2020

Racial Differences in Hospital Readmission and Reimbursement Rates for Patients with Congestive Heart Failure

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This is to certify that the doctoral study by

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February 9, 2020

Abstract

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MA/MS, Kelley Graduate School of Management, 2006

BSBA, DeVry University, 2002

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Healthcare Administration

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Abstract

Congestive heart failure (CHF) is associated with a significant economic burden that includes frequent emergency department visits, hospitalizations, and readmissions. The purpose of this study was to examine the differences, if any, between hospital readmission rates and insurance reimbursement rates for non-Hispanic Black and White CHF patients in California. The theoretical framework was Bandura's social cognitive theory. Secondary data for this quantitative study were obtained from the Office of Statewide Health Planning and Development and State Inpatient Databases from Healthcare Cost and Utilization for calendar year 2014-2016. A *t*-test and Levene's test for equality of variance were conducted on a sample of 11,905 patient records from 675 hospitals in California; the readmission discharge data and insurance reimbursement rates were analyzed by ethnicity and payer type. The results indicated that there was not a statistically significant difference between non-Hispanic Blacks as compared to non-Hispanic Whites in relation to readmission rates ($M = 49.6$, $SD = 38.28$) or insurance reimbursement rates ($M = 50.88$, $SD = 36.52$). Non-Hispanic Blacks had a higher readmission rate (36%) as compared to Whites (29%), and although these results are not significant, they support the need for healthcare professionals to develop programs that meet the needs of the community. The results of this study contribute to positive social change by providing information that healthcare professionals may be able to use to decrease CHF readmissions and improve access to care for non-Hispanic Blacks and other vulnerable patient groups.

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Dedication

To my sister Rose, who did not live to see this day as she was snatched from us by cancer. Sister, you showed me unconditional love and encouraged me, even on your sickbed, to continue this journey despite the unending long hours of studies.

To my husband, Matsima Sr., and my son, Matsima Jr., for bearing with me throughout all these years and providing me with words of encouragement, love, and support.

To my dearest brothers and sisters, my greatest cheerleaders for their collective efforts of encouragement.

To my nieces and nephews, you have always shown me the love and respected my undertakings.

To the one and only sweet mother who gave me a lifetime of love, wisdom, and support, I love you dearly.

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Section 1: Foundation of the Study and Literature Review

Introduction

Congestive heart failure (CHF) is the most common reason for hospital readmission among Blacks, non-Hispanic ages 18-64. It is a progressive disease that afflicts about five million persons in the United States, and African Americans have a disproportionately high prevalence, especially among young adults (Fonarrow, Konstam, & Yancy, 2017). According to American Heart Association (2017) statistics, the annual incidence of heart failure for African Americans is 9.1 per 1,000 per year as compared to their White counterparts who have a frequency of six incidents per 1,000 per year. As rehospitalizations continue to increase, reducing hospital readmission rates has become a significant concern for health care leaders and insurance companies as they seek to determine the specific causes and the cost burden associated with readmissions for all patients. The goal of these efforts is to decrease the cost of care, improve outcomes, and minimize insurance reimbursement penalties (Diaz-Maclnnis, 2018).

Problem Statement

CHF is an escalating health problem in the United States, and the highest cause of death among Blacks, non-Hispanic (Pandey et al., 2015). Hospital readmission rates for Blacks continue to increase due to lack of insurance, low reimbursement rates, and limited access to care (Pandey et al., 2016, p. 938). CHF is associated with a significant economic burden that includes frequent emergency department visits, hospitalization, and rehospitalization in Black communities. The rampant nature of CHF readmissions among

Black patients is due to insurance restrictions or the inability of Black patients to pay for medical care, according to the U.S. Department of Health and Human Services (2017).

Compared to Whites, non-Hispanic with CHF, Blacks are more likely to be under age 65 with limited financial resources and a higher level of hospital readmissions (Pandey et al., 2016). In addition, Black patients have higher uninsured rates than White patients, which consequently increases hospital readmissions for CHF (Sharma et al., 2016). The increased clinical and financial burden of this condition, especially among young and older adults, had led to an interest among hospital administrators in improving outcomes and decreasing the cost of care (Sharma et al., 2016). Even though there is a plethora of research on CHF, there is a gap in the literature and a lack of research about insurance coverage and insurance reimbursement rates associated with readmissions and differences between non-Hispanic Black and White patients (Levesque, Harris, & Russell, 2015). I addressed this gap by conducting correlational research.

Purpose of the Study

The purpose of this study was to examine the differences between hospital readmission and insurance reimbursement rates, if any, for non-Hispanic Blacks and Whites with CHF in California. Research on the causes of CHF readmissions could improve health system protocols and enhance access to healthcare by encouraging Black patients with CHF to follow up with their primary care physician after hospital discharge. Involving the executive leadership team in the patient readmission process using clear metrics allows health care administrators to explore necessary adjustments and execute strategies for setting and achieving patient goals (Wei et al., 2018).

Access to health care is essential to quality patient care, and, as a result, U.S. hospital administrators are focusing on efforts to improve the quality of care and reduce spending on readmissions. The Patient Protection and Affordable Care Act (PPACA) of 2010 has spurred administrators to undertake these efforts (Erdem, Fout, Korda, & Abolude, 2016). In this study, I used t-test analysis to determine if there were statistically significant differences between non-Hispanic Black and White CHF patients in relation to hospital readmission rates, insurance reimbursement rates, and uninsured patients. The dependent variable for this study was CHF readmission rates for non-Hispanic Black and White patients in California. The independent variable was insurance reimbursement rates for non-Hispanic Black and White CHF patients in California. Insurance reimbursement included an analysis of private insurance, uninsured rates, Medicare, and Medicaid.

Research Questions and Hypotheses

The research questions (RQs) and hypotheses were as follows:

RQ 1. What is the difference, if any, between hospital CHF readmission rates for Blacks, non-Hispanic and Whites, non-Hispanic in California?

$H_1$1 (Alternative Hypothesis): There is a statistically significant difference between hospital CHF readmission rates for Blacks, non-Hispanic, and Whites, non-Hispanic in California.

$H_0$1 (Null Hypothesis): There is not a statistically significant difference between hospital CHF readmission rates for Blacks, non-Hispanic, and Whites, non-Hispanic in California.

RQ 2: What is the difference, if any, between hospital CHF readmission insurance

reimbursement for Blacks, non-Hispanic and Whites, non-Hispanic in California?

$H_1 2$ (Alternative Hypothesis): There is a statistically significant difference

between hospital CHF readmission insurance reimbursement for Blacks, non-

Hispanic and Whites, non-Hispanic in California.

$H_0 2$ (Null Hypothesis): There is not a statistically significant difference between

hospital CHF readmission insurance reimbursement for Blacks, non-Hispanic and

Whites, non-Hispanic in California.

Theoretical Foundation for the Study

The theoretical framework for this study was Bandura's (1986) social cognitive

theory (SCT). Bandura developed social learning theory in the 1960s and expanded its

key concepts into SCT in 1986 (Bandura, 1986). This theory has been used extensively in

healthcare communication as it pertains to the modeling of behaviors and improvements

in processes (Pajares, Prestin, Chen, & Nabi, 2009). A tenet of SCT is that past

experiences influence reinforcement, expectations, and perceived self-efficacy in patients

(Hoffman, 2016). As such, researchers consider a person's past experiences and assess

the factors that may lead a person to take a certain action (Hoffman, 2016). SCT

emphasizes that when administrators and staff work together to achieve common goals,

they can make a positive difference in behaviors (Pajares et al., 2009). SCT also provides

a framework for designing, implementing, and evaluating programs, which could be used

to facilitate and improve care for Black, non-Hispanic CHF patients (Jeihooni, Hidarnia,

Kaveh, Hajizadeh, & Askari, 2016). SCT can be used to understand the circumstances in

which people acquire and maintain specific behavioral patterns while establishing a

process for intervention (Dybowski, Sehner, & Harendza, 2017).

Self-efficacy, as a construct of SCT, influences the effort one puts forth to change

risk behavior and the persistence to continue striving despite barriers and setbacks that

may undermine motivation (Hoffman, 2016). Although self-efficacy is directly related to

health behavior, it also affects health behaviors indirectly through its impact on goals

(Dybowski, Sehner, & Harendza, 2017). The importance of self-efficacy is that it can

influence how people perceive and embrace change. The more healthcare leaders can

educate and promote health outcome improvements, the greater the likelihood CHF

patient perceptions about self-efficacy will produce desirable results (Bandura, 1997,

2001).

Nature of the Study

This study involved secondary analysis of data. I statistically analyzed the

differences of the variables and determined significance by using a *t*-test and Levene's

test for equality of variances. The dependent variable for this study was CHF readmission

rates for non-Hispanic Black and White patients in California. The independent variable

was insurance reimbursement rates for non-Hispanic Black and White CHF patients in

California. Insurance reimbursement included an analysis of private insurance, uninsured

rates, Medicare, and Medicaid.

The secondary data collection involved downloading readmission discharge data

from the Office of Statewide Health Planning and Development (OSHPD) for the

calendar years 2014-2016 and State Inpatient Databases (SID) for the calendar years

2014- 2016 from the Healthcare Cost and Utilization Project (HCUP). Using the provider

report from the Centers for Medicare & Medicaid Services (CMS), I was able to examine

the following explanatory variables: Diagnosis-related group, provider ID, provider zip

code, total discharged, average covered charges, average total reimbursements, average

Medicare reimbursements, average Medicaid reimbursements, average private insurance

reimbursements, average uninsured private pay reimbursements, age (mean), and break-

out. The variables for insurance reimbursement were categorized as follows: average

Medicare payment, average Medicaid payment, average private insurance payment, and

average uninsured private payment (HCUP, 2016; OSHPD, 2016). Probability sampling

was used as the sampling strategy for this study.

Literature Search Strategy

To better understand the increasing number of CHF readmissions, I used several

databases to retrieve the most current literature on CHF, readmissions, and utilization

cost. These articles identified CHF as the leading cause of rehospitalization and also

showed that the uninsured with CHF have poorer health outcomes and a higher rate of

hospital readmissions (Whitworth, 2018). Database searches were my primary means of

finding articles related to this study and gaining an understanding of the research

questions' strengths and weaknesses. The following Walden University databases and

search engines were used to conduct a systematic literature review on adults aged 18-64:

CINAHL Plus, PubMed, Ovid MEDLINE, Medline, Cochrane, ProQuest, and Google

Search. I focused my search on scholarly journals and articles published in English from

2013 to 2018. In addition, I searched for literature on organizational and governmental

websites, including AHA.com. CDC.gov, HCUP.ca.gov, Ache.net, minority

health.hhs.gov, ahrq.gov, healthypeople.gov, icpsr.umich.edu, and ncbi.nlm.nih.gov. The

key search terms were *readmission*, *Blacks with CHF*, *heart failure*, *congestive heart*

failure, *chronic disease*, *rehospitalization*, and *insurance reimbursement*.

Literature Review Related to Key Variables and/or Concepts

The purpose of this literature review was to synthesize studies completed by

researchers about hospital readmission rates (dependent variable) for Black, non-

Hispanic, and Whites, non-Hispanic patients with CHF, and differences with insurance

coverage and insurance reimbursement rates (independent variables). CHF is an ongoing

health problem, and research has shown that it is the leading cause of death in the United

States (Pandey et al., 2016). Mantel (2015) reported that CHF remains the leading cause

of early hospital readmission among adults aged 18-64 within 30 days of the first

hospitalization. Due to the increase in hospital readmission rates, health care spending

continues to rise among all payer types and threatens the health care delivery system if

substantial changes are not made to prevent avoidable readmissions (Blumenthal et al.,

2015). As Islam, O'Connell, and Lakhan (2017) noted, researchers have reviewed

hospital readmissions, chronic disease management, and CHF to establish some of the

contributing factors associated with hospital readmissions. I review some of these factors

in this literature review.

Hospital Readmission Variable

Financial implications. CHF is an escalating health problem in the United States

and the highest cause of death among the racial/ethnic group Blacks, non-Hispanic

(Fleming, 2018). CHF was responsible for an enormous amount of healthcare burden

and financial struggle in the United States (Mirkin, Enomoto, Caputo, & Hollenbeak,

2017). According to Mirkin et al. (2017), CHF was the most frequent cause of hospital

readmissions in adults aged 18-64. The authors found that there has been an insignificant

amount of consistency in the variables used to predict readmission criteria. Even though

the authors used predictive and statistical methods to analyze readmission risk factors,

they concluded that there is no magical technique to highlight a better readmission tool to

identify those risk factors associated with hospital readmission. As a result, Mirkin et al.

argued that experts had recommended a risk prediction model encompassing not only the

patient's condition but also the hospital system and provider approach for determining

patients with higher risk.

Bayati et al. (2016) had similar views about the cost-effectiveness of readmissions

that posed a considerable cost burden in the US. The authors stated that rehospitalization

had been a primary contributor to the 10 billion per year deficit in healthcare expenditure

of CHF patients. The authors also found that 47% of the readmissions that occurred

within 30 days in the Veteran Health Administrations Hospital (VA) was a result of

congestive heart failure. Congestive heart failure is an ongoing health problem in the US,

with a financial impact on the overall cost of health care.

Similarly, Boesen, Leal, Sheehan, and Sobolik (2015) noted that societal and

healthcare issues are predictors of financial implications for readmission. The study

found that CHF patients discharged home without proper discharge information have

shown to be a contributing factor for hospital readmissions. Bayati et al. (2016); Boesen,

Leal, Sheehan, and Sobolik (2015); and Mirkin et al. (2017) stated that, as a result, the financial implications in the health care system had opened avenues for researchers to use predictive models to identify CHF patients with the highest risk factor for readmission. **Improper discharge process.** There have been studies that examine the discharge process as a contributing factor of hospital readmissions for Blacks, non-Hispanic CHF patients. Feltner et al. (2014) surveyed readmissions and discharge processes and found little evidence that indicated reduced readmissions due to the discharge process for CHF patients. Also, the researchers found that home visit programs, telemonitoring, and nurse-led programs did not reduce the risk of heart failure readmissions. For these reasons, Feltner et al. concluded that some of their research directed toward hospital readmissions yielded results without methodological limitations or direction. Therefore, they surmised that further research is needed to evaluate the improper discharge process and risk indicators associated with CHF readmission.

Importantly, the increase in hospital readmission rates is causing healthcare leaders to look for ways to minimize readmissions. Healthcare leaders are employing the technique of placing patients into observation status instead of admitting them into the hospital to reduce readmission penalties (Kaiser Family Foundation, 2015). Unfortunately, observation status creates other problems concerning readiness for discharge, patient education, and the dilemma that occurs when a nursing home bed is needed. Therefore the implications of reporting readmissions are changing the healthcare delivery system, which confuses patients, families, physicians, and hospital staff (Kim, Mortensen, & Eldridge, 2015).

In summary, the increase in the financial penalty for having high readmission rates is creating a sense of urgency within health care systems. Even though preventing rehospitalization is a complex issue that encourages providers and health care leaders to engage in new healthcare delivery models to deliver improved patient outcomes and lower the cost of care. Healthcare leaders are encouraged to develop tools that will empower patients to protect and improve their health.

Insurance Reimbursement Variable

Reimbursement incentives to reduce readmissions. In response to the health care cost increases, insurance providers have developed an array of strategies to control cost for those they insure including transferring cost to their health plan members and adding an administrative mechanism to identify and discourage inappropriate care by penalizing hospitals with higher readmission rates (Erdem et al., 2016).

The PPACA began the next significant and recent shift in reimbursement consideration in health care (Singer, 2017). According to Blumenthal, Abrams, and Nuzum (2015), the PPACA embraced efforts to move from volume-based fee-for-service reimbursement towards performance-based, and this impacted many hospitals negatively due to higher readmission rates which subjected hospitals to financial penalties.

Bosko, Dubow, and Koenig (2016); Bowling, Newman, White, and Wood (2017) argued that one goal of the PPACA is to ensure access to health care while also containing costs through cost-shifting to outpatient service provisions. Policies and legislative principles that led to the implementation of all-payer systems including rate setting, cost control, equity, access, solvency, and adequate care provision are explored

throughout the literature (Bosko, Dubow, & Koenig, 2016; Bowling, Newman, White, & Wood, 2017).   Payment strategies and incentives are vital tools for the success of the PPACA (Gilman et al., 2015). The PPACA includes insurance reimbursement strategies such as bundled payments, pay-for-performance, and value-based purchasing, which have been implemented in various states and supported by the federal government. Reimbursement strategies must reward provider collaboration, patient-focused care, and high-quality care with financial incentives to address care cost growth (Gilman et al., 2015). Incentives such as cost-sharing and rewards based on established goal achievement remain at the forefront of the ACA's strategy to shape provider behaviors to reduce costs and improve care quality (Bosko et al., 2016).   The following sections provide additional information about these different insurance reimbursement strategies.

Bundled payments. According to CMS (2017), payers will increasingly seek to move the financial risk of managing patients to providers through strategies such as bundled payments and capitation. Bundled payments include all fees for a procedure in one billing process rather than separating them. The bundled payment creates incentives for hospitals and physician offices to coordinate patient care and reduce duplicative or unnecessary services while emphasizing the need to minimize hospital readmissions (CMS, 2018).

According to Sanghavi et al. (2015), providers view the bundled payment reimbursement strategy as an opportunity to advance from a compliance-driven culture to one of collaboration among providers and innovation to reduce health care costs and improve care quality to patients. Valania and Slawsky (2017) suggested that providers

are incentivized to lower costs through improved care coordination and quality

improvement while focusing on decreased utilization of costly hospital readmissions.

Bowling et al. (2017), on the other hand, stated that some hospitals view bundling as a

way to reduce provider control over practice decisions. Another strategy for cost control

and collaboration incentive is pay-for-performance.

       Pay-for-performance: Incentives to decrease hospital readmissions. CMS

(2018) officials have created and implemented a payment model with goals that

emphasize reductions in cost and improvements in quality. This program incentivizes

and rewards hospitals and providers that meet the goals, which include targets for

decreasing readmissions (CMS, 2018). Caveney (2016, p. 265) stated that pay-for-

performance reimbursement methods are based on quality, utilization, and patient

satisfaction along the care continuum. High performing organizations and providers are

also rewarded with a high volume and loyal patient base adding to the organization's

financial solvency. Caveney went further to say that this mechanism of payment was

developed by private and public payers to force hospitals to close the gap on higher

readmission rates and improve the quality of care. Financial incentives are a strong

intrinsic motivation for organizations to provide high-quality care, according to CMS

(2015). Therefore, if organizations achieve the CMS pay-for-performance identified

metrics, the organizations receive financial incentives and high levels of patient,

community, and payer trust (Ayanian & Markel, 2016).

       Achievement of performance metrics such as decreased hospital readmission rates

– plus high performance on quality care, patient satisfaction, and ranking results

compared to other hospitals results in the positive market competition by establishing high and low performers (Bowling, Newman, White, & Wood, 2017). Baicker (2015) stated that 90% of these have programs are geared toward physician incentives, whereas only 38% of incentives are geared toward acute care facilities. Another strategy that is shown to contain cost and improve quality of care while penalizing hospitals for higher readmissions is value-based purchasing.

Value-based purchasing: Rewards for decreased readmissions. Another CMS incentive program is Value-Based Purchasing, which is promoted by the PPACA and rewards providers and hospitals who emphasize value-based care rather than volume care and quality care rather than quantity care (Jacobson, 2016). As a result, Heidenreich et al. (2016), indicated that hospitals with fewer readmissions and high-quality outcomes are eligible to receive financial rewards. The United States Department of Health and Human Services (DHHS) (2011a) reported that an estimated 850 million dollars were earmarked for hospitals achieving star ratings due to established goals on performance measures, clinical indicators, and patient satisfaction. Jacobson (2016) indicated that value-based purchasing approaches include service integration, payment strategies, and value-based insurance design are emphasized in national health care reform legislation.

Uninsured variable, a contributing factor to hospital readmissions. The comprehensive research conducted by Elixhauser and Steiner (2016) highlighted all-payer, all-cause hospital readmissions. The authors found that most readmissions are the result of chronic conditions and uninsured patients with limited access to healthcare. CHF

is known to be one of the highest common chronic diseases that result in patients

readmission within eight to thirty days.

Boesen, Leal, Sheehan, and Sobolik (2015) had similar findings of the causes of

readmissions and revealed that due to the complexities of hospital readmissions, all areas

of a health care system must be targeted. The authors also indicated that creating a

healthcare communications system and looking for ways to connect the uninsured with

insurance will reduce all-causes of readmissions. Similarly, Wang, Shi, Nie, and Zhu

(2015) found that uninsured adults were less likely to obtain preventive care and keep

their physician appointments. Furthermore, the uninsured population was significantly

more likely to have no primary care physician and had difficulties getting attention. The

authors also indicated that blacks with CHF reported an inability to get medical care

through the typical health care delivery system. As a result, they sought treatment in the

emergency room.   Also, they suggested that uninsured patients lacked access to care –

both preventive services and treatments - even though studies have shown that uninsured

patients, on average, received 55% of medical services (Wang et al., 2015).

Wang et al. (2015) also stated that income and socioeconomic factors were found

to be a significant contributor to readmissions. Their research results suggested that even

though there were other contributing factors, a lack of insurance was found to be the most

critical factor associated with significant readmissions. The authors indicated that one of

the main goals of the PPACA is to promote universal health coverage by expanding the

State Health Insurance Exchange marketplace. Research has shown that even with the

expansion of the Medi-Cal program in California, ethnicity, socioeconomic status, and

place of residence are predictors of readmission risk and readmissions (Betancourt, Tan-McGrory, & Kenst, 2015). Research indicates that uninsured patients with CHF have a higher risk of hospital readmission. Boesen, Lead, Sheehan, and Sobolik (2015); Elixhauser and Steiner (2016) agreed that because CHF is the number one cause of hospital readmission in the U.S, more research is needed to develop a better delivery model that will improve access to care, improve patient's outcome, and lower cost.

Uninsured patients and CHF. Heart failure patients, especially Blacks, non-Hispanic, have high rates of hospital readmission (Sharma, Colvin-Adams, & Yancy, 2016). The authors stated in 40,000 patients with heart failure that education, lower-income, and lack of insurance were significant predictors of hospital readmission. These socioeconomic factors could account for the delay of inadequate access to health care and noncompliance with follow-up appointments. The study points to sociodemographic factors such as sex, age, race/ethnicity, and insurance. As a result, studies have shown that an increased risk of hospital readmission rates is associated with sociodemographic factors. Even though Kirby and Kaneda (2016) argued that current research offers a limited description of the complex health coverage and hospital readmission, especially for Blacks, non-Hispanic in the United States, the individuals in these health categories are more likely to require medical care than their white counterpart. The insurance gap between white and black is more severe than indicated in previous surveys (Noori et al., 2015).

Furthermore, Kirby and Kaneda (2017) stated that research does not provide adequate information about the uninsured population, even though many adults aged 18-

64 do not have access to health care or employer-sponsored programs. Healthcare leaders are focusing on driving the patchwork of public programs that are available to educate these populations rather than providing a long-term solution.

Conversely, Martinez et al. (2015) stated that even though adults aged 18-64 could still buy private health insurance plans through the Insurance Marketplace or state-based exchanges as part of the Affordable Care Art of 2010, low-income and socioeconomic factors highlight unplanned hospital-based care among younger patients. Black and Schiller (2016) mentioned that the utilization measures among adults aged 18-64 who are uninsured with CHF differ from state to state. Kim, Mortensen, and Eldridge (2015) similarly argued that to link low-income uninsured patients with primary care physicians who could reduce emergency or hospital readmissions is problematic because most physicians request payment at the time services are provided.

A study conducted by Clarks and Schiller (2016) found that adults ages 18-64 without health insurance coverage neglect seeking healthcare services. The study showed that even though the percentage of uninsured adults at the time of the interview decreased from 16.0% in 2010 to 9.0% in 2016, readmissions for CHF remained significant at state and federal levels. Ayanian et al. (2015) conducted a similar study on readmissions. This study showed compelling evidence of the adverse clinical consequences of being uninsured. Furthermore, the study also examined the type of care received by uninsured patients with CHF and chronic conditions. The authors found that the quality of care received by uninsured adults with a low income was substandard and substantially worse when compared to insured low-income adults, thereby increasing the risk for

rehospitalization. Even though the government has begun to extend affordable health insurance to the uninsured, Ayanian et al. (2015) argues that the unmet health needs of 33 million uninsured adults continue to fester in the health care delivery system without a cohesive political response to minimize avoidable readmissions.

Causes for hospital readmission. Congestive heart failure is a debilitating condition associated with frequent readmissions. A considerable amount of research has revealed that 25-60% of readmissions occur within six months of discharge, and these readmissions are due to a variety of reasons. Noori et al. (2015) concluded there is a correlation between socioeconomic factors and CHF, which include income and education as primary risk factors for rehospitalization due to CHF. Also, Noori et al. identified that these variables - lower educational level, lower-income, and lower job levels - were shown to cause higher readmission rates even though other variables such as inadequate physical activity and hypertension were also found to be independent predictors for readmission. Martsolf et al. (2016) found that the implication for readmission and insurance reimbursement policy could be affected in two ways: Firstly, lower-income and educational levels of patients affect readmission rates for a substantial proportion of hospitals. The financial impact is enormous, and it could be advantageous to consider this information as opposed to not adding this information to algorithms that consider overall risk adjustment for readmissions. Secondly, the study also demonstrated that most of the hospital readmissions were affected by race/ethnicity and socioeconomic factors that are consistent with previous studies.

Also, Heidenreich et al. (2016) indicated that the cost of CHF readmissions is expensive and will remain a substantial concern for health care providers if better efforts are not put in place to reduce the number of patients developing CHF. Most importantly, techniques and strategies to prevent CHF readmissions and improve efficiency are needed to decrease hospital readmissions. The authors also emphasized that the burden of CHF hospital readmissions will increase in the next 18 years if the current approach or delivery system is not improved.

A comprehensive study conducted by Basu, Hanchate, and Bierman (2018) showed that readmission rates could be affected by different insurance reimbursement rates. Black CHF patients had the highest risk of readmission compared to white CHF patients when covered by low reimbursement insurance, such as Med-Cal. Having no insurance was uniformly associated with a higher rate of readmissions in blacks that may reflect no access to healthcare or suboptimal outcomes. This study is consistent with work done by Martsolf et al. (2016). Accordingly, Martsolf et al. found that blacks are susceptible to hospital readmissions within nine days after being discharged. As a result, the result of the studies had several strengths, including multilevel framework and state-level focus on sociodemographic composition, including patients aged 18-64 and aged 65 and older. However, the findings of this study may have some useful implications for states expanding on Medicaid coverage. In conclusion, further studies should investigate whether Medicaid expansion minimized the readmission rate for black patients with CHF.

To summarize, CHF hospitalizations and readmissions have been reported as common in black patients due to insurance restrictions or the inability to pay for medical care (HHS, 2017). Blacks are more likely to be under age 65 with limited financial resources and poorer health status, increasing the frequency of rehospitalization. Uninsured CHF patients were much less likely than insured adults to have received routine checkups during which any health risk might have had a different outcome.

Research Gap

I used a systematic approach to choose studies that fulfilled the research goals of this correlational study and address the gap concerning healthcare access for non-Hispanic Black and White patients with CHF in relation to hospital readmissions. The chosen studies present comprehensive information about the topics. In particular, this concerned the strengths of the studies conducted by researchers and whether the results and conclusions provided a consistent approach to the topics.

Overall, I observed that the chosen studies support the need for more research to address the gap associated with the causes of healthcare access and to add to the body of knowledge that could improve wellness and reduce hospital readmissions for Black, non-Hispanics. For example, Kim, Mortensen, and Eldrige (2015, p. 798) stated that their goal was to analyze the efficacy of interventions that address the influx of uninsured CHF patients to the emergency department by using the CMS collaborative efforts of 2010 with local clinics and hospitals. Their findings were consistent with other research.

Martinez, Ward, and Adams (2015) completed a comparative analysis on uninsured patients readmitted with CHF from 2013-2014 to see if there were any changes

for adults aged 18-64. Blacks, non-Hispanic with CHF readmissions decreased from 24% to 17.6% due to the Affordable Care Act that provided access to private health insurance through the Health Insurance Marketplace. However, medical care for Blacks did not have any significant changes as compared to non-Hispanic Whites.

Ayanian, Weissman, Schneider, Ginsburg, and Zaslavsky (2015) completed a study about long-term uninsured patients ages 18-64 with chronic conditions, and results indicated that these patients encountered barriers to preventive services. These barriers increased the level of hospital readmissions for patients with CHF. The study variables are somewhat consistent with this study and focused on sex, age, race/ethnicity, income, education, and employment.

Conclusion

Black, non-Hispanic patients with CHF, are at a significantly higher risk for hospital readmissions as compared to their white counterparts (Carnethon et al., 2017). This high rate of hospital readmissions is causing a financial burden for patients, hospitals, and healthcare providers. The high rehospitalization rates have prompted many healthcare leaders and providers to create an adaptive health care delivery system to provide tools to manage chronic conditions at home to reduce rehospitalization (Sharma et al., 2016). Hospital Administrators are presented with greater responsibilities to develop tools and methods to reduce readmissions and also to accurately identify high-risk CHF patients effectively. However, like many such studies mentioned above, Black patients with CHF have been reported to have the highest number of hospital readmissions due to insurance restrictions that prevent them from having primary care

physicians to facilitate preventive care (Bergethon et al., 2017). Attention should be

focused on a patient's socioeconomic status as discharge plans are developed, which may

enable identification of those at highest risk of readmission. Given the cost and quality

implications of these findings, addressing readmissions while caring for an increasingly

diverse population has become a significant concern for hospital administrators and

health care leaders (Swayne, Duncan, & Ginter, 2017).

Definitions

30-day readmission: An admission to an acute care hospital within 30 days of

discharge from the same or another acute care hospital with risk-standardized

readmission measures, which includes all-cause unplanned readmission (Elixhauser &

Steiner, 2015).

Access to care: The availability of services and barriers to access, utilization, and

outcomes of health needs, materials and cultural settings of diverse groups in society

(Agency for Healthcare Research and Quality, 2015)

Congestive heart failure (CHF): A progressive disease that affects the pumping

power of the heart muscles. CHF also refers to a stage in which fluid builds up around

the heart and causes it to pump inefficiently and get worse over time (Whitworth, 2018).

Coordination of care: Any activity that helps ensure that a patient's needs and

preferences for health services are met. Coordination of care encompasses information

sharing across interdisciplinary teams to facilitate the appropriate delivery of health care

services (Agency for Healthcare Research and Quality, 2016).

Rehospitalization: A term that is used interchangeably with *readmissions*, meaning a return to an acute care hospital after discharge (Islam et al., 2017).

Socioeconomic status: The social standing or class of an individual or group. It is often measured as a combination of education, income, and occupation. Examinations of socioeconomic status often reveal inequities in access to resources, plus issues related to privilege, power, and control (Noori et al., 2016).

Transition of care: The movement of a patient from one care setting to another (CMS Incentive Program, 2016).

Assumptions

There were assumptions made for this study; the researchers for OSHPD, the primary data company, assumed that all self-reported information provided by the research participants was truthful and reliable. This assumption is taken into consideration because the consent form delivered to the participants indicated that their identity was concealed, and OSHPD preserves confidentiality. Furthermore, the participant's rehospitalization experience and situation were assumed to be quantifiable and generalizable to similar ethnic groups.

Limitations

The following limitations of this study are (a) the use of small study sample, whereas a larger sample size is desired to enhance methodology and data analysis options and more reliable to reflect the population means. (b) The study focused on participants who utilized English (written and verbal) as their primary language, provision of a translator and translated materials may have allowed for a more culturally and ethnically

diverse study sample. (c) The period of the data used for this study was only between 2014, 2015, and 2016. A three-year period may not ensure an adequate sample size. (d) Since data from only one state was utilized, determining all-cause readmissions limited generalizability to different patient populations in the US. The data was collected in California, and other states may have had different results. (e) Further limitations included the possibility of sampling and coding errors, misclassified variables, and the difficulty in accurately obtaining readmission data for Blacks, non-Hispanics, and other ethnicities.

Scope and Delimitations

Generalizability

The generalizability of this study was limited to non-Hispanic Black and White CHF patients in California. Gender, age, and income were not considered for this study and were not included in the secondary data. The secondary data was obtained from the Office of Statewide Health Planning and Development (OSHPD) for the calendar year 2014-2016 and State Inpatient Databases (SID) for the calendar year 2014-2016 from Healthcare Cost and Utilization Project (HCUP). It was determined that this data met the qualifications for inclusion in the study. A multiplicity of factors influences patients' readmissions, the purpose of researching in this field, and trying to control confounding variables is a complex undertaken.

Internal Validity

For this study, participants were selected with certain characteristics that could predispose them to have certain outcomes. For example, this study uses CHF as the only

diagnosis. Access to care and conditions of severity are highly subjective between

patients. Internal validity can be minimized by taking preventive action to adhere closely

to the scope of the study (Trochim, Donnelly, & Arora, 2016, p. 217).

External Validity

The threat of interactive effects of experimental arrangement may arise when

results are generalized beyond the racial groups or social groups not included in this

study. Also, OSHPD, the primary data source for this study, collects data from hospitals

which may use different approaches when identifying the readmission process. This

threat may narrow the characteristics of participants in the study (Creswell, 2009).

The purpose of this study is to examine the differences between hospital

readmission rates and insurance reimbursement rates for non-Hispanic Black and White

patients with CHF. Studies have shown that there may be no significant follow up for

Black patients with their primary care physician after hospital discharge. When

involving the executive leadership team in the patient readmission process, it is necessary

to use clear metrics in order to determine progress and guide necessary insurance

adjustments to monitor and execute vision and strategy for setting and achieving patient

goals (Wei et al., 2018).

The importance of access to health care in order to decrease readmissions cannot

be overemphasized. As a result, hospital administrators are focusing on efforts to improve

the quality of care and reduce spending on readmissions under the provision of the

PPACA (Erdem et al., 2015). This study will use bivariate analysis to infer and evaluate

the statistically significant differences in the variables.

Significance

This study addressed the research gap concerning insurance coverage and insurance reimbursement rates associated with readmissions for non-Hispanic Black and White CHF patients (Levesque, Harris, & Russell, 2015). A significant aspect of this study is the potential to provide healthcare administrators with information about Black, non-Hispanic readmission rates in relation to the lack of insurance and access to healthcare and develop ways to change these outcomes. The Social Cognitive Theory provided the framework for this study as a construct for understanding how the past may inform and improve the future (Hoffman, 2016).

Significance for Positive Social Change

The study was designed to examine the differences between hospital readmission rates and insurance reimbursement rates for non-Hispanic Black and White CHF patients in California. Even though there is a plethora of research on CHF, there is a gap in the literature comparing these two populations and whether there needs to be more attention paid to the reasons Black patients are readmitted more often than White patients (Boesen, Leal, Sheehan, & Sobolik, 2015; Jeihooni et al.; Levesque, Harris, & Russell, 2015). Black patients have the highest uninsured rates, which consequently increases the CHF hospital readmission rates (Jeihooni et al., 2016). The high clinical and financial burden of this condition, especially among young and older adults, has led to an interest by hospital administrators to improve outcomes and decrease the cost of care (Sharma et al., 2016).

Significance for Positive Leadership Change

Furthermore, improving interdisciplinary communication and adopting high-reliability principles to achieve safety, better patient outcomes, and improvements in medical excellence could reduce readmissions in the future. This study could provide healthcare administrators with information about Blacks, non-Hispanic readmission utilization rates in relation to the lack of insurance and access to healthcare as compared to their White counterparts. By improving administrators' awareness of the differences and reasons for readmissions, health education programs and strategies could be developed that would help Black patients and others with CHF learn how to minimize hospital readmissions and emergency room visits (Sharma et al., 2014; Wagner et al., 2017, p. 7).

Summary and Conclusions

Many studies in Section 1 demonstrated how important it is for health care leaders to develop strategies that could decrease hospital readmissions rates. Most readmissions are a result of chronic conditions and uninsured patients with limited access to healthcare. CHF is one of the most common chronic diseases, and patients are frequently readmitted within eight to thirty days after their initial discharge. Studies also focused on creating healthcare communication systems that encourage staff and patients to develop a better understanding of health behaviors, financial issues, and insurance coverage as essential factors that impact hospital readmissions – either positively or negatively. The hospitals with higher rates of readmissions face reductions in payment and scrutiny from the insurance companies. Hospital administrators have a responsibility to develop tools and

methods to reduce readmissions and also to accurately identify high-risk CHF patients that would benefit from more effective interventions.

Section 1 explored the focus of this study on differences in readmission and reimbursement rates for non-Hispanic Black and White CHF patients. Many studies were identified that relate to the problem, purpose, and variables of this study. Next, Section 2 will discuss the research design, data collection, and methodology of this study.

Section 2: Research Design and Data Collection

Introduction

The purpose of this study was to examine the differences, if any, between non-Hispanic Black and White CHF patients concerning hospital readmission rates and insurance reimbursement rates. Studies have shown that there is no significant follow-up for Black patients with their primary care physicians after hospital discharge (Betancourt et al., 2015). Research on causes for CHF readmissions could improve health system protocols and enhance access to healthcare by encouraging Black patients with CHF to follow up with their primary care physician after hospital discharge. Involving the executive leadership team in the patient readmission process using clear metrics allows healthcare administrators to explore necessary adjustments and execute strategies for setting and achieving patient goals (Wei et al., 2018).

The importance of access to healthcare is essential for positive health outcomes. As a result, hospital administrators are focusing on efforts to improve the quality of care and reduce spending on readmission under the provisions of the PPACA (Erdem et al., 2014). For this study, I used a *t*-test analysis to infer the statistically significant differences between hospital readmission rates and insurance reimbursement rates for Blacks, non-Hispanic, and Whites, non-Hispanics CHF patients.

Research Design and Rationale

Research Design

A quantitative correlational study involves converting data to a numerical form that can be subjected to a statistical analysis via SPSS or other programs to investigate

the relationship between variables (Babbie, 2015, p. 423). Variables are logical sets of

attributes; they are measured using analytical instruments to determine values (Frankfort-

Nachmias & Leon-Guerrero, 2015). The differences between readmission rates and

insurance reimbursement rates for non-Hispanic Black and White CHF patients were the

focus of the statistical examination in this study. In order to determine the relationship

between the independent and dependent variables, I used a correlational design.

Variables

In this study, I analyzed two independent variables and one dependent variable.

The dependent variable for this study was CHF readmission rates for non-Hispanic Black

and White patients in California. The independent variable was insurance reimbursement

rates for non-Hispanic Black and White CHF patients in California. Insurance

reimbursement included an analysis of average private insurance reimbursements,

average uninsured private pay reimbursements, Medicare, and Medicaid. Correlational

research is useful for measuring the strength of a linear relationship (Creswell, 2009). As

part of my correlational analysis, I compared the dependent variable separately with each

of the independent variables to determine the differences.

By using a correlational design and secondary data, I encountered no resource

constraints for this study nor any anticipated delays. The recruitment of participants was

not applicable for data collection purposes. Also, the secondary data set was obtainable

more quickly than primary data, and it provided the basis for data comparison.

Methodology

In this section, I will cover the population of the study, sampling, the data collection process, power analysis, sample size estimation, and the data analysis plan.

Population

The target population for this study was non-Hispanic Black and White CHF patients ages 18-64 living in California. According to Black and Schiller (2015), many Black patients have limited access to health care and may have no insurance coverage. In addition, this racial-ethnic group has the highest number of hospital readmissions in the United States (Basu, Hanchate, & Bierman, 2018). In order to generalize the study findings, I included in the study group, all possible sampling units that represented the population, as per Frankfort-Nachmias & Leon-Guerrero (2015).

Sampling and Sampling Procedures

I used probability sampling as the sampling strategy for this study. Probability sampling was used because of the larger study population. The specific sampling design for this study was stratified random sampling (Frankfort-Nachmias & Leon-Guerrero, 2015, p. 207). I selected acute care hospitals and emergency room sampling units based on predetermined parameters that included Black, non-Hispanic and White non-Hispanic patients. Additionally, the sample population included participants who were private pay, uninsured, or Medicaid beneficiaries. Probability analysis helps create an accurate selection of the study population, and researchers can use other statistical methods to determine the precise sample size (Babbie, 2015).

I did not consider cluster random or systematic sampling design appropriate for this study. Cluster random is suitable only when participants are geographically spread out to other states (Frankfort-Nachmias & Leon-Guerrero, 2015). In this study, I excluded Black patients with CHF from other states and focused only on Black patients with CHF in California. Nonprobability sampling designs, such as purposive sampling, also would not have been appropriate for this study. This is because the sampling units would have predetermined parameters due to a small sample size that allows all groups to be inclusive in the survey (see Frankfort-Nachmias & Leon-Guerrero, 2015).

Sample size estimation. I calculated the required sample size estimation using G*Power software. A t-test was selected, and the correlational point biserial model statistical test was selected using the G*Power software. A priori power analysis was conducted to determine the necessary sample size needed to run a correlation analysis between the variables of CHF readmission rates and insurance reimbursement rates. The results of the analysis indicated that a sample size of 305 was sufficient to detect a significant correlation with a medium effect size with a power of .90 and an alpha of .05.

Data Analysis Plan

I obtained the data set used for this study from the OSHPD. The data set is an aggregated data set collected and coded in Excel. Because of the use of secondary data, no individual or organization participated in this study. The statistical technique was a *t*-test, which is the analysis of variance to test for differences between groups.

I downloaded and stored the nonconfidential data set on my hard drive. Additionally, standard descriptive statistics for each variable were performed. Means,

standard deviations, and tests of normality for each variable were run using SPSS. Furthermore, means and standard deviations for each group within the respective categorical variables were analyzed. The RQs and hypotheses were as follows:

RQ 1. What is the difference, if any, between hospital CHF readmission rates for Blacks, non-Hispanic and Whites, non-Hispanic in California?

$H_1$1: There is a statistically significant difference between hospital CHF readmission rates for Blacks, non-Hispanic, and Whites, non-Hispanic in California.

$H_0$1: There is not a statistically significant difference between hospital CHF readmission rates for Blacks, non-Hispanic, and Whites, non-Hispanic in California.

RQ 2: What is the difference, if any, between hospital CHF readmission insurance reimbursement for Blacks, non-Hispanic and Whites, non-Hispanic in California?

$H_1$2: There is a statistically significant difference between hospital CHF readmission insurance reimbursement for Blacks, non-Hispanic and Whites, non-Hispanic in California.

$H_0$2: There is not a statistically significant difference between hospital CHF readmission insurance reimbursement for Blacks, non-Hispanic and Whites, non-Hispanic in California.

Threats to Validity

External Validity

An essential aspect of this study involved the evaluation of threats to external validity, which may occur when incorrect inference from sample data is drawn (Creswell, 2009). The threat of interactive effects of experimental arrangement may arise when results are generalized beyond the racial groups or social groups not included in this study. Also, OSHPD, the primary data source for this study, collects data from hospitals that may use different approaches when identifying the readmission process. Some hospitals have returning CHF patients placed under observation criteria for fear of readmission penalties, while other hospitals consider returning CHF patients as readmissions with 30 days. This threat narrows the characteristics of participants in the study (Creswell, 2009).

Internal Validity

Threats to internal validity pertain to the subjective experiences of the participants. Participants were selected with certain characteristics that could predispose them to have certain outcomes. For example, this study used CHF as the only diagnosis. Access to care and conditions of severity are highly subjective between patients. Internal validity can be minimized by taking preventive action (Trochim, Donnelly, & Arora, 2016, p. 217).

Ethical Procedures

Patient-specific information was protected and de-identified before being reported to the Office of Statewide Health Planning and Development, which is the primary source

of data for this study. Since the data is de-identified, there is no risk associated with the disclosure of confidential information from the dataset obtained. Anonymity and confidentiality of the OSHPD data are strictly maintained (Creswell, 2009). A review of ethical procedures and the protection of human subjects was obtained from the Walden University Institute Review Board. The dataset for this study was stored on my personal computer, password-restricted, and secured and was deleted after the research was completed.

Summary

The purpose of this study was to examine the differences between hospital readmission rates, and insurance reimbursement rates for Blacks, non-Hispanic and Whites, non-Hispanic patients with congestive heart failure. In this section, the study design and rationale were addressed, indicating the population investigated, the source of data, the data collection procedure, and data analysis strategy and techniques. Also, threats to validity and ethical methods were discussed. Section two provides the methodology and research design for this study. Section Three provides a statistical analysis of the data related to the research questions and hypotheses.

Section 3: Presentation of the Results and Findings

Introduction

The purpose of this study was to examine the differences between hospital readmission rates and insurance reimbursement rates for Blacks, non-Hispanic, and Whites, non-Hispanic with CHF in California. The theoretical framework was Bandura's (1986) SCT, which addresses health behaviors and habits. This theory has been used extensively in healthcare communication as it pertains to the modeling of behaviors and improvements in processes that could be used to facilitate and improve care for CHF patients (Pajares et al. 2017). Findings from this study may help healthcare administrators identify a better approach for providing care to Black, non-Hispanic patients with CHF to reduce the readmission phenomenon.

I used a correlational design to determine if there were any statistically significant differences between hospital readmission rates and insurance reimbursement rates for Black, non-Hispanic CHF patients, and White, non-Hispanic CHF patients. Categories for reimbursement included average total reimbursements, average Medicare reimbursements, average Medicaid reimbursements, average private insurance reimbursements, and average uninsured private pay reimbursements. The primary correlational tests used for the analyses were the *t*-test and Levene's test for equality of variances.

Research Questions and Hypotheses

RQ 1. What is the difference, if any, between hospital CHF readmission rates for Blacks, non-Hispanic and Whites, non-Hispanic in California?

$H_1$1: There is a statistically significant difference between hospital CHF

readmission rates for Blacks, non-Hispanic, and Whites, non-Hispanic in

California.

$H_0$1: There is not a statistically significant difference between hospital CHF

readmission rates for Blacks, non-Hispanic, and Whites, non-Hispanic in

California.

RQ 2: What is the difference, if any, between hospital CHF readmission insurance

reimbursement for Blacks, non-Hispanic and Whites, non-Hispanic in California?

$H_1$2: There is a statistically significant difference between hospital CHF

readmission insurance reimbursement for Blacks, non-Hispanic and Whites, non-

Hispanic in California.

$H_0$2: There is not a statistically significant difference between hospital CHF

readmission insurance reimbursement for Blacks, non-Hispanic and Whites, non-

Hispanic in California.

Data Collection of Secondary Data Set

Time Frame and Discrepancies of the Data Set

The data collection involved downloading readmission discharge data from the

OSHPD for calendar years 2014-2016 and SID for calendar years 2014-2016 from

HCUP. Using the provider report from CMS, I was able to examine the following

explanatory variables diagnosis-related group (DRG), provider ID, provider zip code,

total discharged, average covered charges, average total reimbursements, average

Medicare reimbursements, average Medicaid reimbursements, and average private

insurance reimbursements, average uninsured private pay reimbursements, age (mean), and break-out. The variables for insurance reimbursement were categorized as follows: average total reimbursements, average Medicare reimbursements, average Medicaid reimbursements, average private insurance reimbursements, and average uninsured private pay reimbursements. The statewide data for calendar years 2014-2016 obtained from HCUP and OSPHD met the readmission and discharged criteria therefore, the data collected had no discrepancies. The data presented discharged CHF patients who were readmitted within 30 days of initial discharge. Thus, the number of CHF discharges for patients classified as readmitted was used to analyze the differences between readmission rates and reimbursement rates for Blacks, non-Hispanic, and Whites, non-Hispanic in California.

Descriptive and Demographic Characteristics of Sample

The data analysis process began after I received Institutional Review Board approval from Walden University; the approval number is 05-01-19-0649191. All data files were extracted and downloaded into Excel software. I identified 677 hospitals statewide in California with progressive CHF readmission discharge. The data obtained were comprised of the following ethnic groups: Blacks, non-Hispanic, Whites, non-Hispanic, Asians, non-Hispanic, and Hispanics.

Table 1 presents the descriptive statistics for ethnicity within the sample. The sample consisted of the following groups of CHF patients: Blacks, non-Hispanic at 240 (36%); Whites, non-Hispanic at 195 (29%); Asians, non-Hispanic at 84 (12%), and Hispanics at 110 (16%). My research questions focused on Blacks, non-Hispanic, and

Whites, non-Hispanic. Asians non-Hispanic and Hispanic populations were included in

the descriptive analysis and in Table 1 to illustrate the composition of the data collection.

The reason for including non-Hispanic Asians, Hispanics, and other ethnic groups in the

descriptive analysis is to show the CHF readmission phenomenon in the State of

California and to highlight the CHF readmission levels with different ethnicities besides

Blacks, non-Hispanic and Whites, non-Hispanic.

Table 1

Descriptive Statistics for Ethnicity

Ethnic group	N	%
Hispanic	110	16%
Non–Hispanic Asian	84	12%
Non–Hispanic Black	240	36%
Non–Hispanic White	195	29%
Other	46	7%

Results

Statistical Assumptions for RQ 1: CHF Readmission Rates

RQ 1. What is the difference, if any, between hospital CHF readmission rates for

Blacks, non-Hispanic and Whites, non-Hispanic in California?

***T*-Test.** I conducted a *t*-test to test for the difference in mean readmission

discharges for non-Hispanic Black and White CHF patients. I performed the test to

evaluate the assumption of equal variance in each group to determine if they were similar

to each other. I assumed that, if the Levene's test is significant ($p <. 05$), then the

variance of the groups would be significantly different from each other, and therefore,

equal variance would not be assumed. However, if the Levene's test was not statistically

significant ($p > .05$), then the variance would not be significantly different, and then equal variance would be assumed (see Table 2).

Analysis. The *t*-test analysis for Figure 1 shows that for this particular analysis, the assumption of equal variances between the groups was not violated (Levene's test, $F = .454$, $p = .501$). In this scenario, the analysis for equal variance is assumed and therefore can be used for these analyses. An independent *t*-test was conducted to compare the total number of CHF readmission discharges in Blacks, non-Hispanic and Whites, non-Hispanic, and the results show that there was not a significant difference between the average number of readmission discharges for Blacks, non-Hispanic ($M = 49.6$, $SD = 38.28$) and Whites, non-Hispanic ($M = 50.88$, SD = 36.52), $t = -.352$, $p = .725$.

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Total number of discharges	Equal variances assumed	.454	.501	-.352	433	.725	-1.27276	3.61532	-8.37851	5.83300
	Equal variances not assumed			-.354	422.013	.724	-1.27276	3.59768	-8.34436	5.79885

Figure 1. Independent samples test for total number of readmission discharges.

Statistical Assumptions for RQ 2: CHF Readmission Insurance Reimbursement Rates

RQ 2: What is the difference, if any, between hospital CHF readmission insurance reimbursement for Blacks, non-Hispanic and Whites, non-Hispanic in California?

Statistical assumptions for all insurance elements. A *t*-test was conducted to test for the difference in the average readmission insurance reimbursement rate for non-Hispanic Black and White CHF patients. The *t-test* analysis in Figure 2 shows that for this particular analysis, the assumption of equal variance between the groups violated Levene's Test, (F=4.033, p=.045) therefore the analysis for equal variance is used for the analysis, however, in this situation, the equal variance is not assumed. An independent *t-test* conducted to compare the average insurance reimbursement rates for Blacks, non-Hispanic and Whites, non-Hispanic, the results showed that the result of the groups are not significantly different; Blacks, non-Hispanic (M = 9987.82, SD = 4098.29) and Non-Hispanic Whites (M = 10058.05, SD = 3990.81), t = -.183, p = .855. Therefore, there is not a statistically significant difference between Blacks, non-Hispanic, and Whites, non-Hispanic in readmission insurance reimbursement rates.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
							Mean Differenc e	Std. Error Differenc e	95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)			Lower	Upper
Average total payments .	Equal variances assumed	4.033	.045	-.182	433	.856	-70.23055	385.86267	-828.62732	688.16622
	Equal variances not assumed			-.183	422.967	.855	-70.23055	383.68946	-824.40611	683.94501

Figure 2. Independent samples test for average total insurance reimbursement rates.

Table 2.

Descriptive Statistics for Average Medicare Payments by Group Variable

Ethnic group	*N*	Mean	SD	*SE*
Non-Hispanic Black	240	9127.19	4139.30	267.19
Non-Hispanic White	195	9248.69	3869.47	277.10

Statistical assumptions for Medicare payments. A t-test was conducted to test for the difference in average readmission Medicare payments reimbursements for non-Hispanic Black and White CHF patients. The t-test analysis in Figure 3 shows that for this particular analysis, the assumption of equal variances between the groups is violated (Levene's Test, $F = 4.188$, $p = .041$). Thus, the analysis for equal variances not assumed. An independent t-test was conducted to compare the average Medicare insurance reimbursement rates for non-Hispanic Black and White CHF patients. There was not a

significant difference between the average Medicare reimbursement rates for Non-

Hispanic Blacks (*M* = 9127.19, *SD* = 4139.30) and Non-Hispanic Whites (*M* = 9248.69,

SD = 3869.47), *t* = -.316, *p* = .752 who were readmitted with CHF.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Average Medicare payments.	Equal variances assumed	4.188	.041	-.313	433	.754	-121.49420	387.62979	-883.36418	640.37578
	Equal variances not assumed			-.316	424.549	.752	-121.49420	384.93398	-878.10789	635.11949

Figure 3. Independent samples test average Medicare reimbursement rates.

Table 3.

Descriptive Statistics for Average Medicaid Payments by Group Variable

Ethic group	*N*	Mean	SD	*SE*
Non-Hispanic Black	240	2678.42	625.36	40.37
Non-Hispanic White	195	2656.82	636.18	45.56

Statistical assumptions for Medicaid payments. A t-test was conducted to test

for the difference in average readmission Medicaid reimbursement rates for non-Hispanic

Black and White CHF patients. The t-test analysis in Figure 4 shows that for this

particular analysis, the assumption of equal variances between the groups is not violated

(Levene's Test, $F = .126$, $p = .722$). Thus, the analysis of equal variances is assumed. An

independent t-test was conducted to compare the average Medicaid reimbursement rates

for non-Hispanic Black and White CHF patients. There was not a significant difference

between the average Medicaid reimbursement rates for Non-Hispanic Blacks ($M =$

9127.19, $SD = 4139.30$) and Non-Hispanic Whites ($M = 9248.69$, $SD = 3869.47$), $t =$

.356, $p = .722$ who were readmitted with CHF.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
						Sig. (2-tailed)	Mean Difference	Std. Error Difference		
		F	Sig.	t	df				Lower	Upper
Average Medicaid payments.	Equal variances assumed	.126	.722	.356	433	.722	21.60128	60.76080	-97.82152	141.02407
	Equal variances not assumed			.355	412.041	.723	21.60128	60.86898	-98.05119	141.25374

Figure 4. Independent samples test average for Medicaid reimbursement rates.

Table 4.

Descriptive Statistics for Average Private Insurance Payments by Group Variable

Ethic group	N	Mean	SD	SE
Non-Hispanic Black	240	1381.90	224.84	14.51
Non-Hispanic White	195	1384.90	218.48	15.65

Statistical assumptions for private insurance payment. A t-test was conducted to test for the differences in average private payment reimbursement rates for Blacks, non-Hispanic, and Whites, non-Hispanic. The t-test analysis in Figure 5 shows that for this particular analysis, the assumption of equal variances between the groups i**s** not violated (Levene's Test, $F = .031$, $p = .86$). Thus, the analysis of equal variances is assumed. An independent t-test was conducted to compare the average private insurance reimbursement rates for non-Hispanic Black and White CHF patients. There was not a significant difference between the average private insurance reimbursement rates for non-Hispanic Blacks ($M = 1381.90$, $SD = 224.84$) and non-Hispanic Whites ($M = 1384.90$, $SD = 218.48$), $t = -.14$, $p = .89$ who were readmitted with CHF.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
						Sig. (2-tailed)	Mean Difference	Std. Error Difference		
		F	Sig.	t	df				Lower	Upper
Average Private payments.	Equal variances assumed	.031	.860	-.140	433	.889	-2.99350	21.40422	-45.06260	39.07559
	Equal variances not assumed			-.140	419.423	.889	-2.99350	21.34073	-44.94161	38.95460

Figure 5. Independent samples test average for private reimbursement rates.

Table 5.

Descriptive Statistics for Uninsured Private Payments by Group Variable

Ethic group	*N*	Mean	SD	*SE*
Non-Hispanic Black	240	635.21	331.52	21.40
Non-Hispanic White	195	652.77	328.33	23.51

Statistical assumptions for uninsured private payments. A t-test was conducted to test for the difference in average readmission uninsured private payment reimbursement for non-Hispanic Black and White CHF patients. The t-test analysis for Figure 6 shows that for this particular analysis, the assumption of equal variances between the groups **is** not violated (Levene's Test, $F = .701$, $p = .403$). Thus, the analysis for equal variances assumed. An independent t-test was conducted to compare the average of uninsured private payment reimbursement rates for non-Hispanic Black and White CHF patients. There was not a significant difference between the average uninsured private payment reimbursement rates for Blacks, non-Hispanic ($M = 635.21$, $SD = 331.52$) and Whites, non-Hispanic ($M = 652.77$, $SD = 328.33$), $t = -.552$, $p = .58$ who were readmitted with CHF.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
						Sig. (2-tailed)	Mean Differenc e	Std. Error Differenc e	95% Confidence Interval of the Difference	
		F	Sig.	t	df				Lower	Upper
Average uninsured payments.	Equal variances assumed	.701	.403	-.552	433	.581	-17.56090	31.82424	-80.11010	44.98831
	Equal variances not assumed			-.552	416.524	.581	-17.56090	31.79238	-80.05441	44.93261

Figure 6. Independent samples test average for uninsured reimbursement rates.

Results for Research Question 1

RQ 1 concerned whether there were significant differences in readmission rates for non-Hispanic Black and White CHF patients. Based on the analysis conducted, the results indicated that even though Black, non-Hispanic readmission rates were N =240 as compared to Whites, non-Hispanic N =195, there was not a statistically significant difference in the readmission rates.

Hypothesis acceptance for RQ 1. As a result of the analyses using the t-test and Levene's Test for Equality of Variances, the null hypothesis was accepted, which stated that there is not a statistically significant difference between hospital readmission rates for Blacks, non-Hispanic, and Whites, non-Hispanic readmitted with CHF in California.

Results for Research Question 2

RQ 2 addressed concerns about whether there were significant differences in insurance reimbursement rates. All-payer types were analyzed, and they included: Medicare, Medicaid, private insurance reimbursement, and uninsured private payment reimbursement.

Medicare. The results indicated that for average Medicare reimbursement rates there was not a statistically significant difference between the average Medicare reimbursement rates for non-Hispanic Blacks ($M = 9127.19$, $SD = 4139.30$) and non-Hispanic Whites ($M = 9248.69$, $SD = 3869.47$), $t = -.316$, $p = .752$.

Medicaid. The results indicated that for average Medicaid reimbursement rates there was not a statistically significant difference between the average Medicaid reimbursement rates for non-Hispanic Blacks ($M = 9127.19$, $SD = 4139.30$) and non-Hispanic Whites ($M = 9248.69$, $SD = 3869.47$), $t = .356$, $p = .722$.

Private insurance reimbursement. The results indicated that for average private insurance reimbursement rates there was not a statistically significant difference between the average private payment reimbursement rates for non-Hispanic Blacks ($M = 1381.90$, $SD = 224.84$) and non-Hispanic Whites ($M = 1384.90$, $SD = 218.48$), $t = -.14$, $p = .89$.

Uninsured private payment reimbursement. The results indicated that for average uninsured reimbursement rates there was not a statistically significant difference between the average uninsured private payment reimbursement rates for Non-Hispanic Blacks ($M = 635.21$, $SD = 331.52$) and Non-Hispanic Whites ($M = 652.77$, $SD = 328.33$), $t = -.552$, $p = .58$.

Hypothesis acceptance for RQ 2. As a result of the analyses for these payment types consisting of a t-test and Levene's Test for Equality of Variances the results indicated that the null hypothesis was accepted which stated that there is not a statistically significant difference between hospital reimbursement rates for Blacks, non-Hispanic, and Whites, non-Hispanic readmitted with CHF in California.

Summary

The purpose of this study was to examine the correlation between hospital readmission rates, and reimbursement rates for Blacks, non- Hispanic and Whites, non-Hispanic with congestive heart failure in California. In Section 3 secondary data from the Office of Statewide Health Planning and Development (OSHPD) for calendar years 2014- 2016 and State Inpatient Databases (SID) for calendar years 2014- 2016 from Healthcare Cost and Utilization Project (HCUP) were analyzed using the t-test and Levene's Test for Equality of Variances. Based on the hospital CHF readmission discharge rates, the results of the analyses indicated that there were no significant differences between non-Hispanic Black and White CHF patients concerning readmission rates and reimbursement rates.

In Section 4, the interpretation of findings and limitations of the study will be further examined. Bandura's Social Cognitive Theory is the framework for this research, and the results of this study will be addressed concerning positive health behaviors. This section will also discuss the recommendations for future research and the implication of professional practice and social change as specified by the purpose of this study.

Section 4: Application to Professional Practice and Implications for Social Change

Introduction

The purpose of this study was to examine the differences between hospital readmission rates and insurance reimbursement rates for non-Hispanic Black and White patients with CHF who live in California. I obtained the secondary data for this study from the OSHPD for calendar years 2014-2016 and SID for calendar years 2014-2016 from HCUP. Statistical analyses were performed using a *t*-test, along with Levene's test for equality of variances. The findings of the *t*-test indicated no significant differences between readmission rates and insurance reimbursement rates for Blacks, non-Hispanic, and Whites, non-Hispanic.

In addition to the *t*-tests, I conducted a descriptive analysis of the population for each variable. I used SPSS software for data analyses and did not report values less than 10, as per HCUP SID reporting guidelines (HCUP SID, 2018). Bandura's (1987) SCT, which was the framework of this study, has as a tenet that personal efficacy has an impact on how one can reinforce or carry out personal changes. I surmised that this central belief of change would be the fundamental factor to motivate Blacks, non-Hispanic, to take action to improve health behaviors. Section 4 includes an interpretation of the findings, discussion of limitations of the study, recommendations for further research, and consideration of the study's implications for professional practice and social change.

Interpretation of the Findings

RQ 1: CHF Readmission Rates

I conducted an independent *t*-test to compare the total number of CHF readmission discharges for Blacks, non-Hispanic and Whites, non-Hispanic. The results indicated that there is not a statistically significant difference between the average number of readmission discharges for Blacks, non-Hispanic (*M* = 49.6, *SD* = 38.28) and Whites, non-Hispanic (*M* =50.88, *SD* = 36.52), *t* = -.352, *p* = .725. The test results exceed the *p*-value of 5%; therefore, the null hypothesis, which stated that there is not a statistically significant difference between hospital CHF readmission rates for Blacks, non-Hispanic, and Whites, non-Hispanic in California, is accepted.

Even though readmission rates for Blacks (36%) were higher than those for Whites (29%) based on the data obtained from OSHPD and HCUP, there was not a statistically significant difference. Since the *p*-value is .725, healthcare administrators would not reasonably use this study as a basis for determining if hospital readmission rates for Blacks, non-Hispanic are different than those of Whites, non-Hispanic. However, the research related to this study has shown the importance of developing programs that link hospitals, CHF patients, and providers to partners and establishing protocols and communication to improve outcomes and reduce readmissions (Chamberlain, Sond, Mahendraraj, Lau, & Siracuse, 2018). Developing these programs is appropriate and necessary because CHF patients experience care in numerous settings, including primary care, inpatient, and post-acute. The goal is to minimize readmissions,

as emphasized in the one million hearts campaign designed by CMS and Centers for Disease Control and Prevention (Sanghavi et al., 2015).

RQ 2: Insurance Reimbursement Rates (All-Payer Types) for CHF Readmissions

I conducted an independent *t*-test analysis to compare the differences between the average reimbursement rates, and the results indicated for Medicare reimbursement rates between Blacks, non-Hispanic and Whites, non-Hispanic there was not a statistically significant difference. The average reimbursement rates for Medicare were analyzed, and the results indicated that there was not a statistically significant difference between the average Medicare reimbursement rates for non-Hispanic Blacks ($M = 9127.19$, $SD = 4139.30$) and non-Hispanic Whites ($M = 9248.69$, $SD = 3869.47$), $t = -.316$, $p = .752$. The test results exceed the *p*-value of 5%, indicating there is no likelihood that there are differences in average Medicare readmission reimbursement rates.

Second, an independent t-test analysis was conducted to examine the average Medicaid reimbursement rates, the results indicated that there was not a significant difference between the average Medicaid reimbursement rates for non-Hispanic Blacks ($M = 9127.19$, $SD = 4139.30$) and non-Hispanic Whites ($M = 9248.69$, $SD = 3869.47$), $t = .356$, $p = .722$. The test results exceed the *p*-value of 5%, further indicating there is no likelihood that there are differences in average Medicaid readmission reimbursement rates.

Thirdly, an independent t-test analysis was conducted to examine the average private insurance reimbursement rates. The results indicated that there was not a significant difference between the average private payment reimbursement rates for non-

Hispanic Blacks (*M* =1381.90, *SD* = 224.84) and non-Hispanic Whites (*M* = 1384.90, *SD*

= 218.48), *t* = -.14, *p* = .89. The test results exceed the p-value of 5%, indicating there is

no likelihood that there are differences in average private insurance readmission

reimbursement rates.

Lastly, an independent t-test analysis was conducted to examine the average

uninsured private pay reimbursement rates. The results indicated that there was not a

significant difference between the average uninsured private pay reimbursement rates for

Blacks, non-Hispanic (*M* =635.21, *SD* = 331.52) and Whites, non-Hispanic (*M* = 652.77,

SD = 328.33), *t* = -.552, *p* = .58. The test results exceed the *p*-value of 5%, indicating

there is no likelihood that there are differences in average uninsured private pay

readmission reimbursement rates. Therefore, the null hypothesis was accepted, which

stated that there is not a statistically significant difference between hospital CHF

reimbursement for Blacks, non-Hispanic, and Whites, non-Hispanic in California.

General Discussion

CHF accounts for one million hospitalizations annually (Basu et al., 2018).

According to Piamjariyakul et al. (2015), the excessive financial burden associated with

CHF readmissions and many other chronic conditions is driven by the disintegrated and

uncoordinated health system. Reducing readmissions not only reduces health care

expenditures but also importantly improves patient outcomes (Chamberlain et al., 2018).

This study contributes to current research by highlighting the readmission and

reimbursement patterns of non-Hispanic Black and White CHF patients in California.

The Hospital Readmission Reduction Program (HRRP) was established as part of the

PPACA to provide a financial incentive to hospitals to engage in quality improvement efforts to reduce readmission (Kulaylat, Jung, Hollenbeak, & Messaris, 2018). This program levied penalties on hospitals with higher-than-normal readmission rates. The goal of this program was to link payment with the quality of care to minimize the disparity between hospitals and reduce readmission (Bergethon et al., 2017).

Findings in Relation to Theoretical Framework

Drawing from the theoretical framework of this study, SCT (Bandura, 1997), beliefs of personal efficacy have an impact on how one can enforce or carry out personal changes. This central belief of change is the fundamental factor to motivate Blacks, non-Hispanic, to take action to improve health behaviors (D'Angelo & Lawson, 2018). The SCT indicates that behaviors are regulated by social approval and disapproval, and consequently, this behavior allows people to adapt to personal principles and adjust their behavioral patterns by self-evaluation, which will enable them to do activities purposely to gain self-satisfaction (Jeihooni et al., 2016).

SCT relates to this study because beliefs influence purposes and aspirations (see Cherry, 2019). If one's perceived self-efficacy is stronger, then there are tendencies that one would set higher goals and commit to those goals (Jeihooni et al., 2016). The personal change would be easy if there were no impediments to surmount. Self-efficacy belief must be measured against the challenges to accomplish change. For example, for a CHF patient to acknowledge lifestyle changes and compliance with an exercise routine, the CHF patient needs to judge self-efficacy in order to accomplish these exercise goals under stressful circumstances and obstacles. If there are no impediments to surmount,

then the goals will be attained. Self-efficacy beliefs shape outcomes (Cherry, 2019). Accepting and redefining healthy choices paves the way for better results. According to Sanghavi et al. (2016), it is estimated that behavior accounts for 80% cardiovascular disease. Non-Hispanic Blacks face unique challenges to adhere to dietary and exercise recommendations as compared to their White counterparts; as a result, there is a high propensity of readmission rates for Blacks, non-Hispanic (Carnethon et al., 2017).

Limitations of the Study

The study methodology has provided the strength for this study; a t-test analysis was conducted to test for the differences between hospital readmission and insurance reimbursement for Black, non-Hispanic and White, non-Hispanic patients with CHF in California. In this study, several limitations were identified: firstly, the differences in insurance reimbursement rates between these ethnic groups and hospital readmissions. The rising health cost and increasing disparity in the quality of healthcare have spurred payment reform initiatives. Secondly, reliance on billing codes for identification of CHF and cardiovascular diseases may result in misclassification. Thirdly, the HCUP data 2014-2016 indicated that not all statewide inpatient data files contain American Heart Association linkage data elements; therefore, the data linkage in this study might have some few discrepancies providing a variance between the Blacks, non-Hispanic and Whites, non-Hispanic. Thirdly, in this study context, the population is not reflective of racial/ethnic distribution of the United States population. Finally, the recording of demographic information, including race and ethnicity, during the admission registration process may not be entered correctly, and this creates data reliability issues.

Recommendations

Non-Hispanic Blacks in this study have a readmission rate of 36%, and Whites, non-Hispanic have a readmission rate of 29%. The t-test analytic results indicated that the differences are not statistically significant even though Blacks, non-Hispanic have the highest risk of heart failure as compared to their White counterparts. The prominence of disparities in the onset of CHF at a younger age highlights cardiovascular risk and an increased rate of readmissions (Carnethon et al., 2017). Differences in heart failure management are a significant drawback (Fonarrow, Konstam, & Yancy, 2017). Further research is needed to expand on the trend of readmission rates for non-Hispanic Black and White CHF patients compared to other racial/ethnic groups in California. Secondly, further research is needed to expand on the appropriateness of insurance reimbursement rates for average Medicare reimbursement, average Medicaid reimbursement, average private insurance reimbursement, and average uninsured private pay reimbursement rates for CHF readmissions to determine discrepancies related to racial/ethnic groups.

Implications for Professional Practice and Positive Social Change

As part of the Patient Protection and Affordable Care Act, significant reforms have been enacted to improve health care outcomes and quality of care to prevent hospital rehospitalization and decreased health care costs (Boesen, Leal, Sheehan, & Sobolik, 2015, p. 237). Boesen et al., (2015) indicated that the CMS reported that improving health insurance status, access to care, and quality of care for racial minority groups reduces rehospitalization. Studies have shown that such quality of care entails ensuring that (i) the patient is clinically ready for discharge (ii) communication with

health care providers improves and enhances patient education and (iii) resources that affect the optimal management of CHF are provided. The subsequent paragraphs expand on the implications for professional practice and positive social change.

Professional Practice

According to Piamjariyakul et al. (2015), financial assessments and referrals to social services are crucial for assistance with patients' expenses and cost of care to prevent rehospitalization and improve health outcomes. Strategies to prevent CHF and improve efficiency can be optimized if patients have more opportunities to participate in the management of their care. According to Kulaylat et al. (2018), racial differences exist and affect care utilization; however, health care administrators can develop new ways to approach health care to eliminate racial/ethnic disparities and promote patient-centered care. Boustani et al. (2019), discussed the need to develop Agile Implementations (AI) as a way to use evidence-based services in their organizations. By identifying opportunities and developing processes that focus on system improvements, care for all patients can be improved. Over the next generation, CHF will continue to increase if current approaches to care are not improved (Bergethon et al., 2017). Healthy People 2030 Framework, published in June of 2018, presented similar views toward changing the current method of providing health care to the American people. The focus of the Healthy People 2030 Framework is improving health care for the American people, through a healthy heart-healthy family approach. This cardiovascular information provides education aimed at promoting improvements in heart care by sharing evidence-based data from a diverse group of health professionals (Healthy People 2030, 2018).

Positive Social Change

Congestive heart failure is a substantial health burden in the United States, affecting 5.7 million at an annual cost of 30.7 billion (Boesen et al., 2015). This study indicated that non-Hispanic Blacks had the highest readmission rate of 36% as opposed to 29% for non-Hispanic Whites. Identifying an organization's internal strengths and weaknesses is a challenging yet essential aspect of health care organizations to combat hospital readmission and improve insurance reimbursement rates for racial/ethnic groups.

A critical component of strategic momentum is pointed out by Chamberlain et al. (2018) through evaluation of the organization's strengths and weaknesses relative to the environment, such as ethnic/racial diversity, aging population, regulatory changes, and the growing use of technology. The study supports the purpose of this research concerning the need to decrease ethnic disparities for non-Hispanic Black CHF patients in order to reduce readmissions. This research will add to positive social change through the recognition and emphasis on the need to educate and care for all CHF patients according to their health needs and based on their unique characteristics (Chamberlain et al., 2018).

<div align="center">

Conclusion

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Readmission is a significant concern for hospital administrators and health care providers. I conducted a *t*-test to examine the differences between hospital readmission and insurance reimbursement rates for non-Hispanic Black and White patients with CHF in California. The results of the *t*-test analysis indicated that first, there was not a statistically significant difference in hospital readmission rates between these two ethnic

groups. I also conducted a *t*-test to examine the differences between insurance reimbursements rates. The results of the analysis indicated that there was not a statistically significant difference between insurance reimbursement rates for these ethnic groups. Knowing that there is a disproportion in financial allocation, further research is required to better understand the mechanisms behind higher readmission rates for Blacks, non-Hispanic.

This study addressed the gap in the literature regarding the differences between hospital readmission and insurance reimbursement rates for non-Hispanic Black and White patients with CHF in California. Knowing that there is no significant difference between these ethnic groups, health care providers can focus on methods to reduce CHF readmissions with programs that link hospitals, CHF patients, and providers to partner and establish protocols and communication to improve outcomes. The results of this study contribute to positive social change by providing information that healthcare professionals may be able to use to decrease CHF readmissions and improve access to care for non-Hispanic Blacks and other vulnerable groups.

References

American Heart Association. (2017). Heart disease and stroke statistics. *A report from the American Heart Association 135(10).* Retrieved from https://doi.org/10.1161/CIR.0000000000000485

Ayanian, J. Z., & Markel, H. (2016, July 21). Donabedian's lasting framework for health care quality. *The New England Journal of Medicine*, *375*(3), 205-207.

Babbie, E. (2015). *The basics of social research* (7th ed.). Boston, MA: Cengage Learning.

Baicker, K. (2015, March 2015). Cost-sharing as a tool to drive higher-value care. *JAMA Internal Medicine*, *175*.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* Retrieved from http://www.worldcat.org/title/self-efficacy-the-exercise-of-control/oclc/248220172/viewport

Basu, J., Hanchate, A., & Bierman, A. (2018). Racial/ethnic disparities in readmissions in US hospitals: The role of insurance coverage. *The Journal of Health Care Organization, Provision, and Financing*, *55*, 1-12.

Bayati, M., Braverman, M., Gillam, M., Mack, K. M., Ruiz, G., Smith, M. S., & Horvitz, E. (2014, October 1). Data-driven decision for reducing readmissions for heart failure: General methodology and case study. *PLoS ONE*, *9*(10), e109264.

Bergethon, K. E., Jus, C., DeVore, A. D., Hardy, C., Fonarow, G. C., Yancy, C. W., . . . Hernandez, A. F. (2017). Trends in 30-day readmission rates for patients hospitalized with heart failure: Findings from the GWTG-HF registry. *American*

Heart Association, *9*(6).

https://doi.org/10.1161/CIRCHEARTFAILURE.115.002594

Black, L. I., & Schiller, J. S. (2015). State variation in health care service utilization: The

United States, 2014. Retrieved from http://www.cdc.gov/nchs/nhis/releases.htm

Blumenthal, D., Abrams, M., & Nuzum, R. (2015). The Affordable Care Act at 5 years.

The New England Journal of Medicine, *372*(25), 2451-2458.

https://doi.org/10.1056/NEJMhpr1503614

Blumenthal, D. M., Orav, E. J., Jena, A. B., Dudzinski, D. M., Le, S. T., & Jha, A. K.

(2015, August 6). Access, quality, and costs of care at physician-owned hospitals

in the United States: Observational study. *BMJ*, *351*.

https://doi.org/10.1136/bmj.h4466

Boesen, K. G., Leal, S., Sheehan, V. C., & Sobolik, R. (2015). Hospital readmission

reduction program: Implications for pharmacy. *American Journal of Health-

System Pharmacy*, *72*, 237-244.

Bosko, T., Dubow, M., & Koenig, T. (2016, January/February 2016). Understanding

value-based incentive models and using performance as a strategic advantage.

Journal of Healthcare Management, *61*(1). Retrieved from Walden Library

Boustani, M. A., van der Marck, M. A., Adams, N., Azar, J. M., Holden, R. J., Vollmar,

H. C., … Gatmaitan, A. (2019). Developing the agile implementation playbook

for integrating evidence-based health care services into clinical practice.

Academic Medicine, *94*(4), 556–561. doi:10.1097/ACM.0000000000002497

Bowling, A., Rowe, G., & Mckee, M. (2016). Patients' experiences of their healthcare in

relation to their expectations and satisfaction: a population survey. *Journal of the Royal Society of Medicine*, *106*, 143-149. Retrieved from Walden Library databases

Bowling, B., Newman, D., White, C., & Wood, A. (2017). Provider reimbursement following the Affordable Care Act. *Business & Health Administration Proceedings*, 168-175. Retrieved from http://mds.marshall.edu/mgmt_faculty/174

Bundled Payments for Care Improvement (BPCI) Initiative: (2017). Retrieved 7/2/2017, from https://innovation.cms.gov/initiatives/bundled-payments/

California's Coordinated Care Initiative – Cal Medi-Connect. (2014). Retrieved from http://www.calduals.org/background/ca_duals_demo/

Care Coordination Measure Atlas Update. (2016). Retrieved from https://www.ahrq.gov/professionals/prevention-chronic-care/improve/coordination/atlas2014/chapter2.html

Carnethon, M. R., Pu, J., Howard, G., Albert, M. A., Anderson, C. A., Bertoni, A. G., ... Yancy, C. W. (2017). Cardiovascular health in African Americans: A scientific statement from the American Heart Association. *Circulation*, *136*(21), e393-e423. https://doi.org/10.1161/CIR.0000000000000534

Caveney, B. J. (2016). Pay-for-performance incentives. *North Carolina Medical Journal, 77*(4), 265-268. https://doi.org/0029-2559/2016/77407

Centers for Medicare & Medicaid Services. (2015). *Guide to preventing readmissions among racially and ethnically diverse Medicare beneficiaries*. Retrieved from www.cms.gov

Chamberlain, R. S., Sond, J., Mahendraraj, K., Lau, C. S., & Siracuse, B. L. (2018, Apr 9). Determining 30-day readmission risk for heart failure patients: the Readmission After Heart Failure scale. *International Journal of General Medicine*, *11*(11), 127-141. https://doi.org/10.2147/IJGM.S150676

Cherry, K. (2019). Self-efficacy and why believing in yourself matters. Retrieved October 7, 2019, from https://www.verywellmind.com/what-is-self-efficacy-2795954

Clarks, T. C., & Schiller, J. S. (2016). Early release of selected estimates based on data from the 2016 National Health Interview Survey. Retrieved from https://www.hhs.gov

CMS announces payment changes for Medicare home health agencies for 2016. (2015). Retrieved from https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2015-Fact-sheets-items/2015-10-29-3.html

Creswell, J. W. (2009). *Research Design Qualitative, Quantitative, and Mixed Methods Approaches* (Third ed.). Thousand Oaks, California 91320: SAGE Publications, Inc.

D'Angelo, A. D., & Lawson, E. H. (2018). Assessing quality in payment reform initiatives. *Elsevier*, *29*(2), 64-68. https://doi.org/10.1053/j.scrs.2018.01.005

Eligible Professional Meaningful Use Menu Set Measure 7 of 9. (2017). Retrieved from https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/downloads/8_Transition_of_Care_Summary.pdf

Diaz-Maclnnis, L. (2018). Study finds implementation of the hospital readmissions reduction program associated with increase in patient-level mortality. Retrieved from https://www.bidmc.org/

Elixhauser, A., & Steiner, C. (2015). Readmissions to U.S. hospitals by diagnosis, 2010. HCUP Statistical Brief, #153. Agency for Healthcare Research and Quality. Retrieved

Erdem, E., Fout, B. T., Korda, H., & Abolude, A. O. (2016). Hospital readmission rates in Medicare. *Journal of Hospital Administration*, *3*(4), 1-10. Retrieved from http://www.sciedu.ca/journal/index.php/jha/article/view/4481/2839

Feltner, C., Jones, C. D., Cene, C. W., Zheng, Z., Sueta, C. A., Coker-Schwimmer, E. J., ... Jonas, D. E. (2015). Transitional Care Interventions to Prevent Readmission for Persons With Heart Failure. *Annals of Internal Medicine*, *160*(11), 774-784. Retrieved from www.annals.org

Fleming, H. (2018). Improving quality and lowering cost through community care Teams. *Journal of Healthcare Management*, *63*(4), 242-250. Retrieved from www.ache.org/journals

Fonarrow, G. C., Konstam, M. A., & Yancy, C. W. (2017). The hospital readmission reduction program is associated with fewer readmissions, more deaths time to reconsider. *Journal of the American College of Cardiology*, *70*(15), 1931-1934. https://doi.org/10.1016/j.jacc.2017.08.046

Frankfort-Nachmias, C., & Leon-Guerrero, A. (2015). *Social Statistics for a Diverse Society* (7th ed.). Thousand Oaks, CA: SAGE.

Guyatt, G., Oxman, A., Sultan, S., Brozek, J., Glasziou, P., & Alonso-Coello, P. (2016). GRADE guidelines: 11. Making an overall rating of confidence in effect estimates for a single outcome and for all outcomes. *Journal of Clinical Epidemiology*, *66*(2), 151-157. Retrieved from bestpractice.bmj.com/info/us/toolkit/learn-ebm/what-is-grade/

Gilman, M., Hockenberry, J. M., Adams, E. K., Milstein, A. S., Wilson, I. B., & Becker, E. R. (2015). The financial effect of value-based purchasing and the hospital readmissions reduction program on safety-net hospitals in 2014. *Annals of Internal Medicine*, *163*, 427-436. Retrieved from www.annals.org

Hassani, H., & Silva, E. S. (2015). A kolmogorov-smirnov based test for comparing the predictive accuracy of two sets of forecasts. *Econometrics*, *3*, 590-609. https://doi.org/10.3390/econometrics3030590

Heart Disease and Stroke Statistics. (2017). Retrieved from https://www.ahajournals.org/doi/10.1161/CIR.0b013e31828124ad

Heidenreich, P. A., Albert, N. M., Allen, L. A., Bluemke, D. A., Butler, J., Fonarow, G. C., ... Trogdon, J. G. (2013). Forecasting the impact of heart failure in the United States a policy statement from the *American Heart Association*. American Heart Association, *6*, 606-619. Retrieved from http://circheartfailure.ahajournals.org

HHS Action Plan to Reduce Racial and Ethnic Health Disparities A National free of disparities in Health and Health Care. (2017). Retrieved from https://www.minorityhealth.hhs.gov/assets/pdf/hhs/HHS_Plan_complete.pdf

Hoffman, A. J. (2016). Enhancing self-efficacy for optimized patient outcomes through

the *Theory of Symptom Self-Management*. *NCBI*, *36*(1), E16-E26.

https://doi.org/10.1097/NCC.0b013e31824a730a

Hospital Readmissions of All Ages, Insurance Types Identify High-Risk Groups. (2017).

Retrieved from www.sciencedaily.com/releases/2017/07/170710142341

Islam, T., O'Connell, B., & Lakhan, P. (2017). Hospital readmission among older adults

with congestive heart failure. *Australian Health Review*, *37*, 362-368.

https://doi.org/10.2071/AH12042

Jacobson, C. A. (2016). Provider-sponsored health plans: A tool for moving toward

value-based reimbursement. *Frontiers of Health Services Management*, *33*(1), 40-

46. Retrieved from

http://journals.lww.com/frontiersonline/citation/2016/07000/provider_sponsored_

health_plans_a_tool_for_moving.6aspx

Jeihooni, A. K., Hidarnia, A., Kaveh, M. H., Hajizadeh, E., & Askari, A. (2016).

Application of the health belief model and social cognitive theory for osteoporosis

preventive nutritional behaviors in a sample of Iranian women. *Iranian Journal of

Nursing and Midwifery Research*, *22*(2), 131-141. https://doi.org/10.4103/1735-

9066.178231

Kim, T. Y., Mortensen, K., & Eldridge, B. (2015, May). Linking uninsured patients

treated in the emergency department to primary care shows some promise in

Maryland. *Health Affairs*, *34*(5), 769-804.

https://doi.org/10.1377/hlthaff.2014.1102

Kirby, J. B., & Kaneda, T. (2016). Unhealthy and uninsured: exploring racial

differences in health and health insurance coverage using a life table approach. *Demography*, *47*(4), 1035-1051. Retrieved from Walden Library databases

Kulaylat, A. S., Jung, J., Hollenbeak, C. S., & Messaris, E. (2018). Readmissions, penalties, and the hospital readmissions reduction program. *Elsevier*, *29*(2), 55-59. https://doi.org/10.1053/j.scrs.2018.01.003

Levesque, J., Harris, M. F., & Russell, G. (2015). Patient-centered access to health care: conceptualizing access at the interface of health systems and populations. *International Journal for Equity in Health*, *12*(18), 9. Retrieved from Walden Library databases

Mantel, J. (2015). Spending Medicare's dollars wisely: Taking aim at hospital's cultures of overtreatment. *University of Michigan Journal of Law Reform*, *49*(121). https://doi.org/http://repository.law.umich.edu/mjlr/vol49/iss1/2

Martinez, M. E., Ward, B. W., & Adams, P. F. (2015). Health care access and utilization among adults aged 18–64, by race and Hispanic origin: United States, 2013 and 2014. Retrieved, from Walden Library databases

Martsolf, G. R., Barrett, M. L., Weiss, A. J., Washington, R., Steiner, C. A., Mehrotra, A., & Coffey, R. M. (2016). Impact of race/ethnicity and socioeconomic status on risk-adjustment readmission rates: Implication for hospital readmission reduction program. *The Journal of Health Care Organization, Provision and Financing*, *53*, 1-9. Retrieved from Walden Library databases

Millar, P. J., & Goodman, J. M. (2016). Exercise as medicine: Role in the management of primary hypertension, Applied Physiology, Nutrition, and Metabolism. Retrieved

from www.onlinelibrary.wiley.com

Mirkin, K. A., Enomoto, L. M., Caputo, G. M., & Hollenbeak, C. S. (2017, June 20). Risk factor for 30-day readmission in patients with congestive heart failure. *Heart & Lung*, *46*(2017), 357-362. Retrieved from www.heartandlung.org

National Healthcare Disparities Report. (2016). Retrieved from https://archive.ahrq.gov/research/findings/nhqrdr/nhdr11/chap9.html

Noori, A., Shokoohi, M., Baneshi, M. R., Naderi, N., Bakhsandeh, H., & Haghdoost, A. A. (2015). Impact of socioeconomic status on the hospital readmission of congestive heart failure patients: a prospective cohort study. *International Journal of Health Policy and Management*, *3*(5), 251-257. https://doi.org/10.15171/ijhpm.2014.94

Nundy, S., Razi, R. R., Dick, J. J., Smith, B., Mayo, A., O'Connor, A., & Meltzer, D. O. (2015). A text messaging intervention to improve heart failure self-management after hospital discharge in a largely African American population: Before-after study. *Journal of Medical Internet Research*, *15*(3), 1-10. Retrieved from http://www.jmir.org/2013/3/e53/

Pajares, F., Prestin, A., Chen, J. A., & Nabi, R. L. (2017). *Social Cognitive Theory and Mass Media Effects*. Retrieved from https://scholarworks.wm.edu/bookchapters/3

Pandey, A., Golwala, H., Xu, H., DeVore, A. D., Matsouaka, R., Pencina, M., ... Fonarow, G. C. (2016). Association of 30-day readmission metric for heart failure under the hospital readmissions reduction program with quality of care and outcomes. *The American College of Cardiology Foundation*, *4*(12), 935-946.

https://doi.org/10.1016/j.jchf.2016.07.003

Piamjariyakul, U., Yadrich, D. M., Russell, C., Myer, J., Prinyarux, C., Vacek, J. L., ...
Smith, C. E. (2015). Patients' annual income adequacy, insurance premiums, and
out-of-pocket expenses related to heart failure care. *US National Library of
Medicine National Institutes of Health*, *43*(5), 469-475. Retrieved from
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4150850/

Quality Measurement and Performance Standards. (2015). Retrieved from
https://www.cms.gov/Medicare/Medicare-Fee-for-Service-
Payment/sharedsavingsprogram/Quality_Measures_Standards.html

Sangaralingham, L. R., Shah, N. D., Yao, X., Roger, V. L., & Dunlay, S. M. (2017).
Incidence and early outcomes of heart failure in commercially insured and
medicare advantage patients, 2006–2014. *Circ Cardiovasc Qual Outcomes*, *9*(3),
332-337. https://doi.org/10.11612FCIRCOUTCOMES.116.002653

Sanghavi, D., McClellan, M. B., George, M., Shaljian, M., Alawa, N., Bencic, S., &
Bleiberg, S. (2016). Treating congestive heart failure and the role of payment
reform. *Brookings*, 1-37. Retrieved from
https://www.brookings.edu/research/treating-congestive-heart-failure-and-the-
role-of-payment-reform/

Sharma, A., Colvin-Adams, M., & Yancy, C. W. (2016). Heart failure in African
Americans: Disparities can be overcome. *Cleveland Clinic Journal of Medicine*,
81(5), 301-311. https://doi.org/10.3949/ccjm.81a.13045

Simon, M. D. (2019). Effectively managing operations to achieve compliance with safety

programs. *Journal of Healthcare Management*, *64*(1), 10-14. Retrieved from www.ache.org/journals

Singer, T. G. (2017). Antitrust implication of the affordable care act. *Journal of Health & Life Sciences Law*, *6*(2), 1-18. Retrieved from Walden library databases

The California HealthCare Landscape. (2015). Retrieved from https://www.kff.org/health-reform/fact-sheet/the-california-health-care-landscape/

The HCUP State Inpatient Databases (SID). (2018). Retrieved from hcup@ahrq.gov

Trochim, W. M., Donnelly, J. P., & Arora, K. (2016). *Research Methods The Essential Knowledge Base* (2nd ed.). Delhi: India: Cengage Learning India Private Limited.

U.S. Department of Commerce, National Institute of Standards and Technology. (2016). Baldrige Performance Excellence Program Retrieved from https://www.nist.gov/baldrige/self-assessing/baldrige-sector/health-care

U.S. Department of Health and Human Services. (2017). Heart disease and African Americans. https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=19

Valania, G. E., & Slawsky, M. T. (2017). Creating a global payment model (HF bundle) for high-risk heart failure (HF) patients at a tertiary academic medical center: Frameshift from fee-for-service to value-based reimbursement. *Journal of Cardiac Failure*, *23*(8), 240. https://doi.org/http://dx.doi.org.ezp.waldenulibrary.org/10.1016/j.cardfail.2017.07.254

Wagner, E. H., Flinter, M., Hsu, C., Cromp, D., Austin, B. T., Etz, R., ... Ladden, M. D. (2017). Effective team-based primary care: observations from innovative

practices. Retrieved from

https://bmcfampract.biomedcentral.com/articles/10.1186/s12875-017-0590-8

Wang, T., Shi, L., Nie, X., & Zhu, J. (2015). Race/Ethnicity, insurance, income and

access to care: the influence of health status. *International Journal for Equity in*

Health, *12*(29), 2-7. Retrieved from

http://www.equityhealthj.com/content/12/1/29

Wei, X., Guo, Y., Gu, K., Yue, B., Moradi, A., Krittanawong, C., ... Herzog, E. (2018,

March 20). Racial differences in outcomes between African Americans and non-

African Americans admitted for congestive heart failure: Nationwide analysis.

American College of Cardiology, *71*(11). https://doi.org/https://doi-

org.ezp.waldenulibrary.org/10.1016/S0735-1097(18)31266-X

Whitworth, G. (2018). How long can a person live with congestive heart failure?

Retrieved from https://www.medicalnewstoday.com/articles/321538.php