parametric Kruskal-Wallis test was conducted to verify the results of hypothesis 1 as well. For the remaining distributions, the assumption of normality was not violated and the distributions were assumed to be normally distributed. Skewness and kurtosis statistics of hospitals' net income, patient experience rating, and mortality rates by CEO types (non-physician CEO, physician CEO) are displayed in Table 4.

Table 4.

Skewness and Kurtosis Statistics of Hospitals' Net Income, Patient Experience Rating, and Mortality Rates by CEO Types

Dependent variable	*n*	Skewness	Skewness std. error	z-skew	Kurtosis	Kurtosis std. error	z-kurtosis
Nonphysician CEOs							
Net income	30	2.541	0.427	5.951*	7.382	0.833	8.862*
Transformed net income	30	1.734	0.427	4.061*	4.124	0.833	4.951*
Patient experience	30	-0.661	0.427	-1.548	1.395	0.833	1.675
Mortality rate	30	0.726	0.427	1.700	0.817	0.833	0.981
Physician CEOs							
Net income	30	2.796	0.427	6.548*	10.718	0.833	12.867*
Transformed net income	30	1.381	0.427	3.234	4.591	0.833	5.511*
Patient experience	30	0.192	0.427	0.450	0.459	0.833	0.551
Mortality rate	30	0.512	0.427	1.199	-0.097	0.833	-0.116

Note. *Distribution is significantly skewed/kurtotic (<3.29). Total n = 60

Homogeneity of Variance

Levene's Test of Equality of Error Variance was run to determine if the error variances of the dependent variables (hospitals' net income, patient experience rating, and mortality rates) were equal across levels of the independent variable (non-physician CEO, physician CEO). Results indicated that no distributions violated the assumption of

homogeneity of variance ($p > .05$). These results suggest that the error variances were equally distributed across the two levels of the independent variable (non-physician CEO, physician CEO). Displayed in Table 5 are summary details of the Levene's test for hypotheses 1-3.

Table 5.

Summary of Levene's Tests for Hypotheses 1-3

Dependent variable	F	df1	df2	Sig. (*p*)
Net income	0.005	1	58	0.946
Transformed net income	0.006	1	58	0.937
Patient experience	0.008	1	58	0.927
Mortality rate	1.293	1	58	0.260

Note. Independent variable = Type of CEOs (physician, nonphysician). Total n = 60

Results of Hypotheses 1-3

Using SPSS 23.0, independent samples t-tests were used to determine if any significant differences in hospitals' net income (H1), patient experience rating (H2), and mortality rates (H3) existed between non-physician CEOs and physician CEOs. Results indicated that there were no significant differences between non-physician CEOs and physician CEOs (hospitals' net income $p = .911$, patient experience rating $p = .166$, and mortality rates $p = .636$). Similar results were found using the non-parametric Kruskal-Wallis tests (hospitals' net income $p = .639$, patient experience rating $p = .167$, and mortality rates $p = .851$) and the transformed net income scores ($p = .591$). Thus, null hypotheses 1-3 were retained. Displayed in Table 6 are summary statistics of the independent-samples t-tests and Kruskal-Wallis tests conducted for hypotheses 1-3.

Table 6.

Summary of Independent-samples t-tests and Kruskal-Wallis Tests Conducted for Hypotheses 1-3

Variable	t	df	Sig. (*p*)	Mean difference	Std. error difference	Kruskal-Wallis χ^2	Kruskal-Wallis Sig. (*p*)
Net income	0.394	58	0.695	0.328	0.832	0.404	0.525
Transformed net income	0.540	58	0.591	0.083	0.154	0.404	0.525
Patient experience	-1.044	58	0.301	-0.167	0.160	0.773	0.379
Mortality rate	0.135	58	0.893	0.060	0.445	0.083	0.773

Note. Independent variable = Type of CEO (physician, nonphysician). Total $N = 60$

As determined by the independent-samples t-test and Kruskal-Wallis test conducted for hypothesis 1, there were no significant differences in hospitals' net income between CEO types. That is, hospitals with physician CEOs had statistically similar net incomes ($M = 2.722$, $SD = 3.247$) as compared to those with non-physician CEOs ($M = 3.050$, $SD = 3.200$). A means plot of hospitals' net incomes by CEO types are displayed in Figure 2.

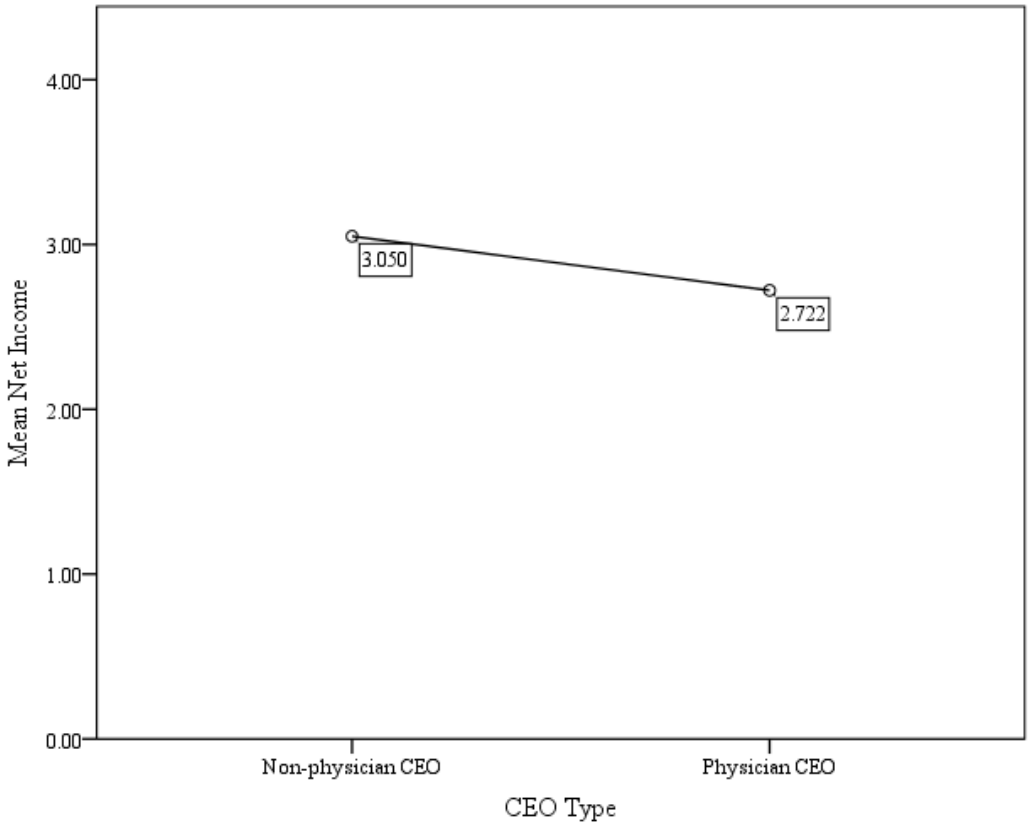

Figure 2. Means plot of hospitals' net income by CEO types

As determined by the independent-samples t-test and Kruskal-Wallis test conducted for hypothesis 2, there were no significant differences in hospitals' patient experience ratings between CEO types. That is, hospitals with physician CEOs had statistically similar patient experience ratings (M = 3.167, SD = 0.531) as compared to those with non-physician CEOs (M = 3.000, SD = 0.695). A means plot of hospitals' patient experience ratings by CEO types are displayed in Figure 3.

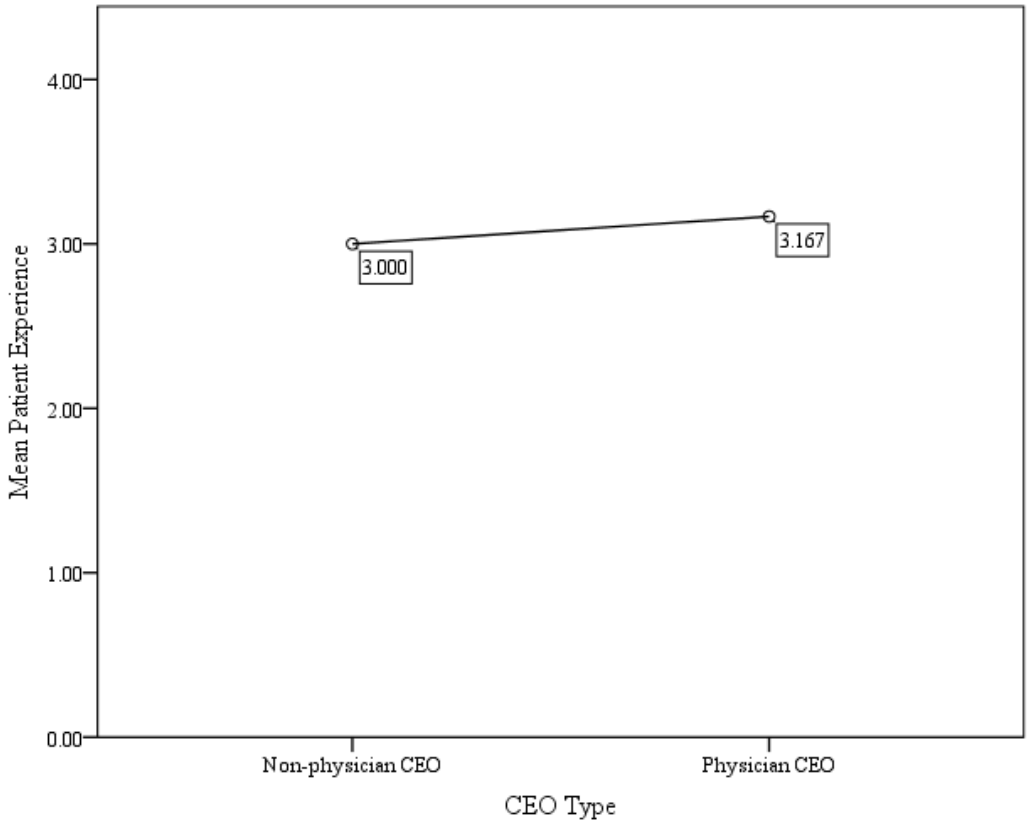

Figure 3. Means plot of hospitals' patient experience rating by CEO type

As determined by the independent-samples t-test and Kruskal-Wallis test conducted for hypothesis 3, there were no significant differences in hospitals' mortality rates between CEO types. That is, hospitals with physician CEOs had statistically similar mortality rates (M = 10.410, SD = 1.828) as compared to those with non-physician CEOs (M = 10.470, SD = 1.611). A means plots of hospitals' mortality rates by CEO types are displayed in Figure 4.

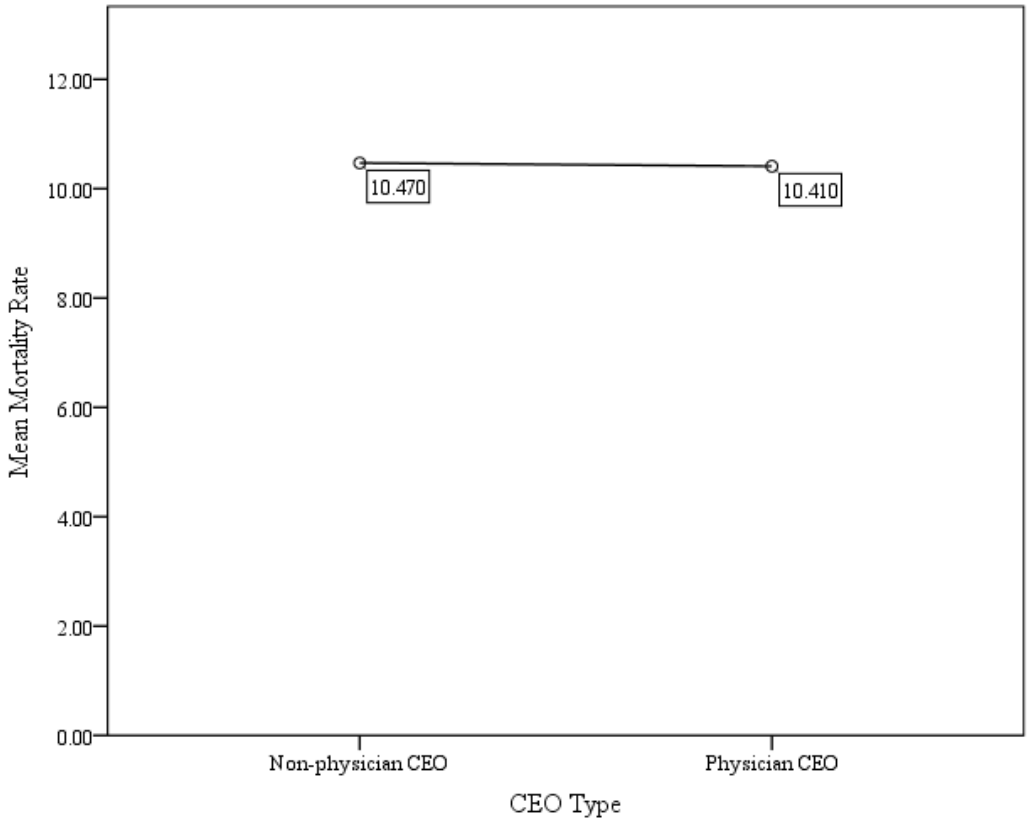

Figure 4. Means plot of hospitals' mortality rates by CEO types

Summary

Results from the independent-sample t-tests for hypotheses 1-3 indicated that there were no significant differences between non-physician CEOs and physician CEOs on hospitals' net income (p = .911), patient experience rating (p = .166), and mortality rates (p = .636). Therefore, null hypotheses 1-3 were retained. Displayed in Table 7 are summary details of the results for hypotheses 1-3.

Table 7.

Summary of Results for Hypotheses 1-3

Hypothesis	Dependent variable	Independent variable	Statistical test	Sig. (*p*)
H1	Hospital net income	Type of CEO	Independent-samples t-test	0.695
H2	Patient experience rating	Type of CEO	Independent-samples t-test	0.301
H3	Mortality rate	Type of CEO	Independent-samples t-test	0.893

Note. Total $N = 60$

The next chapter and final chapter, there will be discussions on the interpretation of this study findings, the limitation of this study, the recommendations, and this study's implications.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this study was to examine whether physician and non-physician CEOs may produce similar outcomes in the hospitals they lead. In this quantitative, causal comparative research study, I hoped to determine the difference in hospital net income between types of CEOs the hospitals employed non-physician CEO and physician CEO. Additionally, the difference in hospital patient experience ratings between types of CEOs the hospitals employed non-physician CEO and physician CEO. Lastly, the difference in mortality rates between types of CEOs the hospitals employed non-physician CEO and physician CEO. A single research question, along with three hypotheses was used to inform for this study.

The results indicate that there were no significant differences between non-physician CEOs and physician CEOs. I conducted this study with intention of contributing to positive social change regarding hospital leadership, because Goodall (2011) study results indicated a strong positive association between the ranked quality of a hospital and whether the CEO was a physician ($p<0.001$). The study established that physician-leaders outperform non-physician leaders. However, Goodall, asserted that the results were cross-sectional associations and used one particular hospital-quality ranking and thus it was one of the major limitations. The Goodall (2011), study variables were overall hospital quality scores using digestive disorders, heart, and heart surgery which are not congruent to measures of business success (Mauboussin, 2012). While, my dependent variables are congruent to measure of business success (Mauboussin, 2012).

Based on the literature I have reviewed, no study has used the variables I have used for this problem. In 2015, 95% of U.S. hospital had non-physician CEOs (AHD, 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015). Only a few physicians advanced to leadership levels in hospital management (AHD, 2015; Becker's Hospital Reviews, 2015; Doctors Dig, 2015). In this study, I have shown that physician CEOs and non-physician CEOs are at par on hospital leadership performance.

Interpretation of Findings

The findings neither confirm nor disconfirm those from previous study because the dependent variables used in this study thus far have never been used. However, the results extend knowledge in hospital leadership. The Goodall (2011) study results indicate a strong positive association between the ranked quality of a hospital and whether the CEO was a physician ($p < 0.001$). Goodall established that physician-leaders outperform non-physician leaders. However, Goodall asserted that the results were cross-sectional associations and used one particular hospital-quality ranking and thus it was one of the major limitations of the study. My study's results from the independent-sample t-tests for Hypotheses 1-3 indicate that there were no significant differences between non-physician and physician CEOs on hospitals' net income ($p = .911$), patient experience rating ($p = .166$), and mortality rates ($p = .636$).

Interpretation of Findings in Context of Theoretical Framework

Three theories were used to inform and guide this research; specifically, leadership trait theory (LTT), situational leadership theory (SLT), and leadership behavior theory. The theories are related to the study approach in such a way that the

independent variable hospital chief executive officers (physician CEOs and non-physician CEOs) are supposed to be guided by these theories in order to be effective and produce good outcomes. The personality traits of an effective leader are that he or she must be exemplarily, must be situational – task-relevant, and must be created from environmental conditioning rather than genetic factors (Baczyńska & Rowiński, 2015; Bourdieu, 1991; Cooper, 2015; Garrett & Camper, 2015; Williams & Clark Gardner, 2012). My study research question mirrored the study theories because leadership effectiveness is dependent on type of leadership (Garrett & Camper, 2015).

Leadership trait theory, this is a study approach to human personality, that identifies and measures the degree to which certain personality traits (e.g., recurring patterns of thought and behavior such as anxiousness, shyness, and openness to new things) existing from individual to individual (Caprara et al., 2013). I found that (a) hospitals with physician CEOs had statistically similar net incomes (M = 2.722, SD = 3.247) to those with non-physician CEOs (M = 3.050, SD = 3.200), (b) hospitals with physician CEOs had statistically similar patient experience ratings (M = 3.167, SD = 0.531) to those with non-physician CEOs (M = 3.000, SD = 0.695), and (c) hospitals with physician CEOs had statistically similar mortality rates (M = 10.410, SD = 1.828) to those with non-physician CEOs (M = 10.470, SD = 1.611).

My study results underscore a part of trait theory, the area of recurring patterns of thought and behavior (Drummond, 2013) – both CEO types are able to cope with leadership roles. The non-physician CEO are groomed for leadership and have the requisite qualifications in hospital finance, administration, strategic management, and

management in general to be successful (Drummond, 2013; Blendon, Benson, & Hero, 2014; McCullough, 2012; Saunders & Hagemann, 2009). While physician CEOs are trained and groomed to provide quality health care. Their skills are centered on clinical medicine, and have clinical management skills, which are essential for providing quality health care. Physician CEOs are used to issuing orders, they work independently, and are a center of attention (Drummond, 2013). However, this study did not look into whether or not the physician CEOs had professional training in business management or if they had on-the-job training.

Situational leadership theory, this is a leadership model developed by Hersey and Blanchard in the 1970s (Hersey, 1985). The tenants of situational leadership theory purports that there is no single best style of leadership; rather, effective leadership is task-relevant (Hersey, & Blanchard 1977). The authors theorized that the most successful leaders adapt their leadership style to the maturity of the individual or group they are attempting to lead or influence. The results indicated that there were no significant differences between non-physician CEOs and physician CEOs on hospitals' outcomes confirms the situational leadership theory, in that the physician CEOs were able to cope with leadership role irrespective of their background – "effective leadership is task-relevant" (Hersey, & Blanchard 1977).

Leadership behavioral theory, in reaction to the emergence of trait leadership theory, behavioral theorists offered a new approach that focused on behaviors of the leaders rather than their mental, physical, or social characteristics (De Houwer et al., 2013; Hersey, 1985; Hersey, & Blanchard 1977). These researchers theorized that

behaviors were a function of conditioning and posited that leaders were created from environmental conditioning rather than genetic factors. With the evolution of psychometrics, researchers were able to measure behavioral characteristics that were related to leadership (De Houwer et al., 2013; Hersey, 1985; Hersey, & Blanchard 1977). The basic behavioral theory tenets assumes that anyone blessed with the right conditioning could have access to the executive boardroom enjoyed by gifted leaders. In other words, leaders are made not born (De Houwer et al., 2013; Hersey, 1985; Hersey, & Blanchard 1977). Again, the results confirmed the leadership behavioral theory in that physician CEOs as well non-physician CEOs were able to perform well as leaders because they were conditioned through their work experience, rather than having born to lead.

Interpretation of Findings in Context of Conceptual Framework

The operational model of this study (see Figure 1) shows the dependent variables as ovals. The independent variables are represented as rectangles and placed to the left of the ovals. Arrow represent the direction of effect while eta-squared (η^2) represents the size of the effect. The results are a representation of what the model (Figure 1) depicted and how the study was operationalized.

Limitations of the Study

The limitations to generalizability and/or trustworthiness of this study can be narrowed to the fact that this study relied on integrity of data to ensure quality of results. The data were sourced from archival sources that have been published for public consumption. This process of compiling data could have been limited in the event that

mistakes (unintended or otherwise) could have been made and inaccuracies subsequently reported. Potential weaknesses of the study include sampling technique, inferential statistics, and type of statistical analysis used (Creswell, 2013; Field, 2013). Since a convenience sampling methodology was used, generalization to the greater population could have been affected. However, the data obtained was a representative sample of the population under study. The probability of Type I error was mitigated by setting the confidence level to determine acceptance of the null hypothesis at .05. The statistics that use the general linear model naturally limit generalizability given the nature of the variables. That is, the independent and dependent variables in the study were predefined by environmental course. Accordingly, a true experiment using random assignment could not be used. Thus, only relationships, rather than causation, were inferred from results (Creswell, 2013; Field, 2013).

The validity and reliability that arose from execution of this study was based on the positivist perspective. Theoretically, positivism attempts to study the parts to understand the whole, which includes uncovering relationships to understand and predict the social world (Lee, 1992). Accordingly, this study assumed the positivist perspective where survey methodology and data collection revealed the truth about the phenomenon under study. This study was validated externally by the anonymous and non-voluntary nature of participation, that intrinsically increased the likelihood of good data, and therefore the assumption is that honesty prevailed and revealed an objective reality. There were no threats to internal validity of the study results because the data was crosschecked within the sources and cleaned to ensure the variables met appropriate statistical

assumptions (Creswell, 2013; Field, 2013). Lastly, There was no threats to the construct or statistical conclusion validity because analyses were assessed using an analytic strategy in that the variables were first evaluated for missing data, univariate outliers, normality, and homogeneity of variance. Three non-parametric Kruskal-Wallis tests were run where parametric assumptions were not met (Creswell, 2013; Field, 2013).

Recommendations

There are two major recommendations for future studies I would like to make. The first is increasing the number of hospitals considering that there are 5,414 non-federal, short-term, acute care hospitals in the US (AHA, 2016), making 60 hospitals just 1.108%. Furthermore, there are only 5% of hospitals with physician CEOs (Becker's Hospital Reviews, 2015; Robeznieks, 2014), meaning there are +/- 270 non-federal, short-term, acute care hospitals with physician CEOs. Out of these 270 hospitals, a top 200 could be used for the physician CEOs and another top 200 from the remaining 5,144 non-federal, short-term, acute care hospitals could be used for the non-physician CEOs. This recommendation is based this study methodology ranging from sampling technique, inferential statistics, and the type of statistical analysis that was used. A convenience sampling methodology was used meaning that generalization to the greater population could have been affected, though to mitigate this concern, the confidence level to determine acceptance of the null hypothesis was set at .05 (Creswell, 2013; Field, 2013). This study used a sample of 60 non-federal, short-term, acute care hospitals, this formed two groups of 30 hospitals labeled as A and B. This sampling strategy was based on the accepted number for quantitative study using inferential statistics (Alreck & Settle 2004).

The second recommendation is to look into whether or not the physician CEOs had professional trained in business management or they had on-the-job training. This approach would make us be able to know how a physician CEO without training and physician CEO with training performed against a non-physician CEO.

Implications

This study contributes to positive social change regarding hospital leadership. It will encourage physicians to aspire for hospital leadership, than retiring and going into non-healthcare industries. It will encourage physicians to study business management while they are practicing in order to set the stage for hospital leadership. On the other hand, it will encourage non-physician CEOs to keep at their job as they are not underperforming as was the case in the Goodall (2011) study. It will encourage those studying healthcare administration to aspire for leadership. The families of those aspiring to be hospital leaders will benefit from these results as they will encourage their family members aspiring to be leaders to work hard because both are at par on hospital outcomes. Organizations in health care industry will not be biased to employ physician CEOs or non-physician CEOs – selection for employment of hospital CEOs will not be between “physician and non-physician” but rather who bring better qualities to the job. On the part of societal, this study’s results put to bed the arguments out there, on who is better at leading our hospitals. Therefore, hospital boards must give who has the right qualification, willingness, and ability to take responsibility for the task.

This study is the beginning of further studies which I intend to carry out every 2 to 3 years, so that the changes in performance of the types of hospital CEOs can be

published so stakeholders can have information they can use in policy making as well as employment of hospital CEOs. There will be some changes in the sample, methodology, and statistical analysis in order to get the best outcomes that befit such study. I am hopeful that this study and the future studies will be the driving force behind hospital leadership for years to come.

Conclusions

The purpose of this study was to examine which leader performs better: a physician or non-physician CEO. The results indicated that there were no significant differences between non-physician CEOs and physician CEOs on hospital outcomes. The study by Goodall (2011) looked at hospital leadership (physician and non-physician) and the dependent variables were hospital performance: comprising overall hospital quality scores using Digestive Disorders, Heart, and Heart Surgery. The results indicated a strong positive association between the ranked quality of a hospital and whether the CEO was a physician ($p<0.001$). The study established that physician-leaders outperform nonphysician leaders. However, Goodall (2011), asserted that the results were cross-sectional associations. This study's results from the independent-sample t-tests for hypotheses 1-3 indicated that there were no significant differences between non-physician CEOs and physician CEOs on hospitals' net income ($p = .911$), patient experience rating ($p = .166$), and mortality rates ($p = .636$).

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Appendix A: Summary of U.S. Hospitals in This Study Employing Nonphysician CEOs

Summary of Hospitals Employing Nonphysician CEOs (n = 30) and Number of Beds

Hospital	State	# of beds
UAB Hospital	Alabama	1134
Baptist Health Medical Center - Little Rock	Arkansas	763
Cedars-Sinai Medical Center	California	880
Yale-New Haven Hospital	Connecticut	1489
Medstar Washington Hospital Center	Washington D.C.	744
Florida Hospital Orlando	Florida	2382
Grady Memorial Hospital	Georgia	910
Northwestern Memorial Hospital	Illinois	881
Indiana University Health Methodist Hospital	Indiana	1241
Norton Hospital	Kentucky	1314
Ochsner Medical Center - New Orleans	Louisiana	905
Beaumont Hospital - Royal Oak	Michigan	1070
Mayo Clinic Hospital - Saint Mary's Campus	Minnesota	1186
Barnes-Jewish Hospital	Missouri	1334
Carolinas Medical Center	North Carolina	1178
Presbyterian Hospital	New Mexico	803
Montefiore Hospital- Moses Campus	New York	1506
University of Pittsburgh Medical Center Presbyterian	Pennsylvania	1540
Greenville Memorial Hospital	South Carolina	814
Inova Fairfax Hospital	Virginia	870
Charleston Area Medical Center General Hospital	West Virginia	851
University of Colorado Hospital	Colorado	570
The Queen's Medical Center	Hawaii	565
University of Iowa Hospitals & Clinics	Iowa	714
The University of Kansas Hospital	Kansas	740
Maine Medical Center	Maine	627
University of Mississippi Medical Center	Mississippi	662
Trinity Hospital	North Dakota	542
Sunrise Hospital & Medical Center	Nevada	641
Rhode Island Hospital	Rhode Island	679

Appendix B: Summary of U.S. Hospitals in This Study Employing Physician CEOs

Summary of Hospitals Employing Physician CEOs (n = 30) and Number of Beds

Hospital	State	# of beds
Christiana Hospital	Delaware	1102
Massachusetts General Hospital	Massachusetts	999
The Johns Hopkins Hospital	Maryland	985
Bergen Regional Medical Center	New Jersey	1000
The Cleveland Clinic	Ohio	1274
Saint Francis Hospital	Oklahoma	859
Methodist University Hospital	Tennessee	1346
Methodist Hospital	Texas	1570
Aurora Saint Luke's Medical Center	Wisconsin	894
Banner Desert Medical Center	Arizona	639
St. Luke's Boise Medical Center	Idaho	558
Avera McKennan Hospital & University Health Center	South Dakota	550
Providence Sacred Heart Medical Center	Washington	644
Providence-Providence Park Hospital Southfield Campus	Michigan	628
Saint John Hospital and Medical Center	Michigan	666
New York-Presbyterian Hospital/Weill Cornell Medical Center	New York	2373
The Mount Sinai Medical Center	New York	1167
Abbott Northwestern Hospital	Minnesota	662
Lancaster General Health	Pennsylvania	630
California Pacific Medical Center	California	528
St. Peter's Hospital	New York	482
Rush University Medical Center	Illinois	679
NYU Langone Medical Center	New York	668
Crouse Hospital	New York	501
Upstate University Hospital - SUNY Upstate Medical University	New York	735
Wake Forest Baptist Medical Center	North Carolina	830
Brigham and Women's Hospital	Massachusetts	763
Mission Health	North Carolina	723
Henry Ford Hospital	Michigan	666
Beth Israel Deaconess Medical Center	Massachusetts	639