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The Relationship Between Cultural Competency and Hospital Quality Measure Outcomes

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This is to certify that the doctoral study by

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

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MHA, National University, 2015

BS, San Diego State University, 2004

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Healthcare Administration

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Abstract

Healthcare organizations have little evidence concerning how cultural competency impacts hospital quality outcomes of care transition and patients' overall experience with care. Identifying if cultural competency translates into quality measures is important for healthcare administrators and could contribute to optimizing patient care. The purpose of this quantitative study was to explore the relationship between hospital cultural competency and hospital quality measures and compare California and other states' acute care hospital cultural competency scores. Donabedian's lasting framework for health care quality and Campinha-Bacote's model of cultural competence in health care were used to frame this research. Hospital Consumer Assessment of Healthcare Providers and Systems' (HCAHPS) data from 3,901 acute care hospitals were analyzed using simple linear regression and an independent sample *t*-test. Results indicated hospital cultural competency, as measured by HCAHPS, had a moderate positive relationship to both care transition and overall hospital rating. Additionally, California hospitals scores (on average) were lower than acute care hospitals in other states for hospital cultural competency scores. These findings confirm that cultural competence has a positive effect on hospital quality measures. The study contributes to positive social change by enabling healthcare administrators to promote cultural competency for improving high-quality healthcare to meet the needs of diverse patients.

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Dedication

I would like to dedicate my doctoral study to my family. My husband, Chanh, thank you for being my biggest supporter, my best friend, and the best dad the boys could dream of. I truly love and appreciate who you are. Thank you for always believing in me, encouraging me to follow my dreams, and for contributing to making our family the best it could ever be. My sweet boys, Kayson and Kailo, your smiles, laughter, and love warms my heart. Remember to always believe in yourself and follow your dreams, never forget how much I love you. My sister, Carol, and her beautiful family, thank you for being by my side through absolutely everything in life, I am so grateful for you all. Mom and Dad, thank you for your unconditional love and support, I am forever grateful.

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I would like to acknowledge and thank Dr. Janice Gravely and Dr. Ricky Allen for their support, mentorship, and friendship. Thank you for being a great inspiration, I want to express my deepest gratitude for believing in me.

Finally, thank you to my family and friends, who have supported me on my doctoral study journey. I am eternally grateful for everything all of you have contributed to this achievement.

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Section 1: Foundation of the Study and Literature Review

Cultural competency in healthcare enables healthcare organizations and providers the ability and willingness to be open and respectful of different cultural perspectives when interacting with patients from a diverse background. Cultural competency has gained acceptance as an approach for healthcare organizations to improve serving diverse patients (Betancourt, Green, Carrillo, & Park, 2016; Campinha-Bacote, 1999; Saha, Beach, & Cooper, 2008). However, healthcare organizations using cultural competency have not determined which hospital quality outcomes could make a difference in serving diverse patients. The problem is healthcare organizations have little evidence regarding how cultural competency impacts hospital quality measures (i.e., care transition and patients' overall experience of care). Cultural competency and specific hospital quality measures may work effectively together to improve the overall quality of care (Ahmed et al., 2018). Identifying if cultural competency translates into quality measures could contribute to optimizing patient care.

Cultural competency for healthcare is necessary for responding to demographic changes in the United States. The Culturally and Linguistically Appropriate Services (CLAS) standards primarily aimed at healthcare organizations on how to provide culturally and linguistically appropriate services (Barksdale et al., 2017; Estrada & Messias, 2015; Ng et al., 2017). For this study, I examined the organization and individual levels of a healthcare organization to gain a better understanding of the importance of cultural competency. I used the structure, process, and outcome components from Donabedian's lasting framework for health care quality to discuss the

importance of how each component works together for measuring healthcare quality. I used Campinha-Bacote's cultural competence in the health care model to analyze the elements essential for formulating the definition of cultural competency in healthcare.

Problem Statement

In the United States, the demographics are rapidly changing, and culture is continually evolving. In 2060, the U.S. Hispanic population is projected to double from 55 to 119 million, the African American population from 42 to 60 million, the Asian population from 17 to 39 million, and the Caucasian population of 247 to 285 million (Colby & Ortman, 2015, p. 9). With the U.S. population becoming more diverse, the Office of Minority Health had implemented the national CLAS standards to assist healthcare organizations to provide diverse patients cultural and linguistic services (Barksdale, Kenyon, Graves, & Jacobs, 2014). The CLAS standards are essential for reducing health disparities and improving high-quality health care to meet the needs of diverse patients (Barksdale et al., 2017). To meet the needs of diverse patients, healthcare providers and healthcare organizations need to promote cultural competency. Cultural competency is defined as the ability of an individual's willingness to be open and respectful of different cultural perspectives when interacting with others from a diverse background. Cultural competency could make a difference with efforts to support positive health outcomes benefiting patients, providers, healthcare organizations.

Cultural competency had gained acceptance as an approach for healthcare organizations to improve serving diverse patients (Betancourt, et al., 2016; Campinha-Bacote, 1999; Saha et al., 2008). Substantial research evidence suggested cultural

competency training was beneficial for healthcare providers and organizations (Jernigan, Hearod, Tran, Norris, & Buchwald, 2016; Truong, Paradies, & Priest, 2014; Watt, Abbott, & Reath, 2016); however, healthcare organizations have little evidence concerning which hospital outcomes are impacted by cultural competency. The results of these studies are a clear indication that further efforts are needed to show whether or not cultural competency is associated with specific health outcomes. The problem is healthcare organizations have little evidence how cultural competency impacts hospital quality measures.

Purpose of the Study

The purpose of this quantitative study was to explore the relationship between hospital cultural competency and hospital quality measure outcomes. According to the CLAS standards, healthcare providers and organizations have the responsibility to meet the cultural and linguistic service needs of their diverse patient populations (Barksdale et al., 2017; Estrada & Messias, 2015; Ng et al., 2017). The study outcome may provide researchers and healthcare professionals evidence on how cultural competency relates to hospital quality measure outcomes.

With the increased transparency of hospital survey scores and incentives tied to hospital reimbursements, healthcare organizations should take into consideration the improvements directed to evaluating hospital quality outcomes. Those particular shifts in development could help healthcare professionals identify what changes are necessary to improve the overall quality of care. I used a hospital cultural competency score as the independent variable. The dependent variables consisted of two areas of patient

experience, which cover hospital quality process and outcome measures: Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) care transition and HCAHPS overall hospital rating. Cultural competency and specific hospital quality measures may work effectively together to improve the overall quality of care (Ahmed et al., 2018). Identifying if cultural competency translates into quality measures, could contribute to optimizing patient care.

Research Question(s) and Hypotheses

The research questions and hypotheses for this quantitative study are:

Research Question 1 (RQ1): What is the relationship between acute care hospital cultural competency and care transition, as measured by HCAHPS?

Null Hypothesis ($H_0$1): Acute care hospitals with higher cultural competency scores do not have significantly different care transition scores than acute care hospitals with lower cultural competency scores.

Alternative Hypothesis (H_a1): Acute care hospitals with higher cultural competency scores have significantly different care transition scores than acute care hospitals with lower cultural competency scores.

Research Question 2 (RQ2): What is the relationship between acute care hospital cultural competency and patients' overall experience with care, as measured by HCAHPS?

Null Hypothesis ($H_0$2): Acute care hospitals with higher cultural competency scores do not have significantly different patient overall experience with care scores than acute care hospitals with lower cultural competency scores.

Alternative Hypothesis (H_a2): Acute care hospitals with higher cultural competency scores have significantly different patient overall experience with care scores than acute care hospitals with lower cultural competency scores.

Research Question 3 (RQ3): Does the hospital cultural competency scores differ between California acute care hospitals and other state's acute care hospitals?

Null Hypothesis ($H_0 3$): There is no statistically significant relationship between the cultural competency score of California acute care hospitals compared to other state's acute care hospitals.

Alternative Hypothesis ($H_a 3$): There is a statistically significant relationship between the cultural competency score of California acute care hospitals compared to other state's acute care hospitals.

Theoretical Foundation for the Study

I used the theories of Donabedian and Campinha-Bacote as the foundations for this study. The lasting framework for health care quality by Avedis Donabedian is grouped into three distinct components: structure, process, and outcome (Rademakers, Delnoij, & de Boer, 2011). Donabedian hypothesized that structure drives the process, and process drives outcomes. The three components are interrelated to measure healthcare quality: structure defines the capabilities and qualifications of healthcare professionals, providers, staff, and healthcare systems; process measures the steps necessary to provide patient care; and the outcome results that measure the patients' hospital care experience (Donabedian, 1988). This means that a good structure (cultural

competency) should translate to proper process and functional outcomes; therefore, this framework support the investigation that cultural competency should impact outcomes.

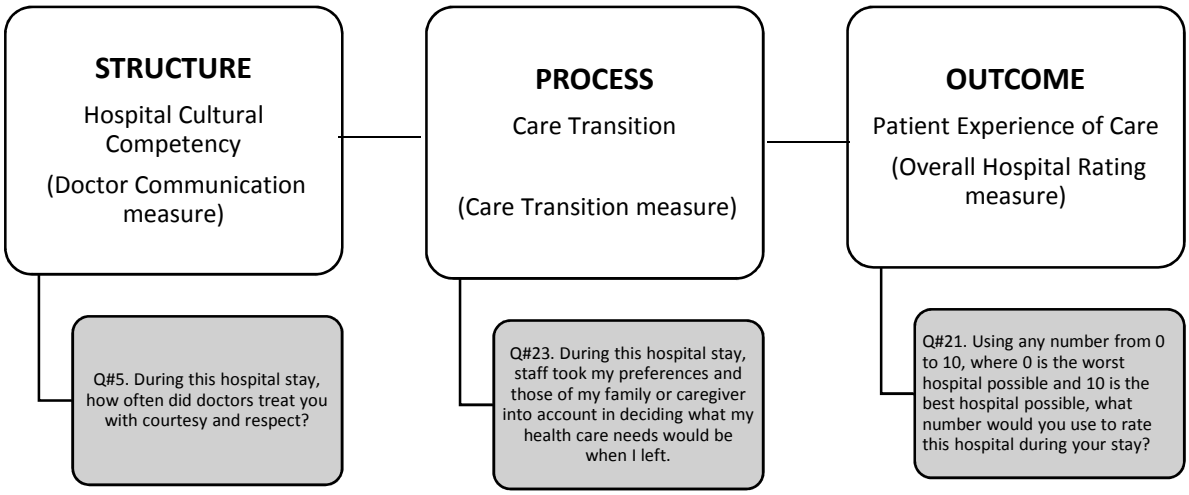

Figure 1. Structure, process, and outcome and the HCAHPS survey.

I applied the three components from the Donabedian framework (i.e., structure, process, and the outcome): hospital cultural competency (structure), the HCAHPS care transition measure (process), and the HCAHPS overall hospital rating (outcome). Figure 1 displays how I measured structure, process, and the outcome using the mailed version of the HCAHPS survey. The structure consists of the attributes of the provider or healthcare services, such as cultural competency. The process is the workflow of healthcare systems or the transition of care for the desired outcome. The outcome is the impact of patients' overall experiences of hospital care or results of improvement work. These three components was used together to form the foundation of what may be required for patients to receive the highest quality of care, whether the hospital meets the intended goal for providing patients the highest quality of care. Each of the components

serves a different purpose in determining whether the cultural competency initiatives has the desired impact. I used the cultural competence model to analyze the elements essential for formulating the definition of cultural competence in healthcare. I combined the five constructs that make up the cultural competence definition with the HCAHPS doctor communication measure to create a hospital cultural competency score.

Josepha Campinha-Bacote (1999) created a model of cultural competence in health care and stated that cultural competence is an ongoing process, especially for healthcare professionals, regardless of when they may have entered the process. The model includes five interdependent constructs: cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire (Campinha-Bacote, 1999). Additionally, Campinha-Bacote (1999) highlighted the importance of healthcare providers' process of becoming culturally competent rather than being culturally competent to work effectively with patients, their families, and the community. Specific in the healthcare field, the model focuses on healthcare delivery. The model is used to examine how cultural competency was used as a structural component to measure quality and the process to assist healthcare professionals in working effectively with the patients, their families, and the community. The five concepts are used for healthcare providers to remind themselves if they have "ASKED" the right questions (Campinha-Bacote, 2002). In Figure 2, the acronym ASKED was derived from the cultural competency five concepts: awareness, skill, knowledge, encounters, and desire, which were described by Campinha-Bacote to assist healthcare providers in providing culturally competent care (Campinha-Bacote, 2002, p. 187).

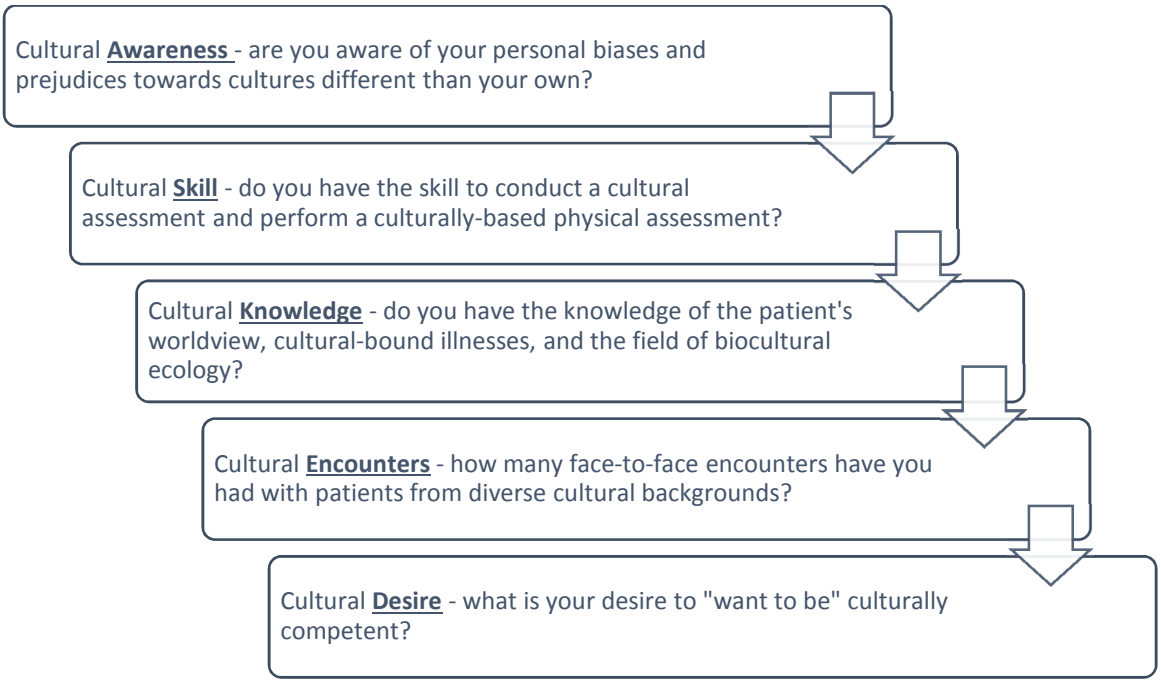

Figure 2. "ASKED" from the cultural competence five constructs (Campinha-Bacote, 2002, p. 187).

In this study, I used the five constructs of cultural competency in the Campinha-Bacote model of cultural competence in health care as a guide to identifying the structural component, which is derived from Donabedian's framework to measure the cultural competency of acute care hospitals in the United States. To prepare future healthcare providers and professionals to work effectively with diverse populations, the Campinha-Bacote model is used to focus on defining and evaluating hospital cultural competency. This study is used to evaluate the relationship between cultural competency and hospital quality measures with patient experiences of hospital care. I combined Donabedian's structure, process, and outcomes as a conceptual guide for the framework to measure how cultural competency impacts care transition and patient experience.

The Agency for Healthcare Research and Quality (AHRQ) highlighted the importance of using measures, along with Donabedian's model, to "assess and compare the quality of healthcare organizations" (AHRQ, 2011, para. 1). The Donabedian healthcare model is used to argue that healthcare administrators need to engage actively in leading and shaping the pursuit of high-quality care in their healthcare organizations and communities (Ayanian & Markel, 2016). Campinha-Bacote's cultural competence in health care is a useful model for healthcare professionals and researchers to address issues revolving around hospital culturally competent care (Campinha-Bacote, 1999). The model is used to investigate whether hospital cultural competency is associated with hospital quality measures. The model is also used to contribute to toward solving the problem relating to the lack of research, all of which addresses hospital quality improvements.

Nature of the Study

I used a quantitative design to explore the relationship between hospital cultural competency and hospital quality outcomes measured by the HCAHPS survey. In this study, I used secondary data in the primary analysis to explore whether there is a relationship between hospital cultural competency and hospital quality measures (i.e., care transition and patients' overall experience with care). I used information regarding care transition and patients' overall experience of care measures from the HCAHPS survey. Care transition is the process that involves the patients' experiences of transferring between different levels or locations of care during the inpatient hospital stay (Coleman, Mahoney, & Parry, 2005). Patient experience is the range of interactions

patients have within the hospital with doctors and other healthcare professionals during an inpatient stay at an acute care hospital (HCAHPS fact sheet, 2019). For the second analysis, I explored if there was a difference between California acute care hospitals compared to other state's acute care hospitals.

As U.S. demographics are becoming more diverse, examining cultural competency and hospital quality outcomes together may be critical for improving and providing patients the highest quality of care. The comparison of results provides healthcare administrators support to capture the effectiveness of hospital cultural competency and identify the impact on specific hospital quality measures. A full understanding of if there is a relationship between cultural competency and improved outcomes could be useful for all healthcare organizations expected to provide culturally competent care, and, as the population, shifts demographically to a diverse majority.

The independent variable was a hospital cultural competency score derived from the results of the doctor communication section measured by the HCAHPS survey. I interpreted results of the hospitals in two levels based on the doctor communication measure (Question 5) for the newly created variable hospital cultural competency score based on these range values: high (≥ 75) and low (≤ 74). I evaluated the selection of two specific measures from the HCAHPS survey as the dependent variables: care transition and overall patient experience of care. The three components (i.e., structure, process, outcome) from Donabedian's lasting framework are used to provide the framework for this study to measure care transition and patient overall experience results.

The target population consisted of all short-term, acute care hospitals in the United States. The study only covered adult patients 18 and older who were discharged from the hospital and participated in the HCAHPS surveys about their experience with care between July 2018 and June 2019. In the study, I excluded any pediatric, psychiatric, and specialty hospitals. I omitted all HCAHPS data outside of this date range. All hospitals that have completed the HCAHPS survey questions for the following domains was used: doctor communication (Question 5), care transition (Question 23), and overall patient experience of care (Question 21). I examined the other states within the United States to represent the other state's sample (excluding California). Then I explored the state of California, which has the most diverse population to identify if cultural competency had an impact and compare California and other states to determine if they differ between cultural competency. The Centers for Medicare and Medicaid Services (CMS) implements the adult version of the HCAHPS on a national basis. HCAHPS dataset is associated with the U.S. government, which is publicly available by CMS on the Hospital Compare website. These data are available for researchers at no charge and permission for access is not required (HCAHPS, 2017).

Literature Search Strategy

I conducted the literature review using the following key terms: *cultural competence, hospital quality measures, patient experience, care transition,* and *overall patient experience of care*. Keywords are expanded upon to include *cultural competence in healthcare, HCAHPS, Campinha-Bacote, Donabedian, hospital and quality, transition of care,* and *overall hospital rating*. This research is conducted across multiple

discipline-related databases: CINAHL and Medline combined search, Medline with full text, ProQuest Health, and Medical Collection, ProQuest Nursing and Allied Health Source, and PubMed. I utilized Google Scholar to assist in article research and review. For cultural competency and healthcare models, I found items that dated back to the 1960s and reviewed peer-reviewed journal articles from that timeframe through the current year of 2020. However, I tried to reference the majority of materials from within 2014 to 2020. The primary subjects of the literature searches pertained to the main sections of this study: cultural competency, cultural competence in healthcare, organizational healthcare systems, patient-centered approach, cultural competency tools and resources, patient-provider encounters, cultural competency training for providers, health outcomes, cultural competency, and patient experiences, hospital cultural competency scores (independent variable), doctor communication, patient experience (dependent variables), care transition, patient experience of care, HCAHPS patient survey, Donabedian's lasting framework for health care quality, and Campinha-Bacote's model of cultural competence in health care.

Literature Review

Cultural competency had gained popularity as an approach for healthcare organizations to improve health care services (Betancourt et al., 2016; Campinha-Bacote, 1999; Saha et al., 2008). Cultural competency in healthcare enables healthcare organizations and providers the ability and willingness to be open to and respectful of different cultural perspectives when interacting with patients from a diverse background. With the U.S. population becoming more diverse, it is important to bridge the gap in

healthcare equality to reduce health disparities. The Office of Minority Health had implemented the national CLAS standards to assist healthcare organizations to provide diverse patients with cultural and linguistic services (Barksdale, Kenyon, Graves, & Jacobs, 2014). The CLAS standards were designed for reducing health disparities and improving high-quality health care to meet the needs of diverse patients (Barksdale et al., 2017). In addition, the CLAS standards can support healthcare organizations to effectively understand the needs of patients accessing health care. Cultural competency could make a difference with efforts to support positive health outcomes benefiting patients, providers, and healthcare organizations. With the increased transparency of hospital survey scores and incentives tied to hospital reimbursements, healthcare organizations should take into consideration the improvements directed to evaluating hospital quality outcomes. The strategy of promoting cultural competency could help healthcare professionals to identify what changes are necessary to improve the overall quality of care.

Cultural Competency in Healthcare

Cultural competency in healthcare could be necessary for responding to the current and projected demographic changes in the United States. Researchers in the discipline had different views of the definition of cultural competency. In the late 1980s, the broad concept of cultural competency was introduced as an organizational strategy to address racial and ethnic disparities. Cross, Bazron, Dennis, and Isaac (1989) defined cultural competence as a "set of congruent behaviors, attitudes, and policies that come together in a health care system, agency or among professionals that enable that system,

agency or professions to work effectively in cross-cultural situations" (p. 4). Between 1989 and 2015, not much had changed with the definition of cultural competency. Recently, Gallagher and Polanin (2015) changed the focus of cultural competency to healthcare professionals and patients working together to understand and integrate values and beliefs into the delivery and structure of the healthcare organization. Betancourt, Green, Carrillo, and Ananeh-Firempong (2016) added three distinct categories as interventions to measure and define cultural competency: organizational (leadership/workforce), structural (process of care), and clinical (provider-patient encounter). Weech-Maldonado et al.'s (2018) definition of cultural competency was specific to healthcare and emphasized as the healthcare strategy to reduce cultural and linguistic barriers between providers and patients on the delivery of health services.

The absence of a consistent cultural competency definition leads to inconsistent models and frameworks as a resource for healthcare organizations seeking to improve the quality of care (National Quality Forum [NQF], 2009). The array of cultural competency definitions highlights the various meanings of cultural competency currently in the healthcare setting. The perspectives of the term cultural competency continue to evolve. However, the most accepted definition is that cultural competency is the ability of an individual's willingness to be open and respectful of different cultural perspectives when interacting with others from a diverse background (McCalman, Jongen, & Bainbridge, 2017).

Cultural competency had been examined by multiple researchers to determine improvements in reducing healthcare disparities, improving the quality of healthcare for

diverse patients, and diversity management. Betancourt et al. (2016) investigated cultural competency and racial and ethnic disparities in healthcare and found structural barriers regarding referrals to specialists and continuity of care. Betancourt et al. (2016) reported 22% of Hispanics and 16% of African Americans, compared to 8% Caucasians, had difficulties with accessing specialty care. For continuity of care, 46% of Hispanics and 39% of African Americans, compared to 26% Caucasians, did not have a regular physician. Weech-Maldonado et al. (2012) and McKesey et al. (2017) also investigated cultural competency but measured patient satisfaction as patient outcomes. Weech-Maldonado et al. (2012) and McKesey et al. (2017) found similar results of a positive relationship between cultural competency and patient outcomes. However, the authors used different components to measure patient outcomes. McKesey et al. (2017) examined patient adherence to treatment and found mortality and morbidity in melanoma and nonmelanoma skin cancer were worse for ethnic minorities, with 5-year melanoma survival rate, 69% for African Americans compared to 93.6% for Caucasians. Weech-Maldonado et al. (2012) examined hospitals in California and found cultural competency was positively associated with doctor communication ($p < 0.05$) and the overall hospital rating ($p < 0.01$). Last, Dreachslin, Weech-Maldonado, Gail, Epane, and Wainio (2017) explored the relationship between cultural competency and diversity management (i.e., diversity leadership, strategic human resource management, organizational climate, diversity climate, patient cultural competence). Dreachslin et al. (2017) reported only 29% of the inpatient population, 15% of managers, 14% of C-suite leaders, and board members were minorities and found diversity management and cultural competency were

not yet standard practices (p. 175). These authors covered how cultural competency relates to racial and ethnic disparities, patient outcomes, and healthcare professionals. Minority healthcare professionals play an important role in the delivery of quality care to minority patients. However, a lack of evidence remains on how cultural competency relates to hospital quality outcomes, specifically care transition and patient experience.

Culturally and Linguistically Appropriate Services

According to the CLAS standards, healthcare providers and organizations have the responsibility to meet the cultural and linguistic service needs of their diverse patient populations (Barksdale et al., 2017; Estrada & Messias, 2015; Ng et al., 2017). To keep up with the demographics of the United States changing, the CLAS standards were used to measure cultural competency in healthcare. In 2000, the Office of Minority Health of the Department of Health and Human Services developed a national standard guideline primarily aimed for healthcare organizations on how to provide CLAS (Barksdale, Rodick, Hopson, Kenyon, Green & Jacobs, 2017). The CLAS standards were divided into three themes: culturally competent care (standards 1–3), language access services (standards 4–7), and organizational support for cultural competence (standards 8–14; Weech-Maldonado et al., 2012).

Diamond, Wilson-Stronks, and Jacobs (2010) reported hospitals were not meeting federal regulations; the results of the study showed only 13% of hospitals met all four of the linguistic CLAS standards, and 19% of hospitals met none when the CLAS standards were used to measure hospital's preparedness for a diverse population. Similarly, Estrada and Messias (2015) found increasing evidence within 135 hospitals that revealed a

widespread lack of compliance with the mandated CLAS standards and inconsistent regulation and enforcement.

Looking at how to address health disparities in access, delivery, and outcomes for a diverse population, Estrada and Messias (2015) and Weech-Maldonado et al. (2012) found that the adoption of CLAS standards helped. Estrada and Messias (2015) implied that CLAS was researched as an influencer of cultural competency and provided results focused on comparing the culture and linguistic services that showed professional interpreters improved patient satisfaction. Estrada and Messias (2015) found interpret utilization in the emergency department was interpret by nurses and providers 49% of the time, medical staff 27%, and family and friends 12% of the time. From the implementation of CLAS standards at the organizational level, healthcare professionals had gained culturally and linguistically proficiency (Estrada & Messias, 2015). Weech-Maldonado et al. (2012) observed the relationship between cultural competency and adherence to CLAS and found greater cultural competency was positively associated with inpatient experiences of care, doctor communication ($p < 0.05$), and hospital ratings ($p < 0.01$). Among those hospitals observed, diverse patient experiences were linked to improved communication between physicians and hospital ratings. However, the 344 hospitals observed were only from California.

Weech-Maldonado et al. (2012) developed a tool, the Cultural Competency Assessment Tool for Hospitals (CCATH) to measure hospital culture competency. Weech-Maldonado et al. (2018) used CCATH in combination with six other components of the U.S. NQF, along with the 14 CLAS standards to measure cultural competency at

the organizational and individual levels. The CLAS standards were used to evaluate four parts of hospital performance related to cultural competency: culturally competent care, human resource management, translation and interpretation, and leadership strategies (Weech-Maldonado et al., 2018). As a result, high scores were reported relating to cultural competency practices for hospitals' adherence to the CLAS standards. Hospital's scores improved at the organizational level for diversity leadership, increased in total scores from 1.0 (20.4%) for diversity infrastructure to 0.4 (8.3%) for diversity leadership and the individual level for diversity attitudes, from 2.1% (7.4%) for information to 0.25 (0.6%) for respect. However, the study was limited to only two states, California and Pennsylvania.

Betancourt et al. (2016) and Weech-Maldonado et al. (2018) found that CLAS standards support healthcare organizations with identifying barriers linked to cultural competency. At the organization level, Betancourt et al. (2016) measured adherence to CLAS standards with three distinct categories as interventions to measure cultural competence: organizational, structural, and clinical. Betancourt et al. (2016) revealed not-for-profit hospitals had a higher degree of cultural competency than for-profit hospitals with a diverse inpatient population. McCalman et al. (2017) also measured cultural competency at the organization level but rather emphasized the implementation principles, strategies, and outcomes of the systems approach to cultural competency framework as a process in providing culturally and linguistically appropriate care. McCalman et al. (2017) found 15 of 109 (13.8%) research studies met the inclusion

criteria for providing measures in an organizational system approach to cultural competency used in healthcare.

The CLAS is beneficial in enabling healthcare organizations to determine their level of cultural competency. I used the benefits of adopting CLAS standards to provide healthcare organizations with: a clear definition and understanding of culturally and linguistically appropriate services in healthcare (Ng et al., 2017) and a practical framework to assist healthcare providers and organizations to be accountable for the cultural and linguistic needs of the diverse populations (McCalman et al., 2017). McCalman et al. (2017) noted CLAS standards were mandated in six states to improve culturally competent care, language access services, and organizational support to cultural competency, and found 15 of 109 (13.8%) researchers met the inclusion criteria for evaluating measures for an organizational approach to cultural competence. The CLAS standards provide guidelines for healthcare organizations to become culturally competent at various levels of the organization and address the inequalities that exist in the healthcare setting. When the CLAS standards were measured, cultural competency was included to emphasize the importance of language and the association to a patient's culture. The level of cultural competency measured at the organization level could support healthcare organizations to gain a better understanding of which healthcare outcomes are associated with quality improvements.

Cultural Competency Measured at the Organization Level

Existing studies have focused on the effectiveness of providers' cultural competency. The importance for providers and healthcare organizations to effectively

provide diverse patients culturally competent care had become a priority due to the rapid increase in cultural diversity in the United States (Alizadeh & Chavan, 2016). During the early 2000s, a new set of CLAS standards took place in the United States, which created a tremendous challenge for healthcare organizations dealing with the transformation of their healthcare systems (Betancourt, Corbett, & Bondaryk, 2014). Betancourt et al. (2014) stated that healthcare organizations needed to focus on increasing leadership diversity and cultural competency training for healthcare professionals. In response, healthcare organizations were rapidly undergoing dramatic transformations at the organization level due to the CLAS standards.

Diversity leadership.

Leaders of healthcare organizations, for instance, healthcare administrators, are suggested to engage in activities to identify and address cultural competency. According to the Association of American Medical Colleges, the quality of doctor communication provided to minority groups remains a significant challenge. Findings showed that only 9% of physicians were minority graduates of medical school, where 40.1% were Asian Americans, 33% African Americans, 24.9% Hispanics, and 1.8% Native Americans (AAMC, 2000). Weech-Maldonado et al. (2018) focused on cultural competency of providers measured in three components (i.e., diversity leadership, strategic human resource management, and patient cultural competency) and found an increase in clinical competency practices (75, 97.5%); interpreter services (50, 58.3%); and translation services (20, 28.6%). Therefore, leadership diversity's impact on hospital performance was dependent on the cultural competency of an organization. Similarly, Dreachslin et

al. (2017) measured diverse workforce and cultural competency at the organizational level and found a hospital showed a 75% improvement from pre to post-intervention. As a result, the collaboration of people, policies, and practices involved in the organization's structure were necessary to achieve the common goal of becoming a culturally competent healthcare organization. Healthcare providers that are more culturally competent could deliver high-quality care while eliminating disparities and ensuring equity.

Cultural competency training for healthcare providers.

Provider's cultural competency training measured at the organizational level included challenges and benefits. While the diverse patient population is growing, the challenge remains with increasing the level of cultural competence for healthcare providers (Casillas et al., 2014). Cultural competency training for providers had yet to be implemented universally in healthcare systems throughout the United States (McKesey et al., 2017). Casillas et al. (2014) measured 124 providers' level of skillfulness associated with cultural competency using the Cross-Cultural Care Survey self-assessment tool and found that only 33.6% of physicians had adequate training experiences with diverse patients in medical care and only 44% of those providers in the European population were considered culturally competent. Brach and Fraser (2002) also highlighted that a lack of cultural competency training for providers was associated with flaws in the healthcare delivery system. In response to improving the flaws, Brach and Fraser (2002) suggested cultural competency training improvements among providers should be an ongoing process, along with accessible trained interpreters in the hospital setting. Casillas et al. (2014) and Brach and Fraser (2002) agreed the challenges were based on

inadequate cross-cultural training and lack of practical experience caring for diverse populations.

Instead, Jongen, McCalman, and Bainbridge (2018) used the health care model to observe the systems analysis of cultural competency training. The model had four levels: (a) healthcare encounters examined cultural competency at the organization level of health care providers, (b) students, also referred to as future health practitioners, (c) healthcare service delivery, and (d) healthcare systems. Jongen et al. (2017) reported that cultural competency training improved utilization and treatment outcomes, especially of Asian Americans patients with a depression disorder with an increase from 6.5% pre-intervention to 45% during intervention.

For healthcare organizations to promote cultural competency effectively, research suggested examining the impact of providers' cultural competence with specific patient health outcomes. A few studies have concentrated on providers' cultural competency training, and their outcomes; the organization level of cultural competencies for provider outcomes was measured with diversity attitudes, implicit bias, and racial/ethnic identity status based on knowledge, attitudes, and skills. The elements of knowledge, attitude, and skills for the levels of cultural competence of providers were studied by Watt et al. (2016). Watt et al. (2016) explained the organizational level of cultural competencies for providers had challenges with cultural competency training and therefore, minimal evidence of improvements toward patient outcomes (Watt et al., 2016). Similarly, Jernigan et al. (2016) measured the organizational level of cultural competency by reviewing 18 different cultural competency forms of training on knowledge, skills, and

attitudes. The training consisted of the following: eight programs (44%) evaluated trainees' knowledge, six programs (33%) evaluated skills, and eight programs (44%) measured changes in attitudes. Jernigan et al. (2016) found within those 18 programs, the implementation and evaluation between cultural competency training programs were inconsistent. In the same way, Khanna, Cheyney, and Engle (2009) examined the cultural competency training of 43 healthcare providers and administrators and found that cultural competency training provided healthcare professionals with an increase in knowledge of 3.28 before mean to a 3.60 after mean (p. 890). The results showed a definite shift of improvements in knowledge and skills of patient care from diverse cultural backgrounds (Khanna et al., 2009). In a similar study, Majumdar, Browne, Roberts, and Carpio (2004) findings showed the effect of cultural competency training with 114 healthcare providers and found healthcare providers who received training had a significantly higher understanding of cultural awareness ($P = 0.0001$), cultural differences ($P = 0.0001$), cultural beliefs ($P = 0.004$) and treatment ($P = 0.001$). Last, Truong et al. (2014) noted provider encounters that included the clinical cultural competence intervention of providers' knowledge, attitudes, and skills and found improvements were associated with provider outcomes, health care access, and utilization outcomes. Given those results, cultural competency training for general practice was an integral component to measure the number of personnel trained to determine the level of cultural competency at the organization level.

Since 2008, cultural competency in healthcare had been the focus as a strategy at an organizational level to improve equity and improve the quality of healthcare to reduce

disparities, specifically for a culturally diverse patient population of color. Well-developed approaches for various organizational levels assisted in resolving ethical challenges and eliminating inequalities to improve healthcare access and culturally competent care. Vogus and McClelland (2016) highlighted healthcare organization strategies were offered to develop customizable quality care that consisted of cultural competence and patient-centered care to manage improvements intended for complex and diverse patient satisfaction. Weech-Maldonado et al. (2012) found to increase diverse patient satisfaction, integrating cultural competency training throughout the organization was a crucial organizational healthcare system's commitment toward a successful implementation of cultural competency. Comparably, Liaw et al. (2015) found with provider cultural competency training, healthcare system's improved overall the process of health services by an increase from 74.8% to 89.8%. Dreachslin et al. (2017) also investigated the association of cultural competency training and patient outcomes and found a positive association and indicated healthcare providers played a vital role in patient outcome measures. In addition to the cultural competency training and outcome measures, Jolley et al. (2017) and Saha et al. (2008) concluded the importance of providing continual cultural competency skills training as a strategy, which helped to reduce health disparities.

In contrast with provider simulation training, Drevdahl (2018) results showed how organizations that train healthcare professionals' cultural competency through simulation techniques encountered benefits from practicing in hands-on training in a realistic setting. The research findings for 31 hospitals included 68% used simulation

training while 32% used different forms of training. By measuring the effectiveness between cultural competency training and outcomes, the results indicated immediate actions could be enhanced at the organizational level to improve skillfulness among physicians, with continual efforts to educate, increasing cultural awareness, and prioritizing recruitment strategies for physicians from diverse backgrounds. Researchers have concluded the ability of healthcare providers to engage effectively with patients does depend on healthcare providers' knowledge, attitudes, and skills. Culturally competent healthcare providers are crucial for meeting the needs of a growing diverse patient population. Although some challenges were presented, substantial research evidence suggested cultural competency training was beneficial for health care providers and organizations; however, healthcare organizations have little evidence concerning how cultural competency impacts hospital quality outcomes (i.e., care transition and patients' overall experience with care).

Cultural Competency Measured at the Individual Level

Significant improvements may be needed to eliminate the gap between the physicians' understanding of cultural competency and the patients' perceptions of cultural competency. Cultural competency measured at the individual level includes patients' involvement in incorporating their knowledge and experience, rather than the previous studies that solely focused only on the providers.

Patient health outcomes.

Examining the association between patients' perceptions of the cultural competence of their physician and patient satisfaction, Ohana and Mash's (2015) findings

from 417 patients who participated in the study showed high correlations ($r = 0.87$, $p < 0.01$) between patients' perceptions of the cultural competence of their physician and patient satisfaction. Another significant correlation was between patient satisfaction and patients' perceptions of cultural knowledge ($r = 0.97$, $p < 0.01$) and ability ($r = 0.94$, $p < 0.01$) of their physicians. Last, a significant correlation was found between patient satisfaction and communication between physicians ($r = 0.80$, $p < 0.01$). These results were directly linked to 48% of poor communication, which caused patient dissatisfaction toward patients' overall medical treatments (Ohana & Mash, 2015, p. 927).

Cultural competency and patient outcomes were divided into three categories at the individual level: patient, provider, and health service access and utilization. Truong et al. (2014) used patient navigators as the primary components measured for health service access and utilization outcomes and a weak effect was the result between the level of cultural competency and patient outcomes. Vogus and McClelland (2016) suggested other hospital measures may be necessary to justify the impact of cultural competence based on the various levels of healthcare. Dreachslin et al. (2017) used the National Diversity Demonstration Project to measure cultural competency and found Hispanics, Asians, and African Americans were the majority of patients experiencing difficulties in communicating with their physicians. The authors pointed out, Asian Americans reported physicians did not take the time to acknowledge or understand their culture and values. McKesey et al. (2017) reported that health disparities still exist among underrepresented minorities, specifically during patient-physician interactions. In the results for morbidity and mortality in skin cancer, ethnic minorities' survival rate for

African Americans was 69% compared to 93.6% for Caucasians, partially due to inadequate access to health care and patient mistrust of the healthcare system (McKesey et al., 2017). Similarly, Vogus and McClelland (2016) asserted the quality of health services associated with patient satisfaction had rapidly become an effective strategy for healthcare organizations to address health disparities. Vogus and McClelland (2016) measured the interaction of providers and results in reduced health disparities but neglected to incorporate cultural competency at the inpatient care level. However, the authors did not offer any evidence of the effectiveness of patient-provider interactions of diverse populations associated with patient satisfaction. Therefore, researchers had concluded that cultural competency at the individual level reduced health disparities within the diverse patient population.

Patient satisfaction.

The patient's satisfaction with provider interaction, adherence to treatment, and delivery of care all take part in the results of patient outcomes. Two studies examined the relationship between competency and patient health outcomes, specifically patient satisfaction (Alizadeh & Chavan, 2016; Carter & Silverman, 2016). Alizadeh and Chavan (2016) measured cultural competency at the individual level and measured in relationship to the outcome of patient satisfaction among the patient ethnic groups of 69% Caucasian Americans, 85% African Americans, 69% Latino(a) Caucasian Hispanics and non-Caucasian Hispanics, 54% Asian Americans, and 38% Native Americans and concluded patient satisfaction remains a significant health outcome. Alizadeh and Chavan (2016) reported the following improvements: patient satisfaction increased by

92%, patient trust increased by 15%, adherence to treatment by 7.7%, and health outcomes by 7.7%. The impact of providers' cultural competence and patient trust showed positive correlations of 15%, and the results of hospitals with higher degrees of cultural competence showed a slight increase of patient adherence to treatments by 7.7% (Alizadeh & Chavan, 2016). Whereas, Carter and Silverman (2016) measured between hospital sizes and patient satisfaction and found that the size of hospitals had a weak association with patient satisfaction with a correlation of –0.141. The researcher's comparable findings concluded when physicians and patients were from the same cultural backgrounds, the patient-provider encounter gap was reduced, which led to an increase in patient satisfaction. In healthcare organizations seeking to improve patient satisfaction, Ohana and Mash (2015) highlighted physicians need to provide patients more opportunities for involvement during medical treatment. Healthcare providers that allotted for more time during patient-provider encounters to thoroughly explain and answer any questions the patients or families had, contributed to an increase in patient satisfaction (Ohana & Mash, 2015). These studies that have examined cultural competency at the individual level acknowledged a gap remained in identifying the effects of cultural competency with performance metrics.

Cultural competence measured at the individual level included provider and patient encounters. Patient satisfaction of care was one component that was a part of health outcomes, and limited studies explored how those performance measures were associated with cultural competency. The included studies demonstrated growing evidence of the challenges and benefits of cultural competency in healthcare. As a result,

patients should be more involved and respected as team members with improvements in the quality of care. Therefore, when physicians increase acknowledgment of patients' cultures, the patients gain substantial benefits with improvements toward medical care and treatment plans.

Patient-centered approach.

Although in the past, healthcare providers were the main focus of healthcare, there have been studies that show the importance of patient-centered care (Dupree, Anderson, & Nash, 2011; Tzelepis, Sanson-Fisher, Zucca, & Fradgley, 2015). As the complexity of healthcare is increasing, the importance of hospitals becoming more culturally competent includes a focus on patient-centeredness. Patient-centered care was defined by the Institute of Medicine (IOM) as patients' values and preferences for decision making toward improving healthcare quality (Tzelepis et al., 2015). Dupree et al. (2011) described patient-centeredness as the design of care focused on the patients' interests and needs used to measure the quality of care.

Researchers have studied patient-centered care and cultural competency combined to measure outcomes and healthcare quality. Brathwaite and Majumdar (2006) incorporated patient-centeredness into the strategy for healthcare organizations to meet the needs of diverse patients and cultural competence of healthcare workers and found that cultural competence among 76 nurses increased their cultural awareness and knowledge ($P < 0.02$). In a similar study, Renzaho, Romios, Crock, and Sonderland (2013) assessed cultural competence patient-centered care programs and found providers

increased in knowledge, awareness, and cultural sensitivity. However, no significant findings were identified for improved patient health outcomes.

Two studies examined patient-centered care experiences as evaluated measures. Hasnain, Connell, Menon, and Tranmer (2011) examined patient-centered care experiences and provider cultural competency and found the majority (93.8%) of Muslim women patients reported that their healthcare provider did not understand their religious and cultural needs. Michalopoulou, Falzarano, Arfken, and Rosenberg (2010) also focused on patient-centered care experiences, but the difference was with African American patients and found significant progress for patients who regularly saw their physicians ($P = 0.014$) and no improvements in provider cultural competency. However, there was a limitation due to small sample size ($n = 64$). In contrast to patient-centered care experiences, Cooper et al. (2011) compared the effectiveness of patient-centered intervention between 279 hypertension patients and 41 primary care providers and found providers had a positive connection with communication (-0.52 vs. -0.82, $P = 0.04$). Last, Jolley et al. (2017) evaluated hospital performance measures from a patient-centered aspect, and no association with healthcare quality was observed. However, the patient-centered approach assisted healthcare providers on how to build a productive relationship with their patients to bridge cultural differences.

Both cultural competency and patient-centered approach focused on improving healthcare with an emphasis on patient-centered care. Researchers have presented some evidence of the benefits of using patient-centered approach. When patients' contributions were invited, the cultural competencies and knowledge of healthcare providers increased

(Betancourt et al., 2016). Healthcare providers should incorporate cultural competency into patient-centered care to provide high-quality healthcare. The patient-centered approach could help change the way healthcare organizations operate around the world. Patient-centered care was considered a high priority for transforming the levels of cultural competency in healthcare. Patient health outcomes, such as patient satisfaction and the patient-centered approach were effective ways for improving healthcare quality.

Hospital Cultural Competency Scores (Independent Variable)

The initial healthcare encounter, in which the doctor communicates with patients sets the tone for an evolving dialogue throughout the process of care (Dupree et al., 2011). Doctor communication was defined as the measure to highlight the importance of patients and their families achieving goals for health care and reducing the risk of errors that may harm the patient during the patient-provider interaction, which includes an exchange of information verbally during an inpatient hospital stay (Dupree et al., 2011). HCAHPS doctor communication question 5 is the following: Question 5: During this hospital stay, how often did doctors treat you with courtesy and respect? (HCAHPS, 2017, p. 2). The patient response options range from 1 being the lowest to 4 being the highest, 1 = Never, 2 = Sometimes, 3 = Usually, and 4 = Always. Several studies have used the HCAHPS doctor communication measure with results that show negative and positive impacts with various patient health outcomes.

Negative impacts with doctor communication measure.

Many negative impacts with communication between providers and patients included the following: provider prejudice and bias (Nelson, 2002), communication

failures, and adverse events were components impacted by the quality of patient-provider relationships (Leape et al., 2009). Based on previous research, Baldwin (2003) found 25% of African American patients and 16% of Hispanic patients made complaints about their health care providers regarding the following issues: doctors failing to provide complete information, rushed through their appointment, there was not sufficient time spent with them, and insensitivity as a result of racial bias and discrimination. Another complaint noted by Levinson, Lesser, and Epstein (2010) was doctors did not listen carefully to the patient's concerns. With similar findings, Brach and Fraser (2002) found the lack of effective communication among physicians had negative impacts on patient utilization and satisfaction for one in five Americans who received healthcare, and for 27% of Asian Americans, and 33% of Hispanics (p. 16).

The doctors that patients encountered during their hospital care were considered critical in providing safe, quality care and reported severe consequences that occurred when communication between patients and healthcare providers was not clear (Dupree et al., 2011). Conversely, Levinson, Roter, Mullooly, Dull, and Frankel (1997) evaluated the communication between primary care physicians and hospital malpractice and found a shorter duration of time (15.0 minutes versus 18.3 minutes) during visits increased malpractice threats. As part of the process, the length of patient visits and communication behaviors significantly contributed to the potential of claims (Levinson, et al., 1997). As a result, each patient population cannot possibly be covered by a doctor who communicates in the same language or had the same background. However, the best

strategy to support better doctor communication is patient engagement, getting patients more involved, and participating in the conversations.

Positive impacts with doctor communication measure.

When HCAHPS doctors' communication measures were placed in the center of the healthcare delivery system, a positive impact was achieved. The following studies described how doctor communication improvements positively impacted their hospitals, which showed doctor communications build more trustworthy relationships. Dupree et al. (2011) used the HCAHPS measure to highlight doctor communication as a specification of quality care by associating doctor communication and patient outcomes. Patients and their families were examined to measure doctor communication and, as a result, there was a reduced risk of errors and a decrease in adverse events (Dupree et al., 2011). Leape et al. (2009) also included the doctor communication measure as a priority for quality improvements, and during that transformation, hospitals became more transparent. Berwick's (2009) findings were similar, which showed a positive impact between patients' involvement and direct communication and the delivery of reliable health care.

In contrast, Kachalia et al. (2010) measured the association of doctor communication and monthly rates of liability costs of hospitals and found with effective communication from doctors, liability issues decreased. The before results of liability costs were at a high of 18.91%, and then was reduced to only 7.78% (Kachalia et al., 2010, p. 21). The findings provide evidence that supports when communication is not clear between physicians and patients it leads to patient mistrust, decreased confidence in

the health system, dissatisfaction, and overall poor health outcomes. The goal of doctor communication was intended to keep responsibility for safety with the providers while allowing patients to make informed life decisions by having the option of incorporating their own cultural experiences and knowledge to make informed healthcare decisions. Doctor communication measured as a component of improving quality of care and outcomes included patients' improved communication while building more trustworthy relationships.

Care Transition (Dependent Variable)

Over the past decade, HCAHPS survey results have become an integral part of healthcare organizations measuring hospital quality outcomes and care transition. The care transition measure was created to capture the patient's perspectives and experiences with hospital care (Coleman et al., 2005). Care transition is defined as the process that involves the patients' experiences of transferring between different levels or locations of care during the inpatient hospital stay (Coleman et al., 2005). Question 23 from the HCAHPS (2017) survey is as follows: "During the hospital stay, the staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left" (p. 4). In 2018, the HCAHPS care transition composite measure was added to the hospital survey, and the pain management composite was removed (HCAHPS quality assurance, 2019).

According to Coleman et al. (2005), the importance of healthcare organizations prioritizing the process of care transition to the overall quality measure had been understudied. The care transition questions in the HCAHPS were developed and written

by Coleman, in which the transition of care was clearly defined "as a set of actions designed to ensure the coordination and continuity of care as patients transfer between different locations or different levels of care within the same location" (Coleman et al., 2005, p. 246). Coleman et al. claimed the care transition measure should not primarily be directed toward those who deliver the care but rather change the shift of focus toward patients who are receiving care during those transitions. Volland and Fryda (2015) clarified that accountability for patients does not end at discharge, so the first 30 days after a patient returns home were included in the transition of care measure. The National Transitions of Care Coalition (2019) explained the responsibility of continuity of care should not solely be put upon patients or their families because they may have limited education of the healthcare world or maybe unqualified (Volland & Fryda, 2015). Healthcare delivery systems that did not make efforts toward transition of care process improvements found patient experiences were related to poor quality services, such as inefficient patient education and poor communication (Volland & Fryda, 2015).

Several care transition studies indicated poor clinical outcomes and an increase in readmissions when transition of care process improvements were not attempted. Forster, Murff, Peterson, Gandhi, and Bates (2005) reported the poor clinical outcomes of 400 patients examined, with 45 developing an adverse drug event (incidence = 11%, 95% CI 8% to 14%). Bradley et al. (2012) found a greater number of readmissions for patients with heart failure (87%) than patients with acute myocardial infarction (54%). Hasan et al. (2010) reported 17.5% of patients were readmitted based on these factors: current length of stay greater than 2 days, insurance status, marital status, and had a regular

physician. Jencks, Williams, and Coleman (2009) found almost one-fifth (19.6%) of the 11,855,702 Medicare beneficiaries who had been discharged from a hospital were rehospitalized within 30 days, 34% were rehospitalized within 90 days, 67.1% of patients were discharged with medical conditions, and 51.5% of patients who were discharged after surgical procedures were hospitalized or died within the first year after discharge.

Multiple studies have included the HCAHPS care transition measure as part of the process when evaluating healthcare services. Chan et al. (2015) used the care transition to measure patient experience among older, ethnically and linguistically diverse adults receiving care at safety-net hospitals. Of the 616 participants, the transition of care intervention did not improve patient discharge experiences (Chan et al., 2015). Reichard, Savage, and Eckel (2015) used the transition of care measure with patient satisfaction scores to assess a new transition care program and concluded that results from the Press Ganey dataset for surgery transplant service were significant to show that transition of care can be measured ($p = 0.0426$); however, the HCAHPS scores proved inconclusive. Thiels et al. (2016) also measured the transition of care among patients and surgeries but focused on patients undergoing elective colorectal operations and found that of the 755 patients, there were low scores ($p < 0.05$) relating to patients with inflammatory bowel disease. Volland and Fryda (2015) used the aggregate box score, which is the overall percentage for a particular measure, care transition measure with providers delivering patient-centered and safe care. Based on hospital type for the care transition measure, their results indicated that specialty hospitals performed better (with an aggregated box score of 59.6%), compared to nonspecialty hospitals (with an aggregated box score of

50.4%), leading the researchers to conclude that the measure is effective for transforming care transition patient feedback.

Currently available healthcare surveys have not adequately defined or addressed the transition of care from a patient's perspective. Similar process of care results from two studies in which the HCAHPS care transition measure was not used and that instead focused on the discharge process of care (Foust, Vuckovic, & Henriquez, 2012; Jencks, Williams, & Coleman, 2009). The discharge process was included in the complex transition of hospital care, and the results showed that during that timeframe, patients often experienced poor health outcomes (Foust et al., 2012; Jencks et al., 2009). During the transition of care, Foust et al. (2012) found patients often experienced adverse events, and Jencks et al. (2009) found an increase of patients with treatment failures. As hospital administrators are continually seeking strategies to improve the quality of care patients receive, the focus on care transition during and after hospital care had provided meaningful insight into improvements created to align with the patient-centered quality of care.

Patient Experience (Dependent Variable)

Measuring and understanding the overall patient experience of care not only provided an outlet for comparisons to be made among hospitals but also allowed patients to be more involved with making educated decisions about their healthcare. Patient experience had become an essential component for measuring health care quality. The IOM (2001) and the World Health Organization (2019) highlighted new incentives put into place for hospitals to increase quality improvements with patient experiences. In

1985, the patient experience measure was developed and was implemented in the first hospital patient survey (Salinas, 2017). HCAHPS (HCAHPS fact sheet, 2019) defined patient experience as the range of interactions patients had within the acute care hospital, whether with doctors or other healthcare professionals, during an inpatient stay. HCAHPS survey questions allow patients to measure their overall patient experience of care during an overnight hospital stay. Question 21 from the HCAHPS (2017) survey is: "Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?" (p. 3).

Issac, Zaslavsky, Cleary, and Landon (2010) found a positive relationship between patient experience and the HCAHPS overall rating of the hospital. Other studies have addressed the effect of the HCAHPS overall hospital rating as an outcome variable to measure patient experience between safety-net hospitals and non-safety-net hospitals, finding the greatest difference was in overall hospital rating where patients in safety-net hospitals were less likely to rate the hospital a 9 or 10 compared with patients in non-safety hospitals (63.9% versus 69.5%; $p < .001$; Chatterjee, Joynt, Orav, & Jha, 2012). Similarly, McClelland and Vogus (2014) measured the benefits of compassion practices and overall hospital rating and found compassion practices were significantly and positively associated with hospital ratings ($B = 0.128$, $p < .05$).

In three separate studies, researchers examined the relationship between overall hospital rating and clinical outcomes in lumbar spine surgery (Levin et al., 2017), the relationship between global hospital rating measure and prolonged length of hospital stay

greater than 7 days (Thiels et al., 2016), and the association between organizational factors and patients' overall rating of inpatient hospital care (Kemp, Chan, McCormack, & Douglas-England, 2015). These studies focused on the HCAHPS overall hospital rating, but none have been conducted to examine the relationship between cultural competency and overall hospital rating. The patient experience outcome of the HCAHPS overall hospital rating measure from these studies was minimal; therefore, similar patient experience measures were explored.

The benefits of using other patient experiences as outcomes have been well documented. Dupree et al. (2011) found patient experiences were the most critical association to hospital outcomes. Patients were seen as the experts of their health conditions, which involved the evolution of symptoms and treatment adherence (Dupree et al., 2011). Quality improvement strategies proposed by Carrus, Cordina, Gretz, and Neher (2015) and Elliot, Kanouse, Edwards, and Hilborne (2009) included patients' knowledge as a contributing factor for measuring patient experiences instead of solely focusing on healthcare providers. Coulter's (2006) findings showed successful improvements toward treatment and the overall quality of hospital care were associated with improved patient experiences from a General Medical Council survey, with 9 of 10 respondents rating them as very important for influencing their confidence in physicians as a patient. Jha, Orav, Zheng, and Epstein (2008) similarly concluded patient experiences were associated with hospital quality measures with specific clinical conditions. They found that 67.4% of hospital patients said they would definitely recommend the hospital when clinical conditions with high levels of satisfaction with

care were present. Their results showed a high correlation among the measures of patients' experiences (Cronbach's alpha = 0.94), acute myocardial infarction, 95.8% versus 93.1% ($p < 0.001$); and pneumonia, 90.5% versus 88.6% ($p < 0.001$).

CMS also has HCAHPS star ratings from the patients survey results, which are available to help patients decide which hospital could provide them the best service and care. The ratings are based on individual scores of HCAHPS composite measures ("HCAHPS fact sheet," 2019). The star ratings goes up from one to five stars, with five stars being the highest and one star being the lowest possible score. In previous studies, HCAHPS star ratings were used to measure patient experiences, researchers examined the relationship patients undergoing elective colorectal operations and patient experiences (Thiels et al., 2016), the relationship between star ratings and clinical outcomes (Trzeciak, Gaughan, Bosire, & Mazzarelli, 2016), and the association between hospital Yelp scores and HCAHPS overall hospital rating (Bardach, Asteria-Penaloza, Boscardin, & Dudley, 2013). These studies focused on the HCAHPS star rating, but none have been conducted to examine the relationship between cultural competency and patient experience as outcomes.

In contrast, Salinas (2017) reported the HCAHPS survey results of patient experiences affected hospitals in two significant ways: financial risks and increased transparency of hospital performance scores. Salinas found financial risks were related to poor patient experiences, with a significant negative correlation ($r = -0.248$) between health care quality and overall patient experience. Salinas also found increased transparency of hospital scores was associated with the inclusion of Medicare's value-

based purchasing program and hospital scores were accessible through the public website, Hospital Compare. Although seven different studies were mentioned that measured patient experience, only six studies included HCAHPS overall hospital rating as the overall patient experience of care measure (Issac et al., 2010; Chatterjee et al., 2012; McClelland & Vogus, 2014; Levin et al., 2017; Thiels et al., 2016; Kemp et al., 2015). The intended goal for the HCAHPS patient experience measure includes transporting patients to the central focus of hospital care in a more meaningful way (Salinas, 2017).

HCAHPS Patient Survey

The HCAHPS (HCAHPS quality assurance, 2019) is a patient survey instrument comprised of 32 questions and used as a data collection method for measuring patient hospital care experiences. The survey questions include 21 substantive items that cover critical aspects of the patients' hospital experience, four screening questions to guide patients to appropriate questions and for analytical purposes, and seven demographic items used for adjusting the mix of patients across hospitals (Medicare, n.d.). The HCAHPS collects survey results from a random sample of patient hospital care experiences. The January 2018 mail version of the HCAHPS hospital survey was administered to patients to collect survey results. The complete wording of all items in the HCAHPS survey can be found in Appendix A. The HCAHPS survey reported results for six composite measures, two individual items, and two global items, as follows:

- composite measures:
  - nurse communication (Questions 1, 2, and 3),

  - doctor communication (Questions, 5, 6, and 7),
  - responsiveness of hospital staff (Questions 4 and 11),
  - communication about medicines (Questions 16 and 17),
  - discharge information (Questions 19 and 20), and
  - care transition (Questions 23, 24, and 25);
- individual items:
  - cleanliness of the hospital environment (Question 8), and
  - quietness of the hospital environment (Question 9); and
- global items:
  - hospital rating (Question 21) and
  - willingness to recommend the hospital (Question 22).

It had always been a top priority for hospitals to provide high-quality patient experiences. Before 2008, there was no other survey instrument or data collection available to measure hospital care from a patients' perspective (Darby, Hays, & Kletke, 2005). Beattie, Murphy, Atherton, and Lauder (2015) tested 11 patient experience survey instruments to measure patient experience of healthcare quality in hospitals and found the HCAHPS was one of the few to demonstrate high reliability and validity (i.e., internal consistency: Cronbach's alpha = 0.70, reliability intraclass correlation = 0.70, and structural validity from seven categories for 16 items = 0.57-91).

The HCAHPS (HCAHPS quality assurance, 2019) survey is important and had three goals: (a) the design of the survey produces data concerning patients' perspectives of care that allow objective and meaningful comparisons among hospitals on topics that

are important to patients; (b) the surveys are reported publicly, which creates an incentive for hospitals to improve the quality of care; and (c) the requirement of public reporting enriches public accountability, which increases health care transparency. Now that CMS is associating reimbursements with HCAHPS scores, it is becoming a value to consumers, healthcare leaders, and researchers (Elliot et al., 2010).

The HCAHPS (HCAHPS quality assurance, 2019) *Quality Assurance Guidelines Version 14.0*, as reflected in Figure 3, displays the important dates of the HCAHPS development, data collection, and public reporting by year.

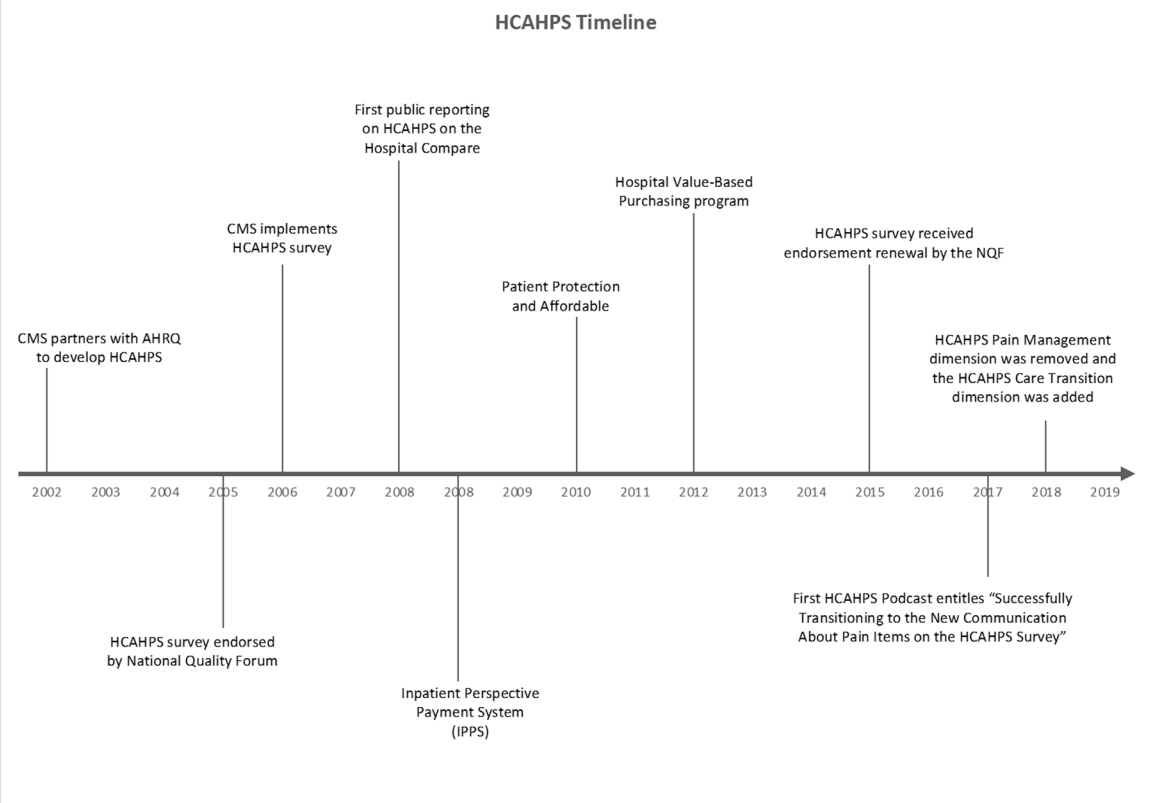

Figure 3. HCAHPS timeline.

The full details of the HCAHPS timeline can be found in Appendix B. The HCAHPS survey results are reported quarterly and available to the public on the Hospital

Compare website (Medicare, n.d.). This website provides patients the ability to search hospital quality measure results among various hospitals as a guide to making comparisons for hospital selections.

Donabedian's Lasting Framework for Health Care Quality

The lasting framework for health care quality, developed by Donabedian (1988) consist of the three key components of structure, process, and outcome, which are well known for measuring healthcare quality. Donabedian (2005) combined these three components to measure quality and concluded the structure measure had an impact on the process measure, which then affected the outcome measures. Ultimately, the outcome measure was found to be the most important because it validated the effectiveness and quality of healthcare (Weech-Maldonado et al., 2012). Specific to measuring healthcare qualities, the structure defines the capabilities and qualifications of healthcare professionals, providers, staff, and healthcare systems (Ahmed et al., 2018). The process is the measure of the steps necessary to provide patient care, while the outcome is the measure of patients' hospital care experiences (Donabedian, 1988). Figure 4 shows Donabedian's lasting framework for health care quality grouped into the three components: (a) structure, (b) process, and (c) outcome.

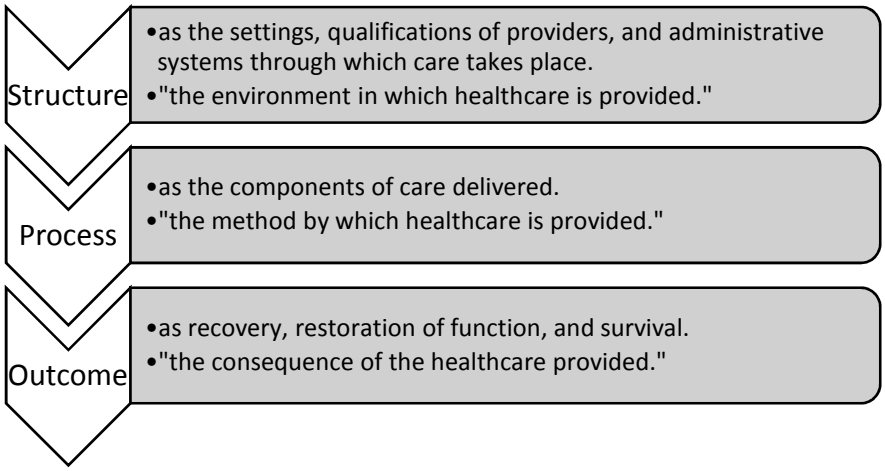

Figure 4. Donabedian's lasting framework for health care quality (Ayanian & Markel, 2016, p. 206; Rademakers et al., 2011, p. 326)

Several authors have successfully used Donabedian's lasting framework for health care quality as a useful guide for measuring healthcare quality measures. Weech-Maldonado et al. (2012) used the Donabedian framework as a structural component to measure hospital cultural competency. Stimpfel, Sloane, McHugh, and Aiken (2016) also used the structural component but instead evaluated hospital policies and practices that involved the delivery and needs of health care services to diverse populations, which included culturally competent training to staff and appropriate interpreters and translation services. Carter and Silverman (2016) and Dupree et al. (2011) used the transition of care component as a measure to evaluate the process in hospital care. For the outcome component, Stimpfel et al. (2016) and Tsai, Orav, and Jha (2015) used patient satisfaction as a measure for health outcomes. The framework has been shown to be beneficial for assisting healthcare organizations when measuring the transition of care and patients' health outcomes as well as relating to the process of hospital care.

Campinha-Bacote's Model of Cultural Competence in Health Care

The model of cultural competency in health care was developed by Campinha-Bacote (1999, 2002) to guide providers in such a way to succeed at learning to become culturally competent. Campinha-Bacote believed that a healthcare organization explicitly focused on providers could succeed at learning or performing a specific skill to achieve outcomes. The central concept of model of cultural competency in health care is learning through experience, and the model includes five interdependent constructs directly related to hospital quality outcomes (Campinha-Bacote, 1999). Initially, Campinha-Bacote's earlier model only consisted of four constructs: (a) cultural awareness, (b) cultural knowledge, (c) cultural skill, and (d) cultural encounters. A few years later, the fifth construct of cultural desire was added (Bauer & Bai, 2015; Campinha-Bacote, 1999).

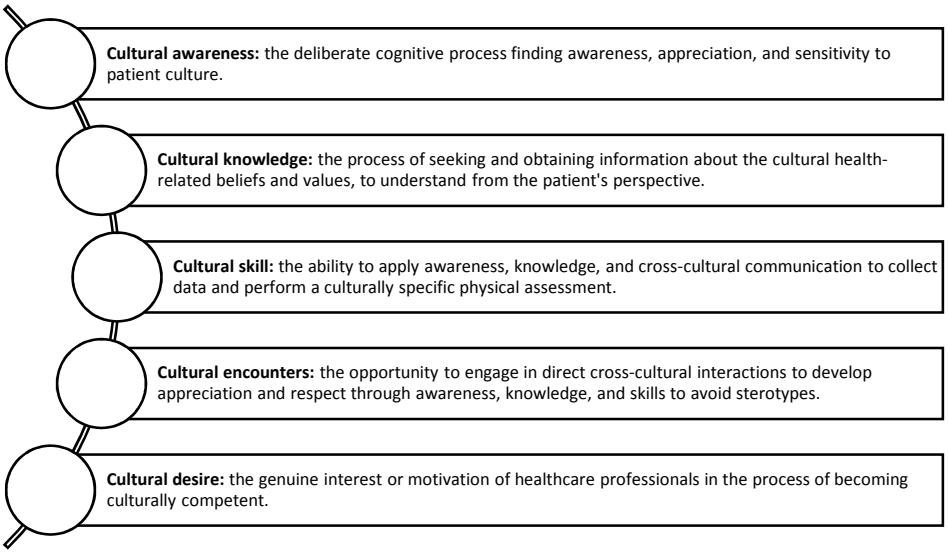

Figure 5. Campinha-Bacote's model of cultural competence in health care.

According to Campinha-Bacote (1999, 2011) and others (Bauer & Bai, 2015; Purnell, 2005), the five constructs of cultural competence were defined for the healthcare environment. Figure 5 displays Campinha-Bacote's five constructs for the model of cultural competence in health care (Bauer & Bai, 2015; Campinha-Bacote, 1999, 2011; Purnell, 2005). Cultural awareness was defined as the deliberate cognitive process finding awareness, appreciation, and sensitivity to patient culture (Campinha-Bacote, 1999, 2011). Cultural knowledge involved the process of seeking and obtaining information about the cultural health-related beliefs and values (Bauer & Bai, 2015) to understand from the patient's perspective (Campinha-Bacote, 1999). The cultural skill was described as the ability to apply awareness, knowledge, and cross-cultural communication to collect data and perform a culturally specific physical assessment (Bauer & Bai, 2015; Campinha-Bacote, 1999; Purnell, 2005). Cultural encounters were the opportunity to engage in direct cross-cultural interactions to develop appreciation and respect through awareness, knowledge, and skills to avoid stereotypes (Bauer & Bai, 2015; Campinha-Bacote, 1999). The cultural desire was the genuine interest or motivation of healthcare professionals in the process of becoming culturally competent (Bauer & Bai, 2015; Campinha-Bacote, 1999).

Cultural competency was addressed as the most influential component for providing adequate healthcare services to a culturally and ethnically diverse patient population. Campinha-Bacote's cultural competence in the health care model showed how the cultural competency process worked and how it assisted healthcare professionals in working effectively with the patients, their families, and the community. The model

included five interdependent concepts (i.e., cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire) related to the doctor communication component measured by the HCAHPS survey. For example, doctors treat patients with courtesy and respect (question 5). Therefore, the model could provide healthcare professionals and researchers a useful model for addressing issues revolving around culturally competent hospital care.

Definitions

Acute care hospitals: a short-term inpatient hospital setting, where patients are admitted for medical, surgical, or maternity care at hospitals within the United States (CMS, 2019).

Care transition: the process that involves the patients' experiences of transferring between different levels or locations of care during the inpatient hospital stay (Coleman et al., 2005). Questions 23 *Strongly* agree from the HCAHPS survey was used to generate a care transition score, the dependent variable. Question 23 is the following: "During the hospital stay, the staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left" (HCAHPS, 2017, p. 4).

The variable was measured using a percentage range from 0 – 100. For question 23, the patient response options are 1 = Strongly disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly agree.

Cultural competence: the ability and willingness of an individual to be open and respectful of different cultural perspectives when interacting with others from a diverse

background. Specific to cultural competence in healthcare is healthcare strategy to address racial and ethnic disparities and reduce cultural and linguistic barriers between providers and patients on the delivery of health services (McCalman et al., 2017; Weech-Maldonado et al., 2012, 2018). Question 5 from the HCAHPS survey was used to generate a hospital cultural competency score, the independent variable.

Doctor communication: the measure highlights the importance of patients and their families achieving goals for health care and reducing the risk of errors that may harm the patient during the patient-provider interaction, which includes an exchange of information verbally during an inpatient hospital stay (Dupree et al., 2011). Question 5 is the following: "During this hospital stay, how often did doctors treat you with courtesy and respect?" (HCAHPS, 2017, p. 2). The patient response options range from 1 being the lowest to 4 being the highest, 1 = Never, 2 = Sometimes, 3 = Usually, and 4 = Always. The results from question 5, using the percent scale value that answered *Always* was used to generate a hospital cultural competency score for each hospital. The variable was measured using a percentage range from 0 – 100. The following range of values was used to determine the hospital's level of cultural competency: ≤ 74 (low) and ≥ 75 (high).

Hospital quality measures: the results of hospitals' quality of care through hospital performance from the patients' perspectives. The two specific HCAHPS survey composite measures care transition and overall hospital rating, was used to examine the patients' hospital care experience (HCAHPS, 2017).

Patient experience: the range of interactions patients have within the hospital, with doctors and other healthcare professionals during an inpatient stay at an acute care

hospital (HCAHPS fact sheet, 2019). The global domain, Question 21, patients who gave the hospital *rating of 9 or 10* from the HCAHPS survey, was used to generate an overall patient experience of care score, the other dependent variable. Question 21: "Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?" (HCAHPS, 2017, p. 3). The patient response rating options are 0 (worst hospital possible) – 10 (best hospital possible). The variable was measured using a percentage range from 0 – 100.

The Center for Medicare and Medicaid Services (CMS): The federal agency that is in charge of the Medicare program and collaborates with other states to oversee the Medicaid program to make sure the consumers receive the highest quality of care (CMS, 2006).

Assumptions

The HCAHPS hospital survey was completed by patients who received inpatient hospital care. The assumption is that the patients honestly answered the questions to the best of their knowledge without influence in any manner. I also assumed that the patients answering the questions understood the issues and intent of each question. Another assumption is the research problem and questions were bounded by Campinha-Bacote's model of cultural competence in healthcare and Donabedian's lasting framework for health care quality. If the assumption is wrong, this could impact the research interpretation. Donabedian's lasting framework for health care quality includes three components: structure, process, and outcome. The cultural competence model is used for the hospital cultural competency structural component; the process relates to what

healthcare providers and administrators do to maintain or improve the quality of care, and the outcome relates to the specific hospital quality measure outcomes.

Limitations

One limitation of this study involves using the HCAHPS survey. The survey is used to measure hospital outcomes in a multiple-choice format. Patients who participate in this survey may have a low level of literacy; therefore, they may not fully reflect patient feedback preferences. The limitation encompasses the method of how the HCAHPS survey is administered. The HCAHPS survey results are available by telephone and mail. From previous research, Kemp et al. (2015) have indicated that the mode of administration impacts the responses, with telephone respondents typically reporting more positive experiences. Prior to the analysis, the data I used was adjusted by HCAHPS patient-mix and mode of data collection.

The limitations of the instrument include external and internal validity. The external validity of the study was supported by the sample population of representatives of hospitals across the United States. All acute care hospitals within the United States that have completed the HCAHPS survey were included. However, hospitals were removed that did not have a significant number of responses for the following: "Always" for *During this hospital stay, how often did doctors treat you with courtesy and respect?*; "Strongly agree" for *During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left.*; and "Ratings of 9 or 10" for *What number would you use to rate this hospital during your stay?* (0 = worst, 10 = best).

The instrumentation could be considered a risk, as the hospital administrator must maintain a strict commitment to the script of the survey. The patients must complete the survey questions according to the instructed process. The selection of patients for the HCAHPS survey could also be considered a risk to internal validity. The randomization of patients is designed to prevent bias, and a range of specific groups can occur. HCAHPS quality assurance and CMS have guidelines to protect against these risks. The HCAHPS survey had built-in adjustments in the calculation to avoid survey response bias ("HCAHPS fact sheet," 2019). Despite these limitations, this study could represent an important contribution to the literature on hospital cultural competency and hospital quality measures.

Scope and Delimitations

The scope of this study was limited to the use of comparing hospitals that participated in the HCAHPS hospital survey available on the Hospital Compare website. The secondary data was analyzed and taken from the Hospital Compare website; the dataset is publicly available for all researchers and consumers to use. The analysis was only limited to acute care hospitals in the United States that have adequate data components. Hospitals were removed that did not have a significant number of responses for the following: "Always" for *During this hospital stay, how often did doctors treat you with courtesy and respect?*; "Strongly agree" for *During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left.*; and "Ratings of 9 or 10" for *What number would you use to rate this hospital during your stay?*(0 = worst, 10 = best).

Significance

Cultural competency is designed to support healthcare organizations for responding to demographic changes in the United States. The CLAS standards support healthcare organizations on how to provide culturally and linguistically appropriate services. The organization and individual levels of a healthcare organization could help to identify strategies to gain a better understanding of the importance of cultural competency. Cultural competency and specific hospital quality measures may work effectively together to improve the overall quality of care (Ahmed et al., 2018). Identifying if cultural competency translates into quality measures could contribute to optimizing patient care and address the problem of healthcare organizations having little evidence on how cultural competency impacts hospital quality measures (i.e., care transition and overall hospital rating). Healthcare administrators report HCAHPS survey results to CMS each year, and results are displayed quarterly on the Hospital Compare website ("HCAHPS fact sheet," 2019). The findings of this research could lead to positive social change for healthcare administrators by developing a better understanding of how cultural competency can lead to developing a more effective healthcare organization with improved quality of care. The outcome could fill the gap and provide researchers and healthcare administrators evidence of whether cultural competency relates to hospital quality outcomes.

Summary and Conclusion

In the United States, the diverse population continues to proliferate, and there was evidence that diverse patients may still be experiencing an inadequate quality of care,

which could be influenced by a lack of cultural competency within the healthcare organization. The literature covers how researchers have defined cultural competency over the years. As the demographics are changing, the CLAS standards were designed to support healthcare providers and organizations to meet the cultural and linguistic service needs of their diverse patient populations. The level of cultural competency measured at the organization level was observed to gain a better understanding of which healthcare outcomes were associated with quality improvements. With the increased transparency of hospital survey scores and incentives tied to hospital reimbursements, healthcare organizations should focus on patient-centered care and patient outcomes for improvements directed to evaluating hospital quality outcomes. The initial healthcare encounter, described as the doctor's communication between patients sets the tone for an evolving dialogue throughout the process of care, had negative and positive impacts. As hospital administrators are continually seeking strategies to improve the quality patients receive, the focus of care transition during and after hospital care had provided meaningful insight into improvements created to align with the patient-centered quality of care. Although many different studies were mentioned for measuring patient experience, only six studies included the overall patient experience of care measure, HCAHPS overall hospital rating (Issac et al., 2010; Chatterjee et al., 2012; McClelland & Vogus, 2014; Levin et al., 2017; Thiels et al., 2016; Kemp et al., 2015). The relationship between cultural competency and racial and ethnic disparities, patient satisfaction outcomes were well documented. The relationship between cultural competency and

hospital quality measures (i.e., care transition and overall hospital rating) had not been not studied.

Given the importance of hospital cultural competency, having public data and, incorporating HCAHPS quality measures results in patients' hospital experience may be a crucial part of providing the highest quality care. For healthcare administrators to implement the most effective and safest delivery of care for patients within acute care hospitals, identifying the importance of having culturally competent providers and the overall healthcare system support the problem of organizations having little evidence on how cultural competency impacts hospital quality measures. Therefore, hospital care may need to focus more on improving cultural competence, becoming more patient-centered by involving and empowering patients; hospital survey results of patient experiences could help close the gap between a lack of cultural competency and hospital quality measures. In Section 2, the simple linear regression research design, methodology, data analysis, and threats to validity was addressed.

Section 2: Research Design and Data Collection

The purpose of this quantitative study was to explore the relationship between hospital cultural competency and hospital quality measure outcomes. According to the CLAS standards, healthcare providers and organizations have the responsibility to meet the cultural and linguistic service needs of their diverse patient populations. The HCAHPS survey, reported by the CMS, covers critical qualities of a patient's hospital experience that was used for the secondary dataset. For the primary analysis, RQ1: What is the relationship between acute care hospital cultural competency and care transition, as measured by HCAHPS?; and RQ2: What is the relationship between acute care hospital cultural competency and patients' overall experience with care, as measured by HCAHPS?, I used the cultural competency scores to compare with the hospital quality measures. I performed a simple linear regression analysis to explore if there are a relationship between acute care hospital cultural competency and hospital quality processes and outcomes measured by the HCAHPS survey. For the second analysis, an independent sample *t*-test also is performed to explore if there are a difference between California acute care hospitals compared to other state's acute care hospitals. The smaller population of California is examined to show how different population sizes may impact cultural competency scores. The California Hospital Association (2020) stated California's current average response rate on the HCAHPS survey is 24.2%, compared to the national average of 28.2%, results were tied to the states diverse population.

According to the U.S. Census Bureau (2019), California is the most diverse state in the nation. California's population of 39 million people had become a "minority-

majority" state with 39.3% of Hispanics, 36.8% of Caucasians, 15.3% of Asian Americans, 6.5% of African Americans, 1.6% of American Indian and Alaska Natives, and 0.5% of Native Hawaiian and other Pacific Islanders (Census Bureau, 2019). A previous study by Weech-Maldonado et al. (2012) was used to examine the impact of cultural competency on hospital performance metrics with CCATH survey and found a positive relationship between hospital cultural competency and inpatient experiences with care in California hospitals.

The Donabedian framework, well known for measuring healthcare quality, is used as an outline in the study to display the importance of how each component works together in the healthcare field. The three components from the Donabedian framework is applied in the study as follows: hospital cultural competency (structure), the HCAHPS care transition measure (process), and the HCAHPS overall hospital rating (outcome). In addition, I used the Campinha-Bacote's model of cultural competence in health care to analyze the five constructs designed for formulating the definition of cultural competency in healthcare, which was used to select the hospital cultural competency measure. The outcome provided researchers and healthcare professionals evidence of whether cultural competency relates to hospital quality outcomes. In this section, I present the research design, the methodology, HCAHPS survey, the variables (i.e., cultural competency, care transition, and patient experience), threats to external, and internal validity and ethical agreements.

Research Design and Rationale

A quantitative design is used to explore the relationship between hospital cultural competency and hospital quality measures. The analysis was conducted with secondary data gathered from the HCAHPS survey dataset, which is reported publicly on the Hospital Compare website. The use of secondary data supported the elimination of any time constraints. For the primary analysis, I used the cultural competency scores to compare with the hospital quality measures. I performed a simple linear regression analysis to explore if there is a relationship between acute care hospital cultural competency and hospital quality process and outcomes measured by the HCAHPS survey. Simple linear regression is used to predict, correlate, and summarize the relationship between two continuous variables (Godfrey, 1985). Regression can also predict the change in the outcome variable associated with a particular change in the predictor variable (Godfrey, 1985). The independent variable for this study was hospital cultural competency scores, HCAHPS doctor communication (scale). The dependent variables were hospital quality process and outcome measures that consist of two areas of patient experience: HCAHPS care transition (scale) and HCAHPS overall hospital rating (scale). The results of the regression analysis connected to the first and second research questions of whether there is a relationship between acute care hospital cultural competency, care transition, and overall hospital rating, as measured by the HCAHPS. For the second analysis, I also performed an independent sample *t*-test for the third research question to explore if there is a difference between California acute care hospitals compared to other state's acute care hospitals. The independent sample *t*-test is

used to compare the means between two independent groups on the same dependent variable (Gerald, 2018).

Using Donabedian's lasting framework for health care quality integrated with Campinha-Bacote's model of cultural competence in health care, I analyzed the relationship between hospital cultural competency and hospital quality measures. The three components from the Donabedian framework (i.e., structure, process, and outcome) are applied in the study as follows: hospital cultural competency, the HCAHPS doctor communication measure (structure), the HCAHPS care transition measure (process), and the HCAHPS overall hospital rating (outcome). In Campinha-Bacote's model, the ongoing process of providers includes five interdependent concepts (i.e., cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire) regardless of where the provider begins the process. The structure, process, and outcomes of health care are examined interdependently to examine whether those components improve the overall quality of care.

Methodology

Population

The target population consisted of all short-term, acute care hospitals in the United States. For RQ3, the population was divided into two specific groups, California hospitals and other state's hospitals (i.e., all hospitals in the U.S. excluding California). As of October 2019, the population size of 4,482 hospitals publicly reported HCAHPS scores ("HCAHPS fact sheet," 2019). According to the HCAHPS summary analyses,

324 hospitals from California were among those that participated in the study (HCAHPS, 2017).

Sampling and Sampling Procedures

The CMS implements the adult version of the HCAHPS nationally. The random sampling method is used as the sampling strategy for the HCAHPS dataset ("HCAHPS fact sheet," 2019). The specific procedure for how the sample was drawn included a random sample of inpatients discharged within 48 hours to 6 weeks of hospitalization for medical, surgical, or maternity care. The randomization of patients is designed to prevent bias, and a range of specific groups can occur. The HCAHPS survey had built-in adjustments in the calculation to avoid survey responses bias ("HCAHPS fact sheet," 2019). The sampling frame for this study are the same as the HCAHPS sampling frame, which includes all hospitals in the United States that meet the inclusion criteria: (a) patients age 18 or older; (b) inpatient stay of one night or longer; (c) admitted for medical, surgical, or maternity care; and (d) completed the HCAHPS survey between October 2018 and September 2019. The exclusion criteria were (a) patients who have a foreign home address, (b) discharged to hospice care, nursing home or a skilled nursing facility, and (c) discharged to law enforcement. For this study exclusions included any pediatric, psychiatric, and specialty hospitals. HCAHPS is associated with the U.S. government, in which the procedure for gaining access to the dataset is publicly available by CMS on the Hospital Compare website. These data are available for researchers at no charge, and additional permission for access is not required ("HCAHPS fact sheet," 2019).

The participants for this study were explicitly for adult patients 18 years and older that were admitted for medical, surgical, or maternity care and participated in the HCAHPS survey between October 2018 and September 2019 about their experience with care provided in an inpatient setting. All HCAHPS data outside of this date range were omitted for this study. The sampling procedures for inclusion include the following: the survey process by mail, mail with telephone follow-up, telephone, or interactive voice response. All acute care hospitals that had completed the HCAHPS survey questions for the following domains was used: doctor communication (Question 5), care transition (Question 23), and overall hospital rating (Question 21).

Sample Size

Research studies show that using the GPower software program can make online research easier for performing various types of power analysis (Mayr, Erdfelder, Buchner, & Faul, 2007). Therefore, I downloaded the free GPower software (version 3.1), a general power analysis program designed for the Mac operating system. The GPower software tool is used to calculate the following sample sizes.

I performed the selected type of power analysis as a priori, which was stated by Mayr et al. (2007) to assist with determining what sample size is necessary to detect some level of effect with inferential statistics and Faul, Erdfelder, Lang, & Buchner (2007) provided an efficient method of controlling statistical power. The simple linear regression is chosen as the study design to effectively analyze sample size, whereas the other design of an independent sample *t*-test is chosen to find the relationship between two groups. The medium effect size of 0.15, α of 0.05, and a power of 0.95 are chosen

based on previous studies used in social, behavioral, and biomedical sciences (Faul, Erdfelder, Buchner, & Lang, 2009; Mayr et al., 2007).

Using the GPower software, the statistical test of linear regression and an a priori type of power analysis were selected to compute the required sample size for research questions one and two. The following input values were added: tails = one, effect size = 0.15, $\alpha = 0.05$, power = 0.95, number of predictors = 1. The computed output values were: non-centrality parameter = 3.3316662, critical t = 1.6662937, df = 72, total sample size = 74, and actual power = 0.9510639, $N = 74$ hospitals.

The other statistical test of means, the difference between two independent means (two groups) and an a priori type of power analysis are selected to compute the required sample size for research question three. The number of two groups is selected to compare California and other state hospitals, which Gerald (2018) considered independent of one another. The following input values were added: tails = one, effect size = 0.5, $\alpha = 0.05$, power = 0.95, allocation ratio = 1. The computed output values were: non centrality parameter = 3.3166248, critical t = 1.6536580, df = 174, sample size group 1 = 88, sample size group 2 = 88, total sample size = 176, and actual power = 0.9514254, group 1 $N = 88$ hospitals, and group 2 $N = 88$ hospitals. The results indicate that the necessary national sample for linear regression analysis is 74 hospitals. The necessary sample size for the two groups, California sample size was 88 hospitals and other states sample size was 88 hospitals.

As of October 2019, publicly reported HCAHPS scores for the population size of 4,482 hospitals ("HCAHPS fact sheet," 2019). According to the HCAHPS summary

analyses, 324 hospitals from California were among those that participated in the study (HCAHPS, 2017). Therefore, according to the HCAHPS fact sheet (2019) the proposed national sample size of 74 hospitals was met for the primary objective of this study and the proposed California sample size of 88 hospitals and other states sample size of 88 hospitals was met for the second analysis objective of this study.

Instrumentation and Operationalization of Constructs

Using the HCAHPS survey, I examined the results from a representative question about doctor communication for cultural competency scores (structure), as the independent variable. The other representative questions about care transition (process), and overall hospital rating (outcome), is used as hospital quality measures for the dependent variables separately to answer the research questions.

HCAHPS Survey

The HCAHPS hospital survey consists of a 32-item questionnaire measuring patients' perceptions of their hospital experience assessing the following nine topic areas: (a) nurse communication, (b) doctor communication, (c) responsiveness of hospital staff, (d) communication about medicines, (e) discharge information, (f) care transition, (g) cleanliness and quietness of hospital environment, (h) hospital rating, and (i) willingness to recommend hospital ("HCAHPS fact sheet," 2019). The CMS is responsible for guiding the administration of the survey, and publicly reports the results of each hospital ("HCAHPS fact sheet," 2019).

In 2002, CMS and the AHRQ aligned to develop the publicly reported HCAHPS survey of patients' reported hospital experiences. HCAHPS was recognized as the first

national public hospital survey designed to measure patients' experience of their hospital care. The survey allows patients and other hospitals to compare results and make well-informed choices using fair comparable information. Before public reporting, CMS, along with other organizations, initiated a multifaceted systematic process that included public input, literature reviews, cognitive review, stakeholder input, three state pilot tests, consumer testing, and psychometric analyses ("HCAHPS fact sheet," 2019).

In May 2005, the survey was endorsed by the NQF and the Hospital Quality Alliance. The national implementation of HCAHPS public reporting was approved in December 2005 by the Federal Office of Management and Budget. The first distribution of public reporting of HCAHPS data began in 2006. The first public reporting of HCAHPS results began in 2008, reported by CMS on the Hospital Compare website. On the Hospital Compare website, CMS reports survey results quarterly. The HCAHPS is associated with the U.S. government and publicly available to researchers; therefore, additional permission to access the data is not required (HCAHPS, 2017).

The HCAHPS survey provides three goals appropriate for the study: (a) the design of the survey produces data concerning patients' perspectives of care that allow objective and meaningful comparisons among hospitals on topics that are important to patients; (b) the surveys are reported publicly, which creates an incentive for hospitals to improve the quality of care; and (c) the requirement of public reporting enriches public accountability, which increases health care transparency ("HCAHPS fact sheet," 2019). Now that CMS is associating reimbursements to HCAHPS scores, patient survey results are becoming a value to consumers, healthcare leaders, and researchers.

Instrumentation of HCAHPS

The HCAHPS survey questions encompass critical aspects of patients' hospital experience. In 2008, the endorsement by NQF occurred, and HCAHPS become the first publicly reported and published data survey system of patients' perceptions of their hospital experience. The questionnaire is translated and available in English, Spanish, Chinese, Vietnamese, Russian, and Portuguese ("HCAHPS fact sheet," 2019). The HCAHPS survey has been validated with rigorous testing to ensure valid patient experience comparisons across various hospitals. Tevis, Schmocker, and Kennedy (2014) provided evidence for hospital-level reliability ranged from 0.66 to 0.89 (median = 0.88) and internal consistency reliabilities ranged from 0.51 to 0.88 (median = 0.72). Several researchers have also used the HCAHPS survey to examine patient hospital experiences and outcomes (Anhang Price et al., 2014; Elliot et al., 2010; Kennedy, Tevis, & Kent, 2014; Manary, Boulding, Staelin, & Glickman, 2013; Trzeciak et al., 2016; Tsai, Orav, & Jha, 2015).

Operationalization of variables.

Of the 32 HCAHPS survey questions, 3 critical aspects of the patients' hospital experience questions was examined for this study. HCAHPS scores are reported to the public with responses to survey questions on a Likert-type scale. Specifically, this study focused on hospital cultural competency defined as doctor communication and hospital quality measure items related to care transition and the overall patient experience with care. In Table 1: HCAHPS measure and survey question (independent variable), doctor communication question, and patient response options are listed. In Table 3 and Table 4:

HCAHPS measures and survey questions (dependent variables), care transition, and overall hospital rating questions and patient response options are listed. The secondary data are publicly reported and available on the Hospital Compare database, which was utilized for the analysis relating to patients' experiences with their hospital care.

Cultural Competency

In this study, the independent variable is hospital cultural competency scores (scale), which relates to the structural component of the capabilities and qualifications of healthcare professionals, providers, staff, and healthcare systems defined by Donabedian's lasting framework for health care quality (Donabedian, 1988). For the first and second research questions, the independent variable was used in a simple linear regression analysis to determine whether there is a relationship between hospital quality measures (i.e., care transition and overall hospital rating). The *p*-value results were interpreted to determine if the hospital cultural competency can be used to statistically significantly predict hospital quality outcomes. The *R*-value results were evaluated to determine the degree of correlation and conclude the significance level of correlation between the two variables.

For the third research question, an independent sample *t*-test analysis was also performed to compare the cultural competency scores between California acute care hospitals and other state acute care hospitals. Using the doctor communication measure (question 5) and the percent that answered *Always* was interpreted based upon a chosen significance level $\alpha = 0.05$, to conclude whether hospital cultural competency for California hospitals and other states hospitals are significantly different.

Table 1

HCAHPS Measure and Survey Question (Independent Variable)

Doctor Communication Question on HCAHPS Survey	Response Options
During this hospital stay…	1. Never 2. Sometimes 3. Usually 4. Always
5. how often did doctors treat you with courtesy and respect?	

Note. From "HCAHPS-Hospital Consumer Assessment of Healthcare Providers and Systems Survey," by HCAHPS, English Mail Survey materials, p. 2.

In Table 1 HCAHPS Measure and Survey Question (independent variable), the independent variable, hospital cultural competency scores, was collected from patients' care from doctors' communication (question 5) reported by the HCAHPS survey. The results from question 5, using the percent that answered *Always* was used to generate a hospital cultural competency score for each hospital. The variable was measured using a percentage range from 0–100. The following range of values was used to determine the hospital's level of cultural competency: ≤ 74 (low) and ≥75 (high). The selection of HCAHPS doctor communication measure was chosen since there is evidence that the Campinha-Bacote's model of cultural competence in health care relates to all the main points of communication, specifically courtesy and respect described in the HCAHPS doctor communication (question 5; Campinha-Bacote, 1999). The doctor communication data received from the HCAHPS was examined to determine the hospital's level of cultural competency and was presented as a percent value (0-100) per hospital summary. Table 2 shows how the HCAHPS doctor communication measure was interpreted as hospital cultural competency scores based on the following groups and the appropriate

range of values: low (≤ 74), or high ≥ 75). A similar model, the scale measuring the level of cultural competency score is consistent with the calculation of HCAHPS scores from raw data to publicly reported results (HCAHPS, 2011). For example, Hospital A, patient survey response *Always* for the following doctor communication question is 78% scale value. According to Table 2, with the percent scale value of 78, Hospital A would be classified as a high cultural competency hospital.

Table 2

Hospital Cultural Competency Scores

Cultural Competency Level	Range of Values
High	≥ 75
Low	≤ 74

Note. From "HCAHPS–Hospital Consumer Assessment of Healthcare Providers and Systems Survey," by HCAHPS, doctor communication composite measure, *Always* patient response. p. 2.

Care Transition

From the HCAHPS* dataset, the first step is to identify which hospitals have completed the care transition composite measure (question 23) with the patient's response of *Strongly agree*. The care transition question observes the patients' care during the hospital stay. The results from question 23, using the percent that answered *Strongly agree* was interpreted as an overall care transition value per hospital. For research question one, the regression results provided an *R*-value and a *p*-value. From those values, I can determine whether the independent variable (i.e., hospital cultural competency) had a statistically significant effect on the dependent variable (i.e., care transition). The other part of the results was interpreted to determine how well the

regression predicts the dependent variable. The care transition data received from the HCAHPS was presented as a percent scale value (0-100) per hospital summary.

Table 3

HCAHPS Care Transition and Survey Question (Dependent Variable)

Care Transition Question on HCAHPS Survey	Response Options
23. During this hospital stay, the staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left?	1. Strongly disagree 2. Disagree 3. Agree 4. Strongly agree

Note. From "HCAHPS–Hospital Consumer Assessment of Healthcare Providers and Systems Survey," by HCAHPS, English Mail Survey materials, p. 4.

In Table 3 HCAHPS Care Transition and Survey Question (dependent variable), the dependent variable relating to the process of hospital quality measure was gathered from the HCAHPS survey results: HCAHPS care transition (scale). The selection of HCAHPS care transition measure (question 23) relates to the process component of the Donabedian lasting framework for health care quality, in which the process was the measure of the steps necessary to provide patient care during a hospital stay (Donabedian, 1988). Question 23 in the HCAHPS survey care transition domain is the following: "During the hospital stay, the staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left" (HCAHPS, 2017, p. 4).

Patient Experience

From the HCAHPS* dataset, the first step is to identify which hospitals have completed the question, overall hospital rating from the patient experience global domain with the patient response hospital *rating of 9 or 10*. I only used the percent that answered

rating 9 or 10 the overall hospital rating (question 21) to represent the overall patient experience of care. The results of the question were interpreted as an overall value per hospital. For research question two, the regression results provided an *R*-value and a *p*-value. From those values, I can determine whether the independent variable (i.e., hospital cultural competency) had a statistically significant effect on the dependent variable (i.e., overall hospital rating). The other part of the results was interpreted to determine how well the regression predicts the dependent variable. The overall hospital rating data for a *rating of 9 or 10* received from the HCAHPS was presented as a percent scale value (0 - 100) per hospital summary.

In Table 4 HCAHPS Overall Hospital Rating and Survey Question (dependent variable), the dependent variable relating to the outcome of hospital quality measure was gathered from the HCAHPS survey results: HCAHPS overall hospital rating (scale). The selection of HCAHPS overall hospital rating (question 21) relates to the outcome component of the Donabedian lasting framework for health care quality, in which the outcome was the measure from patients' hospital care experience results (Donabedian, 1988).

Table 4

HCAHPS Overall Hospital Rating the Hospital and Survey Question (Dependent Variable)

Overall Hospital Rating on HCAHPS Survey	Response Options
21. Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?	0 – Worst hospital possible 1 2 3 4 5

6
7
8
9
10 – Best hospital possible

Note. From "HCAHPS–Hospital Consumer Assessment of Healthcare Providers and Systems Survey," by HCAHPS, English Mail Survey materials, p. 3.

Question 21 for the HCAHPS survey global domain is the following: "Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?" (HCAHPS, 2017, p. 3). Hospital quality measures are described as the results of hospitals' quality of care through hospital performance from the patient perspective. The quantitative design for this study allowed me to explore if a relationship exists between hospital cultural competency and hospital quality measures.

Data analysis plan.

The collected data was entered and analyzed using the Statistical Package for the Social Sciences (SPSS) software version 25 to conduct a simple linear regression statistical test using the independent variable, (cultural competency scores) with two unrelated dependent variables, (HCAHPS care transition) and (HCAHPS overall hospital rating).

The quantitative design approach included a simple linear regression statistical test to explore if there is a relationship between cultural competency and hospital quality measures measured by the HCAHPS survey, which relates to the following research questions and hypotheses of one and two when the relationships between independent and dependent variables are being compared. The regression results provided an R^2 value and a *p*-value. The results was interpreted to determine if the independent variable (i.e.,

hospital cultural competency) had a statistically significant effect on the dependent variables (i.e., care transition and overall hospital rating). The other part of the results was interpreted to determine how well the independent variable, hospital cultural competency predicts the dependent variables, care transition and overall hospital rating. Simple linear is the simplest regression model for medical research and the appropriate statistical test describing the relationship between interval or ratio variables (Godfrey, 1985; Faloon, Daniela, Hampe, & Cline, 2018). In the second analysis, for research question three I performed an independent sample *t*-test analysis to determine if there is a difference between the cultural competency of California and other states acute care hospitals with a comparison of the means of data from the two groups. Independent sample *t*-test assists researchers to determine whether there is a statistically significant difference in the means score between two groups (Gerald, 2018).

The data was cleaned for California and other states acute care hospitals that have participated in the HCAHPS survey and completed all the following specific domains (doctor communication [question 5], care transition [question 23], and overall hospital rating [question 21]), and the remaining incomplete survey results was eliminated from the study. Furthermore, patients' personal information (e.g., name, age, address, personal health issues) is not publicly available on the website and was not necessary for purposes of this research study. In case any personal information is to be found in the data collection process, it was disregarded to protect the patients and maintain the integrity of the study.

After the data have been cleaned, the statistical test assumptions were tested to make sure a violation does not occur. If these assumptions are violated, the results may not be valid. The results were analyzed by checking the following statistical assumptions for simple linear regression (Casson & Farmer, 2014):

- The two variables should be measured at the continuous level (i.e., interval or ratio variables).
- There is a linear relationship between the two variables.
- There are no significant outliers.
- There is independence of observations.
- There is homoscedasticity.
- The residuals (errors) of the regression line are approximately normally distributed.

The results were also analyzed by checking the following statistical assumptions for independent sample *t*-test (Gerald, 2018):

- The dependent variable should be measured on a continuous scale (i.e., interval or ratio level).
- The independent variable should consist of two categorical, independent groups.
- There is independence of observations.
- There are no significant outliers.
- The dependent variable should be approximately normally distributed for each group of the independent variable.
- There is a homogeneity of variances.

Research Questions and Hypotheses

The purpose of this study is to explore if a relationship exists between hospital cultural competency and hospital quality measures.

The research questions and hypotheses for this quantitative study are:

RQ1: What is the relationship between acute care hospital cultural competency and care transition, as measured by HCAHPS?

Null Hypothesis ($H_0$1): Acute care hospitals with higher cultural competency scores do not have significantly different care transition scores than acute care hospitals with lower cultural competency scores.

Alternative Hypothesis (H_a1): Acute care hospitals with higher cultural competency scores have significantly different care transition scores than acute care hospitals with lower cultural competency scores.

RQ2: What is the relationship between acute care hospital cultural competency and patients' overall experience with care, as measured by HCAHPS?

Null Hypothesis ($H_0$2): Acute care hospitals with higher cultural competency scores do not have significantly different patient overall experience with care scores than acute care hospitals with lower cultural competency scores.

Alternative Hypothesis (H_a2): Acute care hospitals with higher cultural competency scores have significantly different patient overall experience with care scores than acute care hospitals with lower cultural competency scores.

RQ3: Does the hospital cultural competency scores differ between California acute care hospitals and other state's acute care hospitals?

Null Hypothesis ($H_0$3): There is no statistically significant relationship between the cultural competency score of California acute care hospitals compared to other state's acute care hospitals.

Alternative Hypothesis (H_a3): There is a statistically significant relationship between the cultural competency score of California acute care hospitals compared to other state's acute care hospitals.

Threats to Validity

The external validity of the study is supported by the sample population of representatives of hospitals across the United States. The participant selection of all acute care hospitals within the United States was applied, however, the study excluded any pediatric, psychiatric, and specialty hospitals. All the exclusions from the HCAHPS could be limitations. The other participant selection that was not in the study was: (a) patients who have a foreign home address, (b) discharged to hospice care, nursing home or a skilled nursing facility, and (c) discharged to law enforcement. For example, I may not be able to conclude the relationship between hospital cultural competency and hospital quality measures for all hospitals since only acute care hospitals are being explored. This was addressed by providing hospitalization for medical, surgical, or maternity care.

The internal validity of the study may include maturation. The passage of time of when the HCAHPS survey was given to patients, 48 hours through 6 weeks following discharge from an inpatient stay could influence patients' on how they rate their overall experience with care. During that timeframe, as more time goes by patients could

become less satisfied or may not recall the entirety of their overall hospital experience. Therefore, the HCAHPS measure, overall hospital rating may decrease when patients fill out the HCAHPS survey. This is minimized by the validity of the HCAHPS instrument.

Construct validity is recognized when one testing tool is associated with another measuring instrument assessing the intended construct (Heale & Twycross, 2015). The HCAHPS hospital survey is recognized as the national tool for measuring patient experiences with hospital care (Issac et al., 2010; Tevis et al., 2014), and therefore, construct validity is assumed.

Ethical Procedures

The ethical understandings are influenced by the nature of the research design. The HCAHPS data are available in the public domain, in which researchers have access at no charge, and additional permission is not required (HCAHPS, 2017). Data pertaining to patients' personal information (e.g., name, age, address, personal health issues) are not publicly available on the website and was not necessary for purposes of this research study. In case any personal information is found in the data collection process, it was disregarded to protect the patients and maintain the integrity of the study.

Measures were taken to protect the data for this study. I obtained Institutional Review Board approval from Walden before performing any statistical analysis for this study. The IRB approval number for this study is 07-23-20-0622292. I ensured that the information was saved on my password protected computer and maintained solely by me in my home. I stored the data for five years on my computer and then erase all the files

using a software application. I will also keep a record of when the data will be destroyed and how this was performed.

Summary

The quantitative research design was used for answering the three research questions for this study. The HCAHPS survey, reported by the CMS was used for the secondary dataset. The HCAHPS dataset provided survey results for the components of doctor communication (structure), care transition (process), and overall hospital rating (outcome). For the first analysis, a simple linear regression was used to answer the first and second research questions by analyzing the relationship between hospital cultural competency and hospital quality measures (i.e., care transition and overall hospital rating). For the second analysis, an independent sample *t*-test was used to answer the third research question to determine whether hospital cultural competency scores differ between California acute hospitals and other state acute care hospitals. The results of the simple linear regression analysis and independent sample *t*-test analysis used to test the research questions was discussed in Section 3.

Section 3: Presentation of the Results and Findings

The purpose of this quantitative study was to explore if a relationship exists between hospital cultural competency and hospital quality measures. In this section, I described the secondary dataset and provide details on the data collection and analysis conducted to address the research questions and hypotheses. The statistical analyses and the assumptions (linearity, homoscedasticity, outliers, independence of observations, and normality) are discussed by presenting results regarding the research questions. The results are interpreted to conclude whether the statistical analyses for this study provided statistically significant results, and whether the null hypotheses should be rejected, or the alternative hypothesis should be accepted.

Data Collection of Secondary Dataset

The HCAHPS secondary dataset covered 4,884 acute care hospitals collected from October 1, 2018 to September 20, 2019. California's average response rate on the HCAHPS survey is 22%, compared to the national average response rate of 26%. The survey response rate totaled 4,884 hospitals (26%). For the final dataset, hospitals were removed by HCAHPS when fewer than 100 patients completed the HCAHPS survey and by researcher if the hospital did not have a reported value for the following: "Always" for *During this hospital stay, how often did doctors treat you with courtesy and respect?*; "Strongly agree" for *During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left.*; and "Ratings of 9 or 10" for *What number would you use to rate this hospital during your stay?* (0 = worst, 10 = best). After reducing for nonresponses, the final dataset

contained 3,901 acute care hospitals in the sample population. This randomly selected national sample was representative of acute care hospitals in California and other states throughout the United States; therefore, the sample population included in the dataset was appropriate for this study.

Descriptive Statistics

The descriptive statistics, shown in Table 5, include a population of 3,901 acute care hospitals, which included sufficient information for the variables of interest. For hospital cultural competency (HCAHPS doctor communication), hospital percentages of respondents (adjusted for the patient-mix and mode of the survey) that answered "Always," percent value ranged from 66 to 100, with an average of 87.11 (*SD* = 4.38). For care transition, hospitals percentages of respondents (adjusted for the patient-mix and mode of the survey) that answered, "Strongly agree," percent ranged from 22 to 96, with an average of 53.07 (*SD* = 6.86). Hospitals percent values of respondents (adjusted for the patient-mix and mode of the survey) for patient experience (HCAHPS overall hospital rating) that answered, "Ratings of 9 or 10," ranged from 40 to 100, with an average of 72.47 (*SD* = 8.53).

There were 313 California acute care hospitals and 3,588 other state acute care hospitals that participated in the HCAHPS survey, as shown in Table 5. Other states, representing all hospitals in the United States, excluding California, had hospital cultural competency scores that ranged from 66 to 100, with an average of 87.37% (*SD* = 4.25). The average percent of other states was higher than California hospital cultural competency scores that ranged from 69 to 98, with an average of 84.17% (*SD* = 4.73).

California had the most hospitals participate in any state in the HCAHPS patient survey with 313 acute care hospitals. Texas hospitals had the next-largest number of hospitals that participated in the survey with 293 hospitals. Delaware had the lowest number of hospitals that participated in the survey with seven. Based on the analysis of the means of the hospital cultural competency scores, Nebraska had the highest cultural competency average with 91.29 with 55 hospitals, and Nevada had the lowest cultural competency average with 81.59 with 32 hospitals.

HCAHPS also included data for star ratings to make it easier for patients to compare hospitals. Five-star ratings (5 = highest, 1 = lowest) are composite topics combined with multiple questions from the HCAHPS survey (CMS, 2019). Star ratings for the hospital cultural competency measure only had 331 hospitals that received a 5-star rating, and the majority of hospitals (1,281) had a 3-star rating, as shown in Table 6. Like the overall hospital rating measure, only 336 hospitals had a 5-star rating, and most hospitals (1,263) had a 3-star rating. However, for the care transition measure, most hospitals (1,535) had a 2-star rating, with only 162 hospitals with a 5-star rating.

Table 5

Descriptive Statistics for Hospital Cultural Competency, Care Transition, and Patient Experience

Measures	*M*	*SD*	*Min*	*Max*	*N*
Hospital cultural competency	87.11	4.38	66	100	3,901
California	84.17	4.73	69	98	313
Other state	87.37	4.25	66	100	3,588
Care transition	53.07	6.86	22	96	3,901
California	49.78	7.45	28	82	313
Other state	53.36	6.73	22	96	3,588
Patient experience	72.47	8.53	40	100	3,901
California	70.37	8.38	41	96	313
Other state	72.66	8.52	40	100	3,588

Table 6

Descriptive Statistics of HCAHPS Star Rating for Hospital Cultural Competency, Care Transition, and Patient Experience

Measures	5-Star	4-Star	3-Star	2-Star	1-Star
Hospital cultural competency (DC)	331 (9%)	849 (24%)	1,281 (37%)	867 (25%)	173 (5%)
Care transition	162 (5%)	1,263 (36%)	1,094 (31%)	764 (22%)	218 (6%)
Patient experience	336 (10%)	1,041 (30%)	1,535 (44%)	486 (14%)	103 (3%)

Notes. $N = 3,501$. DC = doctor communication.

Results for Care Transition (RQ1)

A linear regression analysis is conducted to evaluate the prediction of care transition from the hospital cultural competency scores. Before conducting the regression analyses, testing of the following assumptions (linearity, homoscedasticity, independence of observations, and normality) were completed and met. Although outliers were found, the decision is to keep the outliers in the data. The care transition analysis table, as

shown in Table 7, provides the variables to create the simple linear equation for hospital cultural competency and care transition.

Table 7

Care Transition Analysis

Measure	*B*	CI	β	*t*	*p*
Care transition	-37.15	[-40.36, -33.94]	0.00	-22.66	< .001
Hospital cultural competency	1.04	[0.999, 1.07]	.662	55.10	< .001

In this analysis, I found that hospital cultural competency has a statistically significant effect on care transition. The *p*-value results (< .001), which were below the chosen threshold value of 0.05, show the independent variable, hospital cultural competency, had a statistically significant effect on the dependent variable, care transition. Therefore, the null hypothesis was rejected, and the alternative hypothesis was accepted for care transition.

The regression coefficients indicated a significant and moderate positive association between hospital cultural competency scores and care transition. Approximately 44% of the variability in care transition was explained by its linear relationship with hospital cultural competency. The results indicate that higher hospital cultural competency scores are associated with higher care transition scores.

Accuracy in predicting the hospital cultural competency score was a moderate positive relationship (see Appendix C, Table 3). For every one-unit increase in cultural competency, care transition increased by 0.66 units (see Appendix C, Table 4).

The two variables are linearly related, such that as hospital cultural competency scores increased, the care transition increased, as shown in the scatterplot in Figure 6. The regression equation for predicting the care transition was:

Care transition = 1.04 (hospital cultural competency) – 37.15. The 95% confidence interval for the slope, -40.36 to -33.94 did not contain the value of zero. Therefore, hospital cultural competency was significantly related to care transition.

The assumptions for the regression are checked before interpreting the results for the care transition analysis. Testing of the following assumptions are completed and met: linearity, homoscedasticity, independence of observations, and normality. Outliers were found and the decision is to keep the outliers in the data. For the assumption, linearity, as shown in Figure 6 a scatterplot of care transition versus hospital cultural competency with a best fit linear line is plotted. Visual inspection of these two plots indicated a linear relationship between the variables, and the assumption was met.

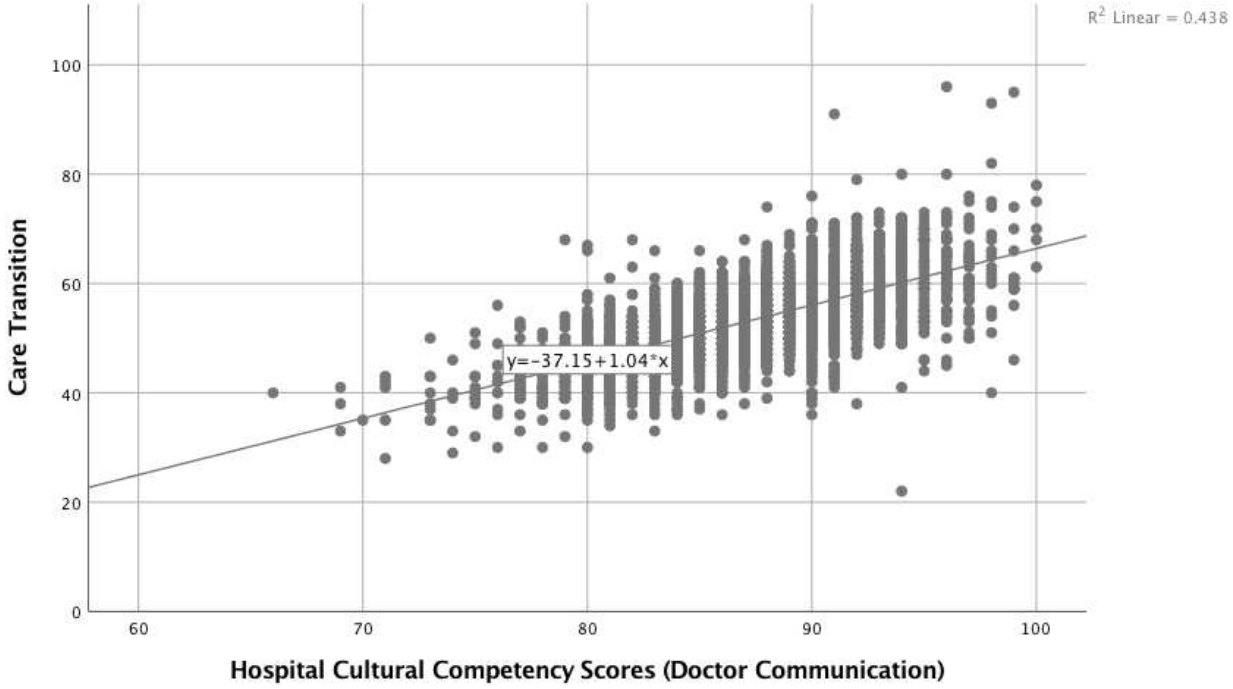

Figure 6. Simple scatter plot of care transition versus hospital cultural competency scores (doctor communication) with best fit linear line.

The assumption of homoscedasticity was met, also shown in Figure 6. There was homoscedasticity as assessed by visual inspection of a plot of standardized residuals versus standardized predicted values. The next assumption of outliers is determined using the standard deviation values provided in the descriptive statistics output, as shown in Table 5. The maximum residual value was 6.59 and the minimum value was -7.43 (see Appendix C, Table 1), indicating that the dataset contained outliers. According to the casewise diagnostics test, 32 hospitals are identified as outliers for care transition. Although outliers were found, with the large sample size of 3,901 hospitals, the decision is to keep the outliers in the data.

Next, the Durbin-Watson statistic is evaluated, according to Casson & Farmer (2014) to check the assumption of independence of observations. These results (see Appendix C, Table 2) showed that residuals were independent, as assessed by a Durbin-Watson statistic of 1.85, which was > than 1 and < 3. Therefore, the assumption of independence of observations was met. The last assumption of normality is checked using the histogram and normal P-plot. The histogram (see Appendix C, Figure 1) shows the data were displayed in a normally distributed bell curve. The normal P-plot (see Appendix C, Figure 2) shows the points are aligned along the diagonal line, indicating the assumption of normality was met. These results showed that hospital cultural competency scores had a positive effect on care transition. Following is a section of the patient experience analysis.

Results for Patient Experience (RQ2)

A linear regression analysis is conducted to evaluate the prediction of the overall hospital rating from the hospital cultural competency scores. Prior to conducting the regression analyses, testing of the following assumptions (linearity, homoscedasticity, independence of observations, and normality) was completed and met. Although outliers were found, the decision is to keep the outliers in the data. As shown in Table 8, the patient experience analysis table provides the variables to create the simple linear equation for hospital cultural competency and overall hospital rating.

Table 8

Patient Experience Analysis

Measure	*B*	CI	β	*t*	*p*
Overall hospital rating	-40.16	[-44.15, -36.18]	0.00	-19.75	<.001
Hospital cultural competency	1.29	[1.25, 1.34]	.664	55.47	<.001

In this analysis, I found that hospital cultural competency had a statistically significant effect on patient experience. The *p*-value results (< .001), which were below the chosen threshold value of 0.05, show the independent variable, hospital cultural competency, had a statistically significantly effect on the dependent variable, overall hospital rating. Therefore, the null hypothesis was rejected, and the alternative hypothesis was accepted for patient experience.

The regression coefficients indicated that there is a significant and moderate positive association between hospital cultural competency scores and overall hospital rating. Approximately 44% of the overall hospital rating variability was explained by its linear relationship with hospital cultural competency. The results indicate that hospital cultural competency scores are associated with higher overall hospital rating scores.

Accuracy in predicting the hospital cultural competency score was a moderate positive relationship (see Appendix D, Table 3). For every one-unit increase in cultural competency, the overall hospital rating increased by 0.66 units. The correlation between the hospital cultural competency scores and the overall hospital rating was 0.66 (see Appendix D, Table 4).

The two variables are linearly related, such that as hospital cultural competency scores increase the overall hospital rating increases, as shown in the scatterplot in Figure 7. The regression equation for predicting the overall hospital rating was:

Overall hospital rating = 1.29 (hospital cultural competency) – 40.16

The 95% confidence interval for the slope, -44.15 to -36.18, did not contain the value of zero. Therefore, hospital cultural competency was significantly related to the overall hospital rating.

The assumptions for the regression are checked before interpreting the results of the regression for patient experience analysis. Testing of the following assumptions are completed and met: linearity, homoscedasticity, independence of observations, and normality. Outliers were found and the decision is to keep the outliers in the data. For the assumption, linearity, as shown in Figure 7, a scatterplot of overall hospital rating versus hospital cultural competency with a best fit linear line is plotted. Visual inspection of these two plots indicated a linear relationship between the variables, and the assumption is met.

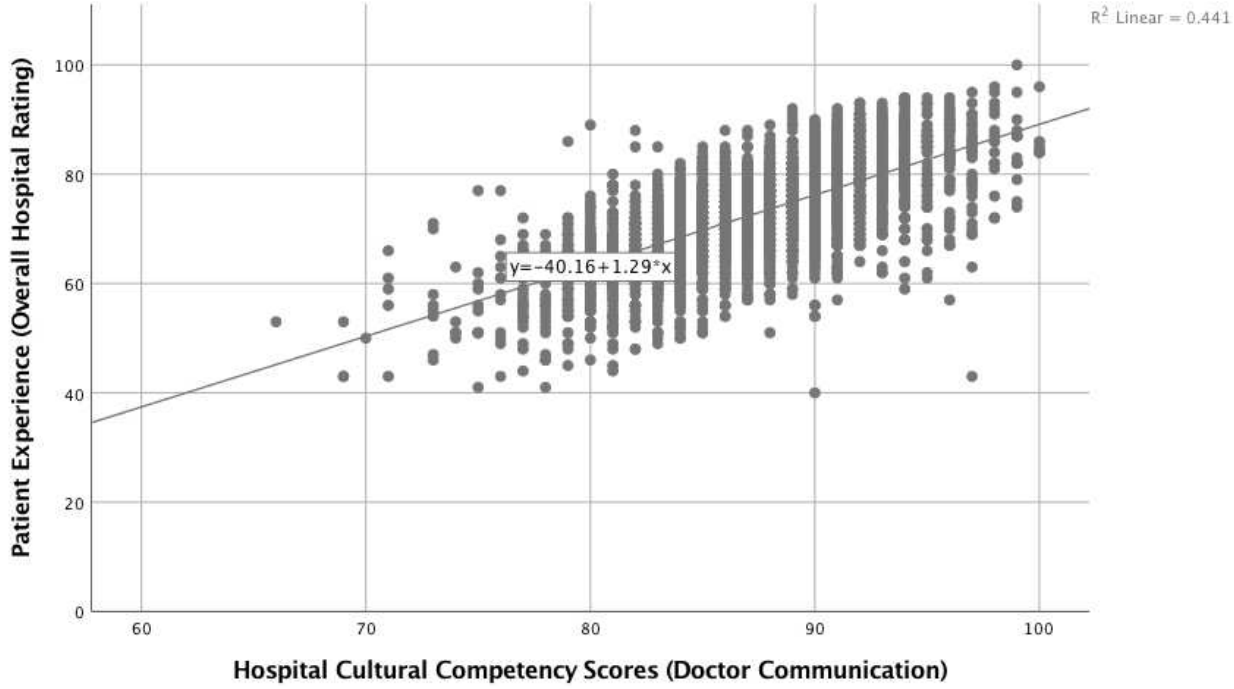

Figure 7. Simple scatter plot of patient experience (overall hospital rating) versus hospital cultural competency scores (doctor communication) with best fit linear line.

The assumption of homoscedasticity was met, as shown in Figure 7. There was homoscedasticity as assessed by visual inspection of a plot of standardized residuals versus standardized predicted values. The next assumption of outliers was determined using the standard deviation values provided in the descriptive statistics output, as shown in Table 5. The maximum residual value was 4.03 and a minimum value of -6.63 (see Appendix D, Table 1), indicating that the dataset contained outliers. According to the casewise diagnostics test, 22 hospitals are identified as outliers for patient experience. Although outliers were found, with the large sample size of 3,901 hospitals, the decision is to keep the outliers in the data.

Next, the Durbin-Watson statistic is evaluated to check the assumption of independence of observations (Casson & Farmer, 2014). These results (see Appendix D, Table 2) showed that residuals are independent, as assessed by a Durbin-Watson statistic of 1.72 was > 1 and < 3. Therefore, the assumption of independence of observations was met (Casson & Farmer, 2014). The last assumption of normality is checked using the histogram and normal P-plot. The histogram (see Appendix D, Figure 1) shows the data are displayed in a normally distributed bell curve. The normal P-plot (see Appendix D, Figure 2) shows the points aligning along the diagonal line, indicating the assumption of normality was met. These results also show that hospital cultural competency scores has an effect on patient experience. These results showed that hospital cultural competency scores had a positive effect on patient experience. Following is a section of the hospital cultural competency analysis.

Results for Hospital Cultural Competency (RQ3)

An independent sample *t*-test is performed to assess whether there was a difference in hospital cultural competency scores between California acute care hospitals and other state acute care hospitals. The initial plan was to utilize the entire sample of 3,901 acute care hospitals, which consisted of 313 California hospitals and 3,588 other state hospitals. However, using the total sample resulted in, all assumptions are violated due to the large difference in sample sizes. Therefore, a decision was made to change the total sample size to a randomized sample of 1,000 acute care hospitals generated by SPSS, which consisted of 90 California hospitals and 910 other state hospitals. For the sample of 1,000 hospitals, other states' acute care hospitals had hospital cultural

competency scores with an average of 87.36% (*SD* = 4.25), and California acute care hospitals had hospital cultural competency scores with an average of 84.41% (*SD* = 4.73).

The results indicated that all other state acute care hospitals scored (on average) significantly higher than acute care hospitals in California for hospital cultural competency scores. The results of the independent sample *t*-test are significant, $t(998) = -6.246$, $p < .001$, as shown in Table 9. The 95% confidence interval for the mean difference was [-3.88, -2.03]. Therefore, the null hypothesis was rejected, and the alternative hypothesis was accepted. The average cultural competency score for other state acute care hospitals was 3% higher than the average cultural competency score for California acute care hospitals. The difference of 3% indicates a small amount of difference between California and other state hospitals.

Table 9

Hospital Cultural Competency Scores Analysis

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference	95% CI of the Difference Lower	Upper
Hospital cultural competency scores	Equal variances assumed	-6.246	998	.000	-2.95	-3.88	-2.03

The assumptions for the independent sample *t*-test are checked for the sample of 1,000 hospitals before interpreting the results. There were outliers found in the data, as assessed by inspection of a boxplot (see Appendix E, Figure 1). According to Casson and Farmer (2014), when handling outliers, outliers do not violate assumptions but may produce estimates that do not reflect reality. The sample of other states may not be an

accurate representation of all the acute care hospitals in the United States. However, with the large sample size of 1,000 hospitals, the decision is to keep the outliers in the data and use the Yuen-Welch test to manage both non-normal distributions and heteroscedasticity (Bakker & Wicherts, 2014).

Next, the Shapiro-Wilk's test is conducted to determine the assumption test of normality. The results showed the significance level of both values are greater than .05 ($p > .05$). Therefore, hospital cultural competency scores for a group of the population are normally distributed and the assumption of normality was met.

The last assumption of homogeneity of variances is tested using Levene's test to evaluate the assumption that the two groups of population variances are equal (Green & Salkind, 2014). Levene's test result is a *p*-value greater than 0.05 ($p = .372$), as shown in Table 9, indicating the population variances are equal. Therefore, the assumption of homogeneity of variance was met. Since the assumption of homogeneity was met, the "equal variances assumed" was analyzed.

Summary

This analysis supports that a relationship exists between hospital cultural competency and both care transition and overall hospital rating. Through the two statistical analysis tests of simple linear regression and independent sample *t*-test, the null hypothesis for care transition, patient experience, and hospital cultural competency was rejected. The alternative hypotheses were accepted. The care transition and patient experience analyses indicated that hospital cultural competency scores can predict the improvement of care transition and overall hospital rating. The hospital cultural

competency analysis was performed comparing the mean hospital cultural competency scores of other state acute care hospitals and California acute care hospitals. The hospital cultural competency scores analysis results were significant, $t(998) = -6.246$, $p < .001$. The expectation was for California the state with the more diverse patient population to get higher scores, not lower than the other states combined. By understanding how cultural competency relates to hospital quality measures, healthcare administrators can use this study's findings to inform decision making about the importance of how hospital cultural competency relates to positive hospital quality measure outcomes. A discussion on the interpretation of these findings, limitations of the study, recommendations for future research, implications for professional practice and social change are presented in Section 4.

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

In this quantitative study, I used simple linear regression analyses to explore the relationship between hospital cultural competency and hospital quality measures as measured through the HCAHPS survey. This study's findings provide healthcare administrators support to capture the effectiveness of hospital cultural competency and identify the impact on specific hospital quality measures. The understanding of a relationship between cultural competency and improved outcomes is important for prioritizing or determining which cultural competency resources to allocate to improve the cultural competence of healthcare professionals for all healthcare organizations expected to provide culturally competent care, and, as the population, shifts demographically to a diverse majority. Results of care transition and patient experience analyses showed hospital cultural competency had a moderate positive relationship to both care transition and overall hospital rating. The hospital cultural competency scores analysis showed a statistically significant difference in cultural competency scores between California and other state acute care hospitals, with California scoring lower than the rest of the states combined.

Interpretation of the Findings

Cultural competence has been used as an approach in healthcare organizations to improve the quality of care, but healthcare organizations have little evidence concerning how cultural competency impacts hospital quality outcomes. I found the results of this research to show that hospital cultural competency has a moderately positive relationship to both care transition and overall hospital rating measured by the HCAHPS survey.

The results also showed that high hospital cultural competency scores are associated with higher outcomes. The findings support Ahmed et al. (2018), who found cultural competency and hospital quality measures, such as communication, worked effectively together to improve the overall quality of care. This study also supported findings from Weech-Maldonado et al. (2012), who concluded that cultural competency translates to positive values; hospitals with greater cultural competency had better scores for hospital ratings. However, the results contrast the research findings of Volland and Fryda (2015) who found patient experiences were related to poor quality services not related to cultural competency, such as poor communication when healthcare delivery systems did not make efforts in improving the transition of the care process.

Identifying how cultural competency translates into quality measures could contribute to optimizing patient care. Optimizing patient care allows patients to provide their unique knowledge and perspective in making informed health-related choices. The results of my study support the findings of past researchers and confirmed the effectiveness of cultural competency from Weech-Maldonado et al. (2012) findings.

The results support the use of Donabedian's lasting framework for measuring healthcare quality in acute care hospitals by focusing on the healthcare organization's structure and process that can influence positive outcomes for patients to receive the highest quality of care. The results of this study aligned with Donabedian's framework to address how each component works together to measure healthcare quality. Donabedian hypothesized that structure drives the process, and process drives outcomes. The results also supported the link between the three components from the framework that

determined the structural component cultural competency (doctor communication) positively impacted hospital quality measures. The framework was shown to be beneficial with the findings of how the structural component of cultural competency translates into quality measures for assisting healthcare organizations when measuring the process of care and positive health outcomes.

Campinha-Bacote's model also supported the definition and evaluation of cultural competency. The process for addressing culturally competent hospital care issues involved the integration of cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire (Campinha-Bacote, 1999). The selected doctor communication question representing the structural component of hospital cultural competency addressed the five constructs in the cultural competency model.

The structure, process, and outcome components from Donabedian's framework are used through analyses to measure the quality of care. For the structural component, the findings, as expected, confirmed doctor communication is valid to access cultural competency to positively impact hospitals. The findings are consistent with previous studies that have used the HCAHPS communication with doctor measure to highlight doctor communication as a specification of quality care by associating doctor communication and patient outcomes. Dupree et al. (2011) found when communication was not clear between physicians and patients it leads to patient mistrust, decreased confidence in the health system, and overall poor health outcomes. Similarly, Weech-Maldonado et al. (2012) found communication between physicians was linked to improved diverse patient experiences, which confirm and extend knowledge that diverse

healthcare professionals are more likely to communicate and understand the needs of diverse patients. When compared to diversity management, Dreachslin et al. (2017) found minority healthcare professionals played an important role in delivering quality of care to diverse patients. Alternatively, Carter and Silverman (2016) concluded when physicians and patients were from the same cultural backgrounds, the patient-provider encounter gap was reduced, which led to an increase in patient experience. Hospitals looking to increase the level of cultural competency should consider recruiting from diverse communities, increasing the chances that patient experiences will improve communication between doctors.

For the care transition analysis, the results confirmed the structural component results in higher process scores. The care transition analysis results showed a moderate amount of variance (44% of the variability in care transition) can be explained by its linear relationship with hospital cultural competency. Therefore, the results indicated that hospital cultural competency scores could be predicted to improve care transition. Past researchers confirmed that the process of care transition during and after hospital care provided meaningful insight into improvements created to align with the patient-centered quality of care (see Foust et al., 2012; Jencks et al., 2009). The moderate relationship between hospital cultural competency and care transition suggests that researchers should continue to evaluate the cultural competency variable when improving outcomes.

Similarly, the patient experience analysis results also showed a moderate amount of variance (44% of the variability in overall hospital rating) could be explained by its

linear relationship with hospital cultural competency. Therefore, the results indicated that hospital cultural competency scores could predict improvement of overall hospital rating. Other researchers that used HCAHPS overall hospital rating in their studies for the outcome component had similar results to my study that indicated hospital ratings were positively associated with patient experience (see McClelland & Vogus, 2014). These unexpected moderate results did not show a strong relationship with cultural competence as a factor for improving outcomes, compared to the findings by Liaw et al. (2015), who found provider cultural competency training, healthcare systems' improved overall the process of health services by an increase from 74.8% to 89.8%.

In this study, the care transition and patient experience analyses indicated some similarities across the three measures for the HCAHPS star ratings. The HCAHPS had developed star ratings to make it easier for patients to compare hospitals. Five-star ratings (5 = highest, 1 = lowest) are composite topics combined with multiple questions from the HCAHPS survey (CMS, 2019).

Among the three HCAHPS domains measured, patient experience had the highest number of hospitals (1,535) 44% with 3-star ratings. Similarly, for the other two measures, care transition had 31% (1,094) of hospitals and cultural competency had 37% (1,281) of hospitals with 3-star ratings. The finding is consistent with previous studies by Bardach et al. (2013) that found the mean star score was 3.3 stars, and 74% of hospitals had scores of 3 stars or better. Trzeciak et al. (2016) also found an association between star ratings for patient experience and clinical outcomes in U.S. hospitals. Therefore, findings in care transition analysis were consistent in the association between higher star

ratings for patient experience (see Trzeciak et al., 2016). Hospitals with three-star ratings comprised almost half of the sample, which suggests that this rating was the one most hospitals received from the HCAHPS survey.

Comparing California hospitals to other state hospitals provided evidence that a state with a more diverse patient population does not necessarily mean the hospitals have higher cultural competency scores. Since some states have a more diverse patient population than others, it was important to examine cultural competency among the rest of the states combined. The findings in relation to California's highest cultural competency score (98%) should be consistent with the other states that ranked the highest for cultural competency scores. The hospital cultural competency scores analysis results showed that all other state acute care hospitals scored (on average) significantly higher than acute care hospitals in California. The results of other states' hospital cultural competency scores, with an average of 87.36%, were higher than the California hospital cultural competency score average of 84.41%. The average cultural competency score for other state acute care hospitals was 3% higher than the average cultural competency score for California acute care hospitals. Weech-Maldonado et al. (2012) indicated California was an important state to study for cultural competency given that California is the most diverse state in terms of ethnicity, race, and language. However, the findings were unexpected compared to the findings of Weech-Maldonado et al., which showed California hospitals had better performance in clinical cultural competency practices. These results did not align with my findings, which showed California did not have the highest cultural competency score compared to the other states. This finding suggests

that the diversity of the patient population may not have a large impact on hospital cultural competency outcomes. Healthcare administrators that are in a more diverse population should not assume their healthcare professionals are more culturally competent.

The highest hospital cultural competency scores (100%) were from the following states: Arkansas, Louisiana, North Dakota, and Nebraska. The state that had the lowest hospital cultural competency score was New Mexico (66%). Future research may consider exploring the relationship between states with the highest and the lowest cultural competency scores to examine the hospital quality measures that impacted cultural competency, whether the same or different measures impacted the state.

The care transition and patient experience analyses showed that hospital cultural competency correlates with hospital quality measures, and the regression for both care transition and patient experience provided moderately positive relationship results. The unexpected moderate results of 44% of variance in care transition and overall hospital rating showed cultural competence as a moderate factor for improving outcomes. The results in the hospital cultural competency analysis indicated that all other states acute care hospitals had a higher hospital cultural competency score than California acute care hospitals. The finding suggested that the diversity of the patient population may not have a large impact on hospital cultural competency outcomes. Healthcare administrators that are in a more diverse population should not assume their healthcare professionals are more culturally competent. Overall, the study results support current literature that higher cultural competency scores result in higher outcomes, therefore, concluding that

the higher care transition and overall hospital rating outcome resulted from higher cultural competence could only be suggested based on the results of this conducted analysis. The results suggested that higher cultural competency scores had a positive effect on care transition and patient experience.

Limitations of the Study

There were several limitations to this study. One limitation involved the sample population of representatives of hospitals across the United States because this research dataset was limited to acute care hospitals. This study cannot be used to imply that cultural competency impacts outcomes applied to pediatric, psychiatric, and specialty hospitals.

Hospitals are eliminated where information for the variables of interest was not reported for the responses to: "Always" for During this hospital stay, how often did doctors treat you with courtesy and respect?; "Strongly agree" for During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left.; and "Ratings of 9 or 10" for What number would you use to rate this hospital during your stay? (0 = worst, 10 = best). Since these were not included, it may have removed participating hospitals with low scores and may not be an accurate representation of all acute care hospitals. However, the large sample size could have reduced the impact in variability and reduced the potential bias.

The internal validity of the study included maturation. Therefore, the HCAHPS measure, overall hospital rating may have decreased when patients filled out the

HCAHPS survey. The passage of time when the HCAHPS survey was given to patients, 48 hours through 6 weeks following discharge from an inpatient stay, could have influenced patients' on how they rated their overall experience with care. During that timeframe, as more time went by, patients could have become less satisfied or may not have recalled the entirety of their overall hospital experience. This was minimized by the validity of the HCAHPS instrument.

Recommendations

Based on this research, there is a need for researchers to continue exploring the multiple factors related to cultural competency. Recommendations based on the results include further research on other hospital quality measure outcomes. Future researchers could expand the scope of hospital quality measure outcomes to include other measures from the HCAHPS survey, such as the responsiveness of hospital staff, discharge information, and hospital recommendation. Increasing the number of hospital quality measures, for example including the recommendation of the hospital would include an overall experience of patient care to better understand all of the aspects that may have influenced a patient's experience. Healthcare administrators with a more diverse patient population should consider support for enhancement for cultural competency training for their healthcare professionals.

An additional recommendation for research would be to use HCAHPS star ratings to better represent the patient experience in the hospital. CMS had provided the HCAHPS five-star rating to make it easier for patients to understand. The star ratings reflect all the HCAHPS domain questions combined and may be an alternative to the

variables in this study that were only represented by a single question in the survey. Additionally, the ratings reveal an easier way to examine hospital performance at three various levels and can be compared to the national average in each of the seven domains.

Implications for Professional Practice and Social Change

As healthcare organizations strive to improve the quality of care for patients, research should support improvements by understanding the organizational structure and process related to positive outcomes. The results of this study show cultural competency translates into improved quality measures, both care transition and overall hospital rating. Therefore, healthcare administrators could use this study's findings of this study to inform decision making regarding how the organizational structure component of hospital cultural competency relates to positive hospital quality outcomes. Healthcare administrators can develop a more effective healthcare organization by prioritizing which cultural competency resources are distributed toward cultural competency improvements.

My findings also support healthcare organizations promoting cultural competency for improving high-quality healthcare to meet the needs of diverse patients. The results could provide healthcare administrators evidence that hospital cultural competency can translate to positive values relating to hospital quality measures by determining the effectiveness of their current organizational structure and the strategies for producing positive outcomes.

This study's results inform healthcare administrators about the positive relationship between cultural competency and hospital quality measures resulting in positive social change to continue to provide patients the highest quality of care. By

understanding how cultural competency relates to hospital quality measures, healthcare administrators can extend knowledge to developing a more effective healthcare organization with an organizational structure and process that improves outcomes related to patient experiences.

Conclusion

In this quantitative study, I explored the relationship between the independent variable of hospital cultural competency and the dependent variables of hospital quality measure outcomes. Cultural competency has gained acceptance as an approach for healthcare organizations to improve serving diverse patients (Betancourt et al., 2016; Campinha-Bacote, 1999; Saha et al., 2008). A common problem was healthcare organizations had little evidence concerning how cultural competency impacts hospital quality outcomes. Results of simple linear regression showed hospital cultural competency had a moderate positive relationship to both care transition and overall hospital rating. These findings provide researchers and healthcare administrators evidence that cultural competency can translate to positive values relating to hospital quality outcomes. Hospital cultural competency scores and hospital quality measures were examined through the HCAHPS survey from a sample of acute care hospitals in the United States with simple linear regression and independent sample *t*-test analyses. This study's findings contribute to a growing body of literature about how hospital cultural competency can impact hospital quality measures. To my knowledge, this is the only study that has examined the relationship between hospital cultural competency and hospital quality measures.

In this study, cultural competency had a moderately positive relationship with care transition and overall hospital rating, and learned there was a connection about how hospital cultural competence relates to care transition and overall hospital rating. The unexpected moderate results showed cultural competence as only a moderate factor for improving outcomes. The hospital cultural competency scores analysis indicated that all other state acute care hospitals scored (on average) significantly higher than acute care hospitals in California for hospital cultural competency scores. The finding suggests that the diversity of the patient population may not have a large impact on hospital cultural competency outcomes. Healthcare administrators who are in a more diverse population should not assume their healthcare professionals are more culturally competent. The results provide researchers and healthcare professionals evidence on how cultural competency relates to hospital quality measure outcomes. This study suggests that cultural competence has a positive effect on care transition and has a positive effect on patient experience. These findings confirm the importance of cultural competence and offer some practical recommendations for improvement. This confirms Donabedian's framework that structural component cultural competence is valuable for promoting positive outcomes. Therefore, hospital organizations that focus more on identifying if cultural competency translates into quality measures could contribute to optimizing patient care.

References

Agency for Healthcare Research and Quality. (2011). Types of health care quality measures. Retrieved from https://www.ahrq.gov/talkingquality/measures/types.html

Ahmed, S., Siad, F. M., Manalili, K., Lorenzetti, D. L., Barbosa, T., Lantion, V., … & Santana, M. J. (2018). How to measure. Cultural competence when evaluating patient-centred care: a scoping review. *BMJ open, 8*(7), e021525. doi:10.1136/bmjopen-2018-021525

Alizadeh, S., & Chavan, M. (2016). Cultural competence dimensions and outcomes: A systematic review of the literature. *Health and social care in the community*, *24*(6), e117-e130. doi:10.1111/hsc.12293

Anhang Price, R., Elliott, M. N., Zaslavsky, A. M., Hays, R. D.. Lehrman, W. G., Rybowski, L., . . . Cleary, P. D. (2014). Examining the role of patient experience surveys in measuring health care quality. *Medical Care Research and Review*, *71*(5), 522-554. doi:10.1177/1077558714541480

Association of American Medical Colleges. (2000). *Minority graduates of U.S. Medical School: Trends*, *1950-1988*. Association of American Medical Colleges. Retrieved from https://www.aamc.org/data-reports/analysis-brief/report/trends-racial-and-ethnic-minority-applicants-and-matriculants-us-medical-schools-1980-2016

Ayanian, J. Z., & Markel, H. (2016). Donabedian's lasting framework for health care

quality. *The New England Journal of Medicine*, *375*(3), 205. doi:10.1056/NEJMp1605101

Bakker, M., & Wicherts, J. M. (2014). Outliers removal, sum scores, and the inflation of the type I error rate in independent samples t tests: The power of alternatives and recommendations. *Psychological methods, 19*(3), 409. doi:10.1037/met0000014

Baldwin, D. M. (2003). Disparities in health and health care: Focusing efforts to eliminate unequal burdens. *Online Journal of Issues in Nursing*, *8*(1), 2. Retrieved from https://ojin.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume82003/No1Jan2003/DisparitiesinHealthandHealthCare.html

Bardach, N. S., Asteria-Penaloza, R., Boscardin, W. J., & Dudley, R. A. (2013). The relationship between commercial website ratings and traditional hospital performance measures in the USA. *BMJ quality & safety, 22*(3), 194-202. doi: 10.1136/bmjgs-2012-001360

Barksdale, C. L., Kenyon, J., Graves, D. L., & Jacobs, C. G. (2014). Addressing disparities in mental health agencies: Strategies to implement the national clas standards in mental health. *Psychological Services, 11*(4), 369. doi:10.1037/a0035211

Barksdale, C. L., Rodick, W. H., Hopson, R., Kenyon, J., Green, K., & Jacobs, C. G.

(2017). Literature review of the national CLAS standards: policy and practical implications in reducing health disparities. *Journal of racial and ethnic health disparities, 4*(4), 632-647. doi: 10.1007/s40615-016-0267-3

Bauer, K., & Bai, Y. (2015). Innovative educational activities using a model to improve cultural competency among graduate students. *Procedia-Social and Behavioral Sciences*, *174*, 705-710. doi:10.1016/j.sbspro.2015.01.605

Beattie, M., Murphy, D. J., Atherton, I., & Lauder, W. (2015). Instruments to measure patient experience of healthcare quality in hospitals: A systematic review. *Systematic Reviews*, *4*(1), 97. doi:10.1186/s13643-015-0089-0

Berwick, D. M. (2009). What "patient-centered" should mean: Confessions of an extremist: A seasoned clinician and expert fears the loss of his humanity if he should become a patient. *Health Affairs*, *28*(Suppl1), w555-w565. doi:10.1377/hlthaff.28.4.w555

Betancourt, J. R., Corbett, J., & Bondaryk, M. R. (2014). Addressing disparities and achieving equity: Cultural competence, ethnics, and health-care transformation. *Chest*, *145*(1), 143-148. doi:10.1378/chest.13-0634

Betancourt, J., Green, A., Carrillo, E., & Ananeh-Firempong, O. (2016). Defining cultural competence: a practical framework for addressing racial/ethnic disparities in health and health care. *Public Health Reports*, *118*(4), 293–302. doi:10.1093/phr/118.4.293

Brach, C., & Fraser, I. (2002). Reducing disparities through culturally competent health

care: An analysis of the business case. *Quality Management in Health Care*, *10*(4), 15. doi:10.1097/00019514-200210040-00005

Bradley, E. H., Curry, L., Horwitz, L. I., Sipsma, H., Thompson, J. W., Elma, M., … Krumholz, H. M. (2012). Contemporary evidence about hospital strategies for reducing 30-day readmissions: a national study. *Journal of the American College of Cardiology*, *60*(7), 607-614. doi:10.1016/j.jacc.2012.03.067

Brathwaite, A. C., & Majumdar, B. (2006). Evaluation of a cultural competence educational programme. *Journal of advanced nursing*, *53*(4), 470-479. doi:10.1111/j.1365-2648.2006.03742.x

California Hospital Association. (2020). Hospitals urged to increase HCAHPS response rate. Retrieved from https://calhospital.org/cha-news-article/hospitals-urged-increase-hcahps-response-rate

Campinha-Bacote, J. (1999). A model and instrument for addressing cultural competence in health care. *Journal of Nursing Education*, *38*(5), 203-207. doi:10.3928/0148-4834-19990501-06

Campinha-Bacote, J. (2002). The process of cultural competence in the delivery of healthcare services: A model of care. *Journal of Transcultural Nursing*, *13*, 181-184. doi:10.1177/10459602013003003

Campinha-Bacote, J. (2011). Delivering patient-centered care in the midst of a cultural conflict: The role of cultural competence. *The Online Journal of Issues in Nursing*, *16*(2).

Carrus, B., Cordina, J., Gretz, W., & Neher, K. (2015). *Measuring the patient experience:*

Lessons from other industries. McKinsey & Company, 1-8. Retrieved from https://healthcare.mckinsey.com/measuring-patient-experience-lessons-other-industries/

Carter, J. C., & Silverman, F. N. (2016). Using HCAHPS data to improve hospital care quality. *The TQM Journal*, *28*(6), 974-990. doi:10.1108/TQM-09-2014-0072

Casillas, A., Paroz, S., Green, A. R., Wolff, H., Weber, O., Faucherre, F., . . . Bodenmann, P. (2014). Cultural competency of health-care providers in a Swiss University Hospital: Self-assessed cross-cultural skillfulness in a cross-sectional study. *BMC Medical Education*, *14*(1), 19. doi:10.1186/1472-6920-14-19

Casson, R. J., & Farmer, L. D. (2014). Understanding and checking the assumptions of linear regression: a primer for medical researchers. *Clinical & experimental ophthalmology, 42*(6), 590-596. doi: 10.1111/ceo.12358

Chan, B., Goldman, L. E., Sarkar, U., Schneidermann, M., Kessell, E., Guzman, D., . . . Kushel, M. (2015). The effect of a care transition intervention on the patient experience of older multi-lingual adults in the safety net: Results of a randomized controlled trial. *Journal of General Internal Medicine*, *30*(12), 1788-1794. doi:10.1007/s11606-015-3362-y

Centers for Medicare & Medicaid Services. (CMS). (2006). Glossary. Retrieved from https://www.cms.gov/apps/glossary/default.asp?Letter=C&Language=English

Centers for Medicare & Medicaid Services. (CMS). (2019). Quality measures. Retrieved from https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures/index.html

Chatterjee, P., Joynt, K. E., Orav, E. J., & Jha, A. K. (2012). Patient experience in safety-net hospitals: implications for improving care and value-based purchasing. *Archives of internal medicine, 172*(16), 1204-1210. doi:10.1001/archinternmed.2012.3158

Colby, S. L., & Ortman, J. M. (2015). Projections of the size and composition of the U.S. population: 2014 to 2060. Population estimates and projections. *Current Population Reports*, 25-1143. U.S. Census Bureau. Retrieved from https://www.census.gov/library/publications/2015/demo/p25-1143.html

Coleman, E. A., Mahoney, E., & Parry, C. (2005). Assessing the quality of preparation for posthospital care from the patient's perspective: the care transitions measure. *Medical Care*, 246-255. doi:10.1097/00005650-200503000-00007

Cooper, L. A., Roter, D. L., Carson, K. A., Bone, L. R., Larson, S. M., Miller, E. R., … & Levine, D. M. (2011). A randomized trial to improve patient-centered care and hypertension control in underserved primary care patients. *Journal of general internal medicine*, *26* (11), 1297-1304. doi:10.1007/s11606-011-1794-6

Coulter, A. (2006). Can patients assess the quality of health care? *BMJ: British Medical Journal*, *333*(7557), 1. doi:10.1136/bmj.333.7557.1

Cross, T., Bazron, B. J., Dennis, K. W., & Issac, M. R. (1989). *Toward a culturally competent system of care*. Washington, DC: Georgetown University Child Development Center. Retrieved from https://files.eric.ed.gov/fulltext/ED330171.pdf

Darby, C., Hays, R. D., & Kletke, P. (2005). Development and evaluation of the

CAHPS® hospital survey. *Health Services Research*, *40*(6), 1973-1976. doi:10.1111/j.1475-6773.2005.00490.x

Diamond, L., Wilson-Stronks, A., & Jacobs, E. (2010). Do hospitals measure up to the national culturally and linguistically appropriate services standard? *Medical Care*, 1080-1087. doi:10.1097/MLR.0b013e3181f380bc

Donabedian, A. (1988). The quality of care: How can it be assessed? *JAMA*, *260*(12), 1743-1748. doi:10.1001/jama.1988.03410120089033

Donabedian, A. (2005). Evaluating the quality of medical care. *The Milbank Quarterly*, *83*(4), 691-729. doi:10.1111/j.1468-0009.2005.00397.x

Dreachslin, J. L., Weech-Maldonado, R., Gail, J., Epané, J. P., & Wainio, J. A. (2017). Blueprint for sustainable change in diversity management and cultural competence: Lessons from the national center for healthcare leadership diversity demonstration project. *Journal of Healthcare Management*, *62*(3), 171-183. doi:10.1097/JHM-D-15-00029

Drevdahl, D. J. (2018). Impersonating culture: The effects of using simulated experiences to teach cultural competence. *Journal of Professional Nursing*, *34*(3), 196-204. doi:10.1016/j.profnurs.2017.10.006

Dupree, E., Anderson, R., & Nash, I. S. (2011). Improving quality in healthcare: start with the patient. *Mount Sinai Journal of Medicine: A Journal of Translational and Personalized Medicine*, *78*(6), 813-819. doi:10.1002/msj.20297

Elliot, M. N., Kanouse, D. E., Edwards, C. A., & Hilborne, L. H. (2009). Components of

care vary in importance for overall patient-reported experience by type of hospitalization. *Medical Care*, *47*(8), 842-849. doi:10.1097/MLR.0b013e318197b22a

Elliot, M. N., Lehrman, W. G., Goldstein, E., Hambarsoomian, K., Beckett, M. K., & Giordano, L. A. (2010). Do hospitals rank differently on HCAHPS for different patient subgroups? *Medical Care Research and Review*, *67*(1), 56-73. doi:10.1177/1077558709339066

Estrada, R. D., & Messias, D. K. H. (2015). A scoping review of the literature: Content, focus, conceptualization and application of the national standards for culturally and linguistically appropriate services in health care. *Journal of Health Care for the Poor and Underserved*, *26*(4), 1089-1109. doi:10.1353/hpu.2015.0134

Faloon, Daniela N., Hampe, H., & Cline, T. (2018). Effects of Multimethod Intervention on Bedside Report Compliance and Patient Satisfaction. *Critical care nursing quarterly, 41*(2), 129-141. doi: 10.1097/CNQ.0000000000000191

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior research methods, 41*(4), 1149-1160. doi: 10.3758/BRM.41.4.1149

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175-191. doi:10.3758/BF03193146

Forster, A. J., Murff, H. J., Peterson, J. F., Gandhi, T. K., & Bates, D. W. (2005).

Adverse drug events occurring following hospital discharge. *Journal of General Internal Medicine*, *20*(4), 317-323. doi:10.1111/j.1525-1497.2005.30390.x

Foust, J. B., Vuckovic, N., & Henriquez, E. (2012). Hospital to home health care transition: Patient, caregiver, and clinician perspectives. *Western Journal of Nursing Research*, *34*(2), 194-212. doi:10.1177/0193945911400448

Gallagher, R. W., & Polanin, J. R. (2015). A meta-analysis of educational interventions designed to enhance cultural competence in professional nurses and nursing students. *Nurse Education Today*, *35*(2), 333–340. doi:10.1016/j.nedt.2014.10.021

Gerald, B. (2018). A Brief Review of Independent, Dependent and One Sample t-test. *International Journal of Applied Mathematics and Theoretical Physics, 4*(2), 50-54. doi: 10.11648/j.ijamtp.20180402.13

Godfrey, K. (1985) Simple linear regression in medical research. *New England Journal of Medicine, 313*(26), 1629-1636. doi: 1056/NEJM198512263132604

Green, S. B., & Salkind, N. J. (2014). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (7th ed.). Pearson.

Hasan, O., Meltzer, D. O., Shaykevich, S. A. Bell, C. M., Kaboli, P. J., Auerbach, A. D., . . . Schnipper, J. L. (2010). Hospital readmission in general medicine patients: a prediction model. *Journal of General Internal Medicine*, *25*(3), 211-219. doi:10.1007/s11606-009-1196-1

Hasnain, M., Connell, K. J., Menon, U., & Tranmer, P. A. (2011). Patient-centered care

for Muslim women. *Journal of Women's Health*, *20*(1), 73-83. doi:10.1089/jwh.2010.2197

HCAHPS fact sheet. (2019). Hospital consumer assessment of healthcare providers and systems (HCAHPS). Retrieved from https://www.hcahpsonline.org/globalassets/hcahps/facts/hcahps_fact_sheet_october_2019.pdf

HCAHPS quality assurance. (2019). CAHPS® Hospital Survey (HCAHPS) Quality assurance guidelines. Version 14.0. Retrieved from https://www.hcahpsonline.org/globalassets/hcahps/quality-assurance/2019_qag_v14.0.pdf

Hospital Consumer Assessment of Healthcare Providers and Systems. (2011). Calculation of HCAHPS scores: From raw data to publicly reported results. Retrieved from https://www.hcahpsonline.org/globalassets/hcahps/technical-specifications/calculation-of-hcahps-scores2.pdf

Hospital Consumer Assessment of Healthcare Providers and Systems. (2017). Summary analyses. Retrieved from https://www.hcahpsonline.org/en/summary-analyses/Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-based nursing*, *18*(3), 66-67. doi:10.1136/eb-2015-102129

Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century*. National Academies Press. doi:10.17226/10027

Issac, T., Zaslavsky, A. M., Cleary, P. D., & Landon, B. E. (2010). The relationship

between patients' perception of care and measures of hospital quality and safety. *Health Services Research*, *45*(4), 1024-1040. doi:10.1111/j.1475-6773.2010.01122.x

Jencks, S. F., Williams, M. V., & Coleman, E. A. (2009). Rehospitalizations among patients in the Medicare fee-for-service program. *New England Journal of Medicine*, *360*(14), 1418-1428. doi:10.1056/NEJMsa0803563

Jernigan, V. B. B., Hearod, J. B., Tran, K., Norris, K. C., & Buchwald, D. (2016). An examination of cultural competence training in U.S. medical education guided by the tool for assessing cultural competence training. *Journal of Health Disparities Research and Practice*, *9*(3), 150-167. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5091804/

Jha, A. K., Orav, E. J., Zheng, J., & Epstein, A. M. (2008). Patients' perception of hospital care in the United States. *New England Journal of Medicine*, *359*(18), 1921-1931. doi:10.1056/NEJMsa0804116

Jolley, R. J., Lorenzetti, D. L., Manalili, K., Lu, M., Quan, H., & Santana, M. J. (2017). Protocol for a scoping review study to identify and classify patient-centred quality indicators. *BMJ Open*, *7*(1), e013632. doi:10.1136/bmjopen-2016-013632

Jongen, C. S., McCalman, J., & Bainbridge, R. G. (2018). The implementation and evaluation of health promotion services and programs to improve cultural competency: A systematic scoping review. *Frontiers in Public Health*, *5*, 24. doi:10.3389/fpubh.2017.00024

Kachalia, A., Kaufman, S. R., Boothman, R., Anderson, S., Welch, K., Saint, S., &

Rogers, M. A. (2010). Liability claims and costs before and after implementation of a medical error disclosure program. *Annals of Internal Medicine*, *153*(4), 213-221. doi:10.7326/0003-4819-153-4-201008170-00002

Kemp, K. A., Chan, N., McCormack, B., & Douglas-England, K. (2015). Drivers of inpatient hospital experience using the HCAHPS survey in a Canadian setting, *Health services research, 50*(4), 982-997. doi:10.1111/1475-6773.12271

Kemp, K., McCormack, B., Chan, N., Santana, M. J., & Quan, H. (2015). Correlation of inpatient experience survey items and domains with overall hospital rating. *Journal of Patient Experience*, *2*(2), 29-36. doi:10.1177/2374373515615977

Kennedy, G. D., Tevis, S. E., & Kent, K. C. (2014). Is there a relationship between patient satisfaction and favorable outcomes? *Annals of Surgery*, *260*(4), 592. doi:10.1097/SLA.0000000000000932

Khanna, S. K., Cheyney, M., & Engle, M. (2009). Cultural competency in health care: Evaluating the outcomes of a cultural competency training among health care professionals. *Journal of the National Medical Association*, *101*(9), 886-892. doi:10.1016/S0027-9684(15)31035-X

Leape, L., Berwick, D., Clancy, C., Conway, J., Gluck, P., Guest, J., . . . Pinakiewicz, D. (2009). Transforming healthcare: A safety imperative. *BMJ Quality & Safety*, *18*(6), 424-428. doi:10.1136/qshc.2009.036954

Levin, J. M., Winkelman, R. D., Smith, G. A., Tanenbaum, J., Benzel, E. C., Mroz, T. E., & Steinmetz, M. P. (2017). The association between the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey and real-

world clinical outcomes in lumbar spine surgery. *The Spine Journal, 17*(11), 1586-1593. doi:10.1016/j.spinee.2017.05.002

Levinson, W., Lesser, C. S., & Epstein, R. M. (2010). Developing physician communication skills for patient-centered care. *Health Affairs*, *29*(7), 1310-1318. doi:10.1377/hlthaff.2009.0450

Levinson, W., Roter, D. L., Mullooly, J. P., Dull, V. T., & Frankel, R. M. (1997). Physician-patient communication: The relationship with malpractice claims among primary care physicians and surgeons. *JAMA*, *277*(7), 553-559. doi:10.1001/jama.1997.03540310051034

Liaw, S. T., Hasan, I., Wade, V., Canalese, R., Kelaher, M., Lau, P., & Harris, M. (2015). Improving cultural respect to improve Aboriginal health in general practice: a multi-methods and multi-perspective pragmatic study. *Australian Family Physician*, *44*(6), 387. Retrieved from https://www.researchgate.net/publication/281819396_Improving_cultural_respect_to_improve_Aboriginal_health_in_general_practice_A_multi-methods_and_multi-perspective_pragmatic_study

Majumdar, B., Browne, G., Roberts, J., & Carpio, B. (2004). Effects of cultural sensitivity training on health care provider attitudes and patient outcomes. *Journal of Nursing Scholarship*, *36*(2), 161-166. doi:10.1111/j.1547.5069.2004.04029.x

Manary, M. P., Boulding, W., Staelin, R., & Glickman, S. W. (2013). The patient experience and health outcomes. *New England Journal of Medicine*, *368*(3), 201-203. doi:10.1056/NEJMp1211775

Mayr, S., Erdfelder, E., Buchner, A., & Faul, F. (2007). A short tutorial of GPower. *Tutorials in quantitative methods for psychology, 3*(2), 51-59. doi; 10.20982/tqmp.03.2.p051

McCalman, J., Jongen, C., & Bainbridge, R. (2017). Organisational systems' approaches to improving cultural competence in healthcare: A systematic scoping review of the literature. *International Journal for Equity in Health*, *16*, 78. doi:10.1186/s12939-017-0571-5

McClelland, L. E., & Vogus, T. J. (2014). Compassion practices and HCAHPS: does rewarding and supporting workplace compassion influence patient perceptions?. *Health services research, 49*(5), 1670-1683. doi:10.1111/1475-6773.12186

Michalopoulou, G., Falzarano, P., Arfken, C., & Rosenberg, D. (2010). Implementing Ask Me 3 to improve African American patient satisfaction and perceptions of physician cultural competency. *Journal of cultural diversity, 17*(2), 62-7. Retrieved from https://www.researchgate.net/publication/44850531_Implementing_Ask_Me_3_to_improve_African_American_patient_satisfaction_and_perceptions_of_physician_cultural_competency

McKesey, J., Berger, T. G., Lim, H. W., McMichael, A. J., Torres, A., & Pandya, A. G. (2017). Cultural competence for the 21st-century dermatologist practicing in the United States. *Journal of the American Academy of Dermatology*, *77*(6), 1159-1169. doi:10.1016/j.jaad.2017.07.057

Medicare. (n.d.). Survey of patients' experiences (HCAHPS). Retrieved from

https://www.medicare.gov/hospitalcompare/Data/Overview.html

National Quality Forum. (2009). A comprehensive framework and preferred practices for measuring and reporting cultural competency: A consensus report. Retrieved from file:///Users/lindaquach/Downloads/Cultural%20Competency_full%20(1).pdf

National Transitions of Care Coalition. (2019). Improving care transitions for all. Retrieved from http://www.ntocc.org/WhoWeServe/tabid/56/Default.aspx

Nelson, A. (2002). Unequal treatment: Confronting racial and ethnic disparities in health care. *Journal of the National Medical Association*, *94*(8), 666. doi:10.17226/12875

Ng, J. H., Tirodkar, M. A., French, J. B., Spalt, H. E., Ward, L. M., Haffer, S. C., … & Scholle, S. H. (2017). Health Quality Measures Addressing Disparities in Culturally and Linguistically Appropriate Services: What are Current Gaps?. *Journal of health care for the poor and underserved, 28*(3), 1012-1029. doi: 10.1353/hpu.2017.0093

Ohana, S., & Mash, R. (2015). Physician and patient perceptions of cultural competency and medical compliance. *Health Education Research*, *30*(6), e923-e934. doi:10.1093/her/cyv060

Osborne, J. W., & Overbay, A. (2004). The power of outliers (any why researchers should always check for them). *Practical Assessment, Research, and Evaluation, 9*(1), 6. doi:10.7275/qf69-7k43

Purnell, L. (2005). The Purnell model for cultural competence. *Journal of Multicultural Nursing & Health*, *11*(2), 7. doi:10.1177/10459602013003006

Rademakers, J., Delnoij, D., & de Boer, D. (2011). Structure, process, or outcome: Which contributes most to patients' overall assessment of healthcare quality? *BMJ Quality & Safety*, *20*(4), 326-331. doi:10.1136/bmjqs.2010.042358

Reichard, J. S., Savage, S., & Eckel, S. F. (2015). Pharmacy-initiated transitions of care services: An opportunity to impact patient satisfaction. *Hospital Pharmacy*, *50*(10), 911-917. doi:10.1310/hpj5010-911

Saha, S., Beach, M. C., & Cooper, L. A. (2008). Patient centeredness, cultural competence and healthcare quality. *Journal of the National Medical Association*, *100*(11), 1275. doi:10.1016/S0027-9684(15)31505-4

Salinas, S. (2017). Examining the relationship between perceived quality of care and actual quality of care as measured by 30-day readmission rates. *Quality Management in Health Care*, *26*(1), 29-32. doi:10.1097/QMH.0000000000000117

Stimpfel, A. W., Sloane, D. M., McHugh, M. D., & Aiken, L. H. (2016). Hospitals known for nursing excellence associated with better hospital experience for patients. *Health Services Research*, *51*(3), 1120-1134. doi:10.1111/1475-6773.12357

Tevis, S. E., Schmocker, R. K., & Kennedy, G. D. (2014). Can patients reliably identify safe, high-quality care? *Journal of Hospital Administration*, *3*,(5), 150. doi:10.5430/jha.v3n5p150

Thiels, C. A., Hanson, K. T., Yost, k. J., Mathis, K. L., Cima, R. R., Zielinski, M. D., &

Habermann, E. B. (2016). Achieving a 5-star rating: analysis of hospital consumer assessment of healthcare providers and systems (HCAHPS) scores among patients undergoing elective colorectal operations. *Surgery*, *160*(4), 902-914. doi:10.1016/j.surg.2016.04.042

Truong, M., Paradies, Y., & Priest, N. (2014). Interventions to improve cultural competency in healthcare: a systematic review of reviews. *BMC health services research, 14*(1), 99. doi:1186/1472-6963-14-294

Trzeciak, S., Gaughan, J. P., Bosire, J., & Mazzarelli, A. J. (2016). Association between Medicare summary star ratings for patient experience and clinical outcomes in US hospitals. *Journal of Patient Experience*, *3*(1), 6-9. doi:10.1177/2374373516636681

Tsai, T. C., Orav, E. J., & Jha, A. K. (2015). Patient satisfaction and quality of surgical care in U.S. hospitals. *Annals of Surgery*, *261*(1), 2. doi:10.1097/SLA.0000000000000765

Tzelepis, F., Sanson-Fisher, R. W., Zucca, A. C., & Fradgley, E. A. (2015). Measuring the quality of patient-centered care: why patient-reported measures are critical to reliable assessment. *Patient Preference and Adherence*, *9*, 831-835. doi:10.2147/PPAS81975

U.S. Census Bureau. (2019). California quick facts. Retrieved from https://www.census.gov/quickfacts/CA

Vogus, T. J., & McClelland, L. E. (2016). When the customer is the patient: Lessons

from healthcare research on patient satisfaction and service quality ratings. *Human Resource Management Review*, *26*(1), 37-49. doi:10.1016/j.hrmr.2015.09.005

Volland, J., & Fryda, S. (2015). HCAHPS series part 1: Transforming care transitions. *Nursing Management*, *46*(1), 24-29. doi:10.1097/01.NUMA.0000459101.17224.c3

Watt, K., Abbott, P., & Reath, J. (2016). Developing cultural competence in general practitioners: An integrative review of the literature. *BMC Family Practice*, *17*(1), 158. doi:10.1186/s12875-016-0560-6

Weech-Maldonado, R., Dreachslin, J. L., Epane, J. P., Gail, J., Gupta, S., & Wainio, J. A. (2018). Hospital cultural competency as a systematic organizational intervention: Key findings from the national center for healthcare leadership diversity demonstration project. *Health Care Management Review*, *43*(1), 30-41. doi:10.1097/HMR.0000000000000128

Weech-Maldonado, R., Elliott, M. N., Pradhan, R., Schiller, C., Dreachslin, J., & Hays, R. D. (2012). Moving towards culturally competent health systems: Organizational and market factors. *Social Science & Medicine*, *75*(5), 815-822. doi:10.1016/j.socscimed.2012.03.053

Weech-Maldonado, R., Elliott, M. N., Pradhan, R., Schiller, C., Hall, A., & Hays, R. D. (2012). Can hospital cultural competency reduce disparities in patient experiences with care? *Medical Care*, *50*, S48. doi:10.1097/MLR.06013e3182610ad1

World Health Organization. (2019). What is quality of care, and why is it important?

Retrieved from https://www.who.int/maternal_child_adolescent/topics/quality-of-care/definition/en/

Appendix A: HCAHPS Survey

HCAHPS Survey

SURVEY INSTRUCTIONS

- You should only fill out this survey if you were the patient during the hospital stay named in the cover letter. Do not fill out this survey if you were not the patient.
- Answer all the questions by checking the box to the left of your answer.
- You are sometimes told to skip over some questions in this survey. When this happens you will see an arrow with a note that tells you what question to answer next, like this:

  ☐ Yes
  ☑ No ➔ *If No, Go to Question 1*

You may notice a number on the survey. This number is used to let us know if you returned your survey so we don't have to send you reminders.
Please note: Questions 1-25 in this survey are part of a national initiative to measure the quality of care in hospitals. OMB #0938-0981

Please answer the questions in this survey about your stay at the hospital named on the cover letter. Do not include any other hospital stays in your answers.

YOUR CARE FROM NURSES

1. **During this hospital stay, how often did nurses treat you with courtesy and respect?**
   [1]☐ Never
   [2]☐ Sometimes
   [3]☐ Usually
   [4]☐ Always

2. **During this hospital stay, how often did nurses listen carefully to you?**
   [1]☐ Never
   [2]☐ Sometimes
   [3]☐ Usually
   [4]☐ Always

3. **During this hospital stay, how often did nurses explain things in a way you could understand?**
   [1]☐ Never
   [2]☐ Sometimes
   [3]☐ Usually
   [4]☐ Always

4. **During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?**
   [1]☐ Never
   [2]☐ Sometimes
   [3]☐ Usually
   [4]☐ Always
   [9]☐ I never pressed the call button

YOUR CARE FROM DOCTORS

5. During this hospital stay, how often did doctors treat you with courtesy and respect?

1 ☐ Never
2 ☐ Sometimes
3 ☐ Usually
4 ☐ Always

6. During this hospital stay, how often did doctors listen carefully to you?

1 ☐ Never
2 ☐ Sometimes
3 ☐ Usually
4 ☐ Always

7. During this hospital stay, how often did doctors explain things in a way you could understand?

1 ☐ Never
2 ☐ Sometimes
3 ☐ Usually
4 ☐ Always

THE HOSPITAL ENVIRONMENT

8. During this hospital stay, how often were your room and bathroom kept clean?

1 ☐ Never
2 ☐ Sometimes
3 ☐ Usually
4 ☐ Always

9. During this hospital stay, how often was the area around your room quiet at night?

1 ☐ Never
2 ☐ Sometimes
3 ☐ Usually
4 ☐ Always

YOUR EXPERIENCES IN THIS HOSPITAL

10. During this hospital stay, did you need help from nurses or other hospital staff in getting to the bathroom or in using a bedpan?

1 ☐ Yes
2 ☐ No ➔ **If No, Go to Question 12**

11. How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?

1 ☐ Never
2 ☐ Sometimes
3 ☐ Usually
4 ☐ Always

12. During this hospital stay, did you have any pain?

1 ☐ Yes
2 ☐ No ➔ **If No, Go to Question 15**

13. During this hospital stay, how often did hospital staff talk with you about how much pain you had?

1 ☐ Never
2 ☐ Sometimes
3 ☐ Usually
4 ☐ Always

14. During this hospital stay, how often did hospital staff talk with you about how to treat your pain?

1 ☐ Never
2 ☐ Sometimes
3 ☐ Usually
4 ☐ Always

15. **During this hospital stay, were you given any medicine that you had not taken before?**

[1] ☐ Yes
[2] ☐ No ➔ **If No, Go to Question 18**

16. **Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?**

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

17. **Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?**

[1] ☐ Never
[2] ☐ Sometimes
[3] ☐ Usually
[4] ☐ Always

WHEN YOU LEFT THE HOSPITAL

18. **After you left the hospital, did you go directly to your own home, to someone else's home, or to another health facility?**

[1] ☐ Own home
[2] ☐ Someone else's home
[3] ☐ Another health facility ➔ **If Another, Go to Question 21**

19. **During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?**

[1] ☐ Yes
[2] ☐ No

20. **During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?**

[1] ☐ Yes
[2] ☐ No

OVERALL RATING OF HOSPITAL

Please answer the following questions about your stay at the hospital named on the cover letter. Do not include any other hospital stays in your answers.

21. **Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?**

[0] ☐ 0 Worst hospital possible
[1] ☐ 1
[2] ☐ 2
[3] ☐ 3
[4] ☐ 4
[5] ☐ 5
[6] ☐ 6
[7] ☐ 7
[8] ☐ 8
[9] ☐ 9
[10] ☐ 10 Best hospital possible

22. Would you recommend this hospital to your friends and family?

[1] ☐ Definitely no
[2] ☐ Probably no
[3] ☐ Probably yes
[4] ☐ Definitely yes

UNDERSTANDING YOUR CARE WHEN YOU LEFT THE HOSPITAL

23. During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left.

[1] ☐ Strongly disagree
[2] ☐ Disagree
[3] ☐ Agree
[4] ☐ Strongly agree

24. When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.

[1] ☐ Strongly disagree
[2] ☐ Disagree
[3] ☐ Agree
[4] ☐ Strongly agree

25. When I left the hospital, I clearly understood the purpose for taking each of my medications.

[1] ☐ Strongly disagree
[2] ☐ Disagree
[3] ☐ Agree
[4] ☐ Strongly agree
[5] ☐ I was not given any medication when I left the hospital

ABOUT YOU

There are only a few remaining items left.

26. During this hospital stay, were you admitted to this hospital through the Emergency Room?

[1] ☐ Yes
[2] ☐ No

27. In general, how would you rate your overall health?

[1] ☐ Excellent
[2] ☐ Very good
[3] ☐ Good
[4] ☐ Fair
[5] ☐ Poor

28. In general, how would you rate your overall mental or emotional health?

[1] ☐ Excellent
[2] ☐ Very good
[3] ☐ Good
[4] ☐ Fair
[5] ☐ Poor

29. What is the highest grade or level of school that you have completed?

[1] ☐ 8th grade or less
[2] ☐ Some high school, but did not graduate
[3] ☐ High school graduate or GED
[4] ☐ Some college or 2-year degree
[5] ☐ 4-year college graduate
[6] ☐ More than 4-year college degree

30. Are you of Spanish, Hispanic or Latino origin or descent?

[1] ☐ No, not Spanish/Hispanic/Latino
[2] ☐ Yes, Puerto Rican
[3] ☐ Yes, Mexican, Mexican American, Chicano
[4] ☐ Yes, Cuban
[5] ☐ Yes, other Spanish/Hispanic/Latino

31. What is your race? Please choose one or more.

[1] ☐ White
[2] ☐ Black or African American
[3] ☐ Asian
[4] ☐ Native Hawaiian or other Pacific Islander
[5] ☐ American Indian or Alaska Native

32. What language do you <u>mainly</u> speak at home?

[1] ☐ English
[2] ☐ Spanish
[3] ☐ Chinese
[4] ☐ Russian
[5] ☐ Vietnamese
[6] ☐ Portuguese
[9] ☐ Some other language (please print):
_____

THANK YOU

Please return the completed survey in the postage-paid envelope.

[NAME OF SURVEY VENDOR OR SELF-ADMINISTERING HOSPITAL]

[RETURN ADDRESS OF SURVEY VENDOR OR SELF-ADMINISTERING HOSPITAL]

Appendix B: HCAHPS Development, Data Collection, and Public Reporting

HCAHPS Survey Instrument

Components of the HCAHPS Survey Instrument

The standardized 29-question HCAHPS Survey instrument is composed of the following measures:

- Six Composite Measures
  - Communication with Nurses (comprised of three HCAHPS Survey items)
  - Communication with Doctors (comprised of three HCAHPS Survey items)
  - Responsiveness of Hospital Staff (comprised of two HCAHPS Survey items)
  - *
  - Communication About Medicines (comprised of two HCAHPS Survey items)
  - Discharge Information (comprised of two HCAHPS Survey items)
  - Care Transition (comprised of three HCAHPS Survey items)
- Two Individual Items
  - Cleanliness of Hospital Environment
  - Quietness of Hospital Environment
- Two Global Items
  - Recommend the Hospital
  - Hospital Rating

The HCAHPS Survey is currently available in English (Mail Only, Telephone Only, Mixed, Active IVR modes), Spanish (Mail Only, Telephone Only, Mixed, and Active IVR modes), Chinese (Mail Only, Telephone Only and Mixed Modes), Russian (Mail Only, Telephone Only and Mixed Modes), Vietnamese (Mail Only), Portuguese (Mail Only), and German (Mail Only). Hospitals/Survey vendors are not permitted to make or use any other language translations.

HCAHPS Development, Data Collection and Public Reporting Timeline

The following timeline outlines major events in the HCAHPS development process, as well as anticipated dates for future national implementation events.

2002

- *July 2002* – AHRQ publishes call for measures in the Federal Register
- *Fall 2002* – The CAHPS team reviews the literature and response to the call for measures on patient assessment of hospital care related to survey content, sampling, data collection, and reporting
- *November 2002* – AHRQ and CMS hold a Stakeholders Meeting
- *November 2002* – AHRQ and CMS hold a Survey Vendors Meeting

2003

- *February 2003* – A Federal Register Notice is published soliciting comments on the draft pilot instrument
- *June 2003* – Data collection begins for the CMS Three State Pilot (Arizona, Maryland and New York)

* Measure intentionally omitted as this was the previous pain management composite measure that is no longer included in HCAHPS Public Reporting

- *April 2006* – The second *HCAHPS Hospital/Survey Vendor Training* is conducted via Webinar
- *October 2006* – Data collection for the National Implementation of HCAHPS for Public Reporting commences

2007

- *January 2007* – The HCAHPS *Quality Assurance Guidelines V2.0* is released
- *January 2007* – The third *HCAHPS Hospital/Survey Vendor Training (Introduction to HCAHPS Training)* is conducted via Webinar
- *March 2007* – A second HCAHPS dry run is conducted, for hospitals/survey vendors that did not participate in 2006
- *May 2007* – A Chinese translation of the survey instrument is made available for Mail Only mode of survey administration
- *May 2007* – The first *HCAHPS Update Training* sessions are conducted via Webinar
- *July 1, 2007* – HCAHPS Data Collection and Public Reporting for Annual Payment Update purposes (APU era) begins
- *August 22, 2007* – The Final IPPS rule is published, which stipulates that IPPS hospitals must participate in and publicly report HCAHPS in order to qualify for their full APU for FY 2008 ("pay for reporting")

2008

- *January 2008* – The HCAHPS *Quality Assurance Guidelines V3.0* is released
- *January 2008* – The fourth *Introduction to HCAHPS Training* and second *HCAHPS Update Training* sessions are conducted via Webinar
- *January 17 – February 15, 2008* – First preview period for HCAHPS public reporting
- *February 2008* – OMB re-approved HCAHPS
- *March 28, 2008* – The First Public Reporting of HCAHPS results (Patients discharged October 2006 – June 2007) on the Hospital Compare Web site
- *July 2008* – Data collection begins for Mode Experiment II
- *August 2008* – Second Public Reporting of HCAHPS results (Patients discharged October 2006 – September 2007)
- *August 19, 2008* – The final IPPS rule is published, which stipulates that IPPS hospitals must continuously collect and submit HCAHPS data to the QIO Clinical Warehouse by the data submission deadlines which are posted on the HCAHPS Web site (http://www.hcahpsonline.org)
- *September 2008* – Third Public Reporting of HCAHPS results (Patients discharged January 2007 – December 2007)
- *October 2008* – CMS releases *HCAHPS Bulletin 2008-01*, "Application of the HCAHPS Lag Time Variable"
- *December 2008* – Fourth Public Reporting of HCAHPS results (Patients discharged April 2007 – March 2008)

2009

- *February 2009* – The HCAHPS *Quality Assurance Guidelines V4.0* is released
- *February 2009* – *Introduction to HCAHPS Training* and *HCAHPS Update Training* are conducted via Webinar

- *February 2009* – Russian and Vietnamese translations of the survey instrument are made available for Mail Only mode of survey administration
- *February 2009* – CMS releases HCAHPS Bulletin 2009-01, "The Use of HCAHPS in Connection with Other Hospital Inpatient Surveys," which is posted on the HCAHPS Web site (http://www.hcahpsonline.org)
- *March 2009* – Fifth Public Reporting of HCAHPS results (Patients discharged July 2007 – June 2008). IPPS hospitals must report their HCAHPS results, and can no longer suppress public reporting.
- *May 2009* – CMS releases *HCAHPS Bulletin 2009-01 Revised*, "The Use of HCAHPS in Conjunction with Other Hospital Inpatient Surveys," which is posted on the HCAHPS Web site (http://www.hcahpsonline.org)
- *July 2009* – Sixth Public Reporting of HCAHPS results (Patients discharged October 2007 – September 2008)
- *August 27, 2009* – The final IPPS rule is published, which stipulates the continued requirement for IPPS hospitals to continuously collect and submit HCAHPS data to the QIO Clinical Warehouse by the data submission deadlines which are posted on the HCAHPS Web site (http://www.hcahpsonline.org)
- *September 2009* – Seventh Public Reporting of HCAHPS results (Patients discharged January 2008 – December 2008)
- *December 2009* – Eighth Public Reporting of HCAHPS results (Patients discharged April 2008 – March 2009)

2010

- *March 2010* – The HCAHPS *Quality Assurance Guidelines V5.0* is released
- *March 2010* – *Introduction to HCAHPS Training* and *HCAHPS Update Training* are conducted via Webinar
- *March 2010* – Ninth Public Reporting of HCAHPS results (Patients discharged July 2008 – June 2009)
- *April 2010* – HCAHPS is named in Section 3001 of the Patient Protection and Affordable Care Act of 2010
- *June 2010* – Tenth Public Reporting of HCAHPS results (Patients discharged October 2008 – September 2009)
- *August 16, 2010* – The final IPPS rule is published, which stipulates the continued requirement for IPPS hospitals to continuously collect and submit HCAHPS data to the QIO Clinical Warehouse by the data submission deadlines which are posted on the HCAHPS Web site (http://www.hcahpsonline.org)
- *September 2010* – Eleventh Public Reporting of HCAHPS results (Patients discharged January 2009 – December 2009)
- *December 2010* – Twelfth Public Reporting of HCAHPS results (Patients discharged April 2009 – March 2010)
- *December 2010* – CMS releases the *HCAHPS Bulletin 2010-01* "HCAHPS and Hospital Value-Based Purchasing"

2011

- *March 2011* – The HCAHPS *Quality Assurance Guidelines V6.0* is released

- *March 2011 – Introduction to HCAHPS Training* and *HCAHPS Update Training* are conducted via Webinar
- *April 2011* – Thirteenth Public Reporting of HCAHPS results (Patients discharged July 2009 – June 2010)
- *May 6, 2011* – The final Hospital Value-Based Purchasing rule is published *(Federal Register / Vol. 76, No. 88 / Friday, May 6, 2011 / Rules and Regulations)*
- *July 2011* – Fourteenth Public Reporting of HCAHPS results (Patients discharged October 2009 – September 2010)
- *August 18, 2011* – The final IPPS rule is published *(Federal Register / Vol. 76, No. 160 / Thursday, August 18, 2011 / Rules and Regulations)*
- *October 2011* – Fifteenth Public Reporting of HCAHPS results (Patients discharged January 2010 – December 2010)

2012

- *January 2012* – Sixteenth Public Reporting of HCAHPS results (Patients discharged April 2010 – March 2011)
- *March 2012* – The HCAHPS *Quality Assurance Guidelines V7.0* is released
- *March 2012 – Introduction to HCAHPS Training* and *HCAHPS Update Training* are conducted via Webinar
- *Spring 2012* – Seventeenth Public Reporting of HCAHPS results (Patients discharged July 2010 – June 2011)
- *July 2012* – Eighteenth Public Reporting of HCAHPS results (Patients discharged October 2010 - September 2011)
- *July 1, 2012* – Voluntary use of the HCAHPS 32-item Expanded survey begins with July 1, 2012 discharges
- *August 31, 2012* – The final IPPS rule is published (*Federal Register / Vol. 77, No. 170 / Friday, August 31, 2012 / Rules and Regulations*)
- *October 1, 2012* – Hospital Value-Based Purchasing program begins; HCAHPS "top-box" scores used to create the Patient Experience of Care Domain score
- *October 2012* – Nineteenth Public Reporting of HCAHPS results (Patients discharged January 2011 – December 2011)
- *December 2012* – Twentieth Public Reporting of HCAHPS results (Patients discharged April 2011 – March 2012)

2013

- *January 2013* – Required use of the 32-item HCAHPS Survey, which includes the Care Transition Measure
- *March 2013* – The HCAHPS *Quality Assurance Guidelines V8.0* is released
- *March 2013 – Introduction to HCAHPS Training and HCAHPS Update Training* are conducted via Webinar
- *April 2013* – Twenty-first Public Reporting of HCAHPS results (Patients discharged July 2011 – June 2012)
- *July 2013* – Twenty-second Public Reporting of HCAHPS results (Patients discharged October 2011 – September 2012)
- *August 19, 2013* – The final IPPS rule is published (*Federal Register / Vol. 78, No. 160 / Friday, August 19, 2013 / Rules and Regulations*)

- *September 2013* – CMS releases the Portuguese translation of the HCAHPS Survey for Mail Only mode of survey administration
- *October 2013* – Language speak at home patient-mix adjustment applied to October 1, 2013 and forward discharges
- *December 2013* – Twenty-third Public Reporting of HCAHPS results (Patients discharged January 2012 – December 2012)

2014

- *January 2014* – Twenty-fourth Public Reporting of HCAHPS results (Patients discharged April 2012 – March 2013)
- *March 2014* – The HCAHPS *Quality Assurance Guidelines V9.0* is released
- *March 2014 – Introduction to HCAHPS Training and HCAHPS Update Training* are conducted via Webinar
- *April 2014* – Twenty-fifth Public Reporting of HCAHPS results (Patients discharged July 2012 – June 2013
- *July 2014* – Twenty-sixth Public Reporting of HCAHPS results (Patients discharged October 2012 – September 2013)
- *August 22, 2014* – The final IPPS rule is published (*Federal Register / Vol. 79, No. 163 / Friday, August 22, 2014 / Rules and Regulations*)
- *December 2014* – Twenty-seventh Public Reporting of HCAHPS results (Patients discharged January 2013 – December 2013)
  - First public reporting of Care Transition Measure composite

2015

- *March 2015 – Introduction to HCAHPS Training* and *HCAHPS Update Training* are conducted via Webinar
- *March 2015* – The HCAHPS *Quality Assurance Guidelines V10.0* is released
- *April 2015* – Twenty-eighth Public Reporting of HCAHPS results (Patients discharged July 2013 – June 2014)
  - First public reporting of HCAHPS Star Ratings
- *July 2015* – Twenty-ninth Public Reporting of HCAHPS results (Patients discharged October 2013 – September 2014)
- *August 17, 2015* – The final IPPS rule is published (*Federal Register / Vol. 80, No. 158 / Friday, August 17, 2015 / Rules and Regulations*)
- *October 2015* – Thirtieth Public Reporting of HCAHPS results (Patients discharged January 2014 – December 2014)
- *December 2015* – Thirty-first Public Reporting of HCAHPS results (Patients discharged April 2014 – March 2015)

2016

- *March 2016 – Introduction to HCAHPS Training* and *HCAHPS Update Training* are conducted via Webinar
- *March 2016* – The HCAHPS *Quality Assurance Guidelines V11.0* is released
- *April 2016* – Thirty-second Public Reporting of HCAHPS results (Patients discharged July 2014 – June 2015)

- *July 2016* – Thirty-third Public Reporting of HCAHPS results (Patients discharged October 2014 – September 2015)
- *August 22, 2016* – The final IPPS rule is published (*Federal Register / Vol. 81, No. 162 / Friday, August 22, 2016 / Rules and Regulations*) (https://federalregister.gov/a/2016-18476)
- *October 2016* – Thirty-fourth Public Reporting of HCAHPS results (Patients discharged January 2015 – December 2015)
- *November 2016* – The final OPPS rule is published (*Federal Register / Vol. 81, No. 219 / Monday, November 14, 2016*), which stipulates that beginning in FY 2018, the HCAHPS Pain Management dimension will be removed from the Hospital VBP program. In addition, the HCAHPS Care Transition Dimension will be added to the Hospital VBP Program. (https://federalregister.gov/d/2016-26515)
- *December 2016* – Thirty-fifth Public Reporting of HCAHPS results (Patients discharged April 2015 – March 2016). Public reporting of HCAHPS scores restricted to hospitals with 25 or more completed surveys.

2017

- *February-March 2017 – Introduction to HCAHPS Training* and *HCAHPS Update Training* are conducted via Webinar
- *March 2017* – The HCAHPS *Quality Assurance Guidelines V12.0* is released and CMS releases the Chinese and Russian translations of the HCAHPS Telephone Scripts
- *April 2017* – Thirty-sixth Public Reporting of HCAHPS results (Patients discharged July 2015 – June 2016)
- *July 2017* – Thirty-seventh Public Reporting of HCAHPS results (Patients discharged October 2015 – September 2016)
- *August 2017* – The final FY 2018 IPPS rule is published (*Federal Register / Vol. 82, No. 155 / Monday, August 14, 2017*), in which CMS announced plans to replace the pain management questions with three new questions that focus on Communication About Pain
- *October 2017* – Thirty-eighth Public Reporting of HCAHPS results (Patients discharged January 2016 – December 2016)
- *November 2017* – Release of the first HCAHPS Podcast entitled "Successfully Transitioning to the New *Communication About Pain* Items on the HCAHPS Survey"
- *December 2017* – Thirty-ninth Public Reporting of HCAHPS results (Patients discharged April 2016 – March 2017)

2018

- *January 2018* – The new HCAHPS pain items are required to be used for all patient discharges January 2018 and forward. These items comprise a new composite measure Communication About Pain and replace the original pain items 12, 13 and 14.
- *February-March 2018 – Introduction to HCAHPS Training* and *HCAHPS Update Training* are conducted
- *March 2018* – The HCAHPS *Quality Assurance Guidelines V13.0* is released
- *April 2018* – Fortieth Public Reporting of HCAHPS results (Patients discharged July 2016 – June 2017)
- *May 2018* – CMS removed the Pain Management composite from the April 2018 Hospital Compare Refresh

- *July 2018* – Forty-first Public Reporting of HCAHPS results (Patients discharged October 2016 – September 2017)
- *August 2018* – The final FY 2019 IPPS rule is published (Federal Register / Vol. 83, No. 160 / August 17, 2018), establishing the Hospital Inpatient Prospective Payment System
- *October 2018* – Forty-second Public Reporting of HCAHPS results (Patients discharged January 2017 – December 2017)
- *November 2018* – The final CY 2019 OPPS rule is published (Federal Register / Vol. 83, No. 225 / *November 21, 2018*), in which CMS announced the removal of the Communication About Pain composite measure effective with October 1, 2019 patient discharges for the FY 2021 payment determination and subsequent years
- *November 2018* – OMB re-approved HCAHPS with addition of the Expiration Date of November 30, 2021 displayed on the front page of the questionnaire and in the OMB Paperwork Reduction Action Language statement

2019

- *January 2019* – Forty-third Public Reporting of HCAHPS results (Patients discharged April 2017 – March 2018). Refreshed in February 2019.
- *February 2019* – The *HCAHPS Quality Assurance Guidelines V14.0* is released
- *February 2019* – *Introduction to HCAHPS Training* and *HCAHPS Update Training* are conducted
- *April 2019* – Forty-fourth Public Reporting of HCAHPS results (Patients discharged July 2017 – June 2018)
- *July 2019* – Forty-fifth Public Reporting of HCAHPS results (Patients discharged October 2017 – September 2018)
- *October 2019* – CMS releases the German translation of the HCAHPS Survey for Mail Only mode of survey administration
- *October 2019* – The removal of the Communication About Pain composite from the HCAHPS Survey effective with October 1, 2019 patient discharges
- *October 2019* – Forty-sixth Public Reporting of HCAHPS results (Patients discharged January 2018 – December 2018)

Appendix C: Results of Care Transition

Table 1

Simple Linear Regression Residuals Statistics for Care Transition

	Minimum	Maximum	*M*	*SD*	*N*
Predicted Value	31.21	66.42	53.07	4.54	3901
Residual	-38.21	33.90	.000	5.14	3901
Std. Predicted Value	-4.82	2.94	.000	1.00	3901
Std. Residual	-7.43	6.59	.000	1.00	3901

Note. Dependent Variable: HCAHPS Care Transition

Table 2

Simple Linear Regression Model Summary for Care Transition

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.662[a]	.438	.438	5.14	1.85

Note. Predictors: (Constant), HCAHPS Doctor Communication
Dependent Variable: HCAHPS Care Transition

Table 3

Simple Linear Regression Correlations for Care Transition

		Care Transition	Hospital Cultural Competency
Pearson Correlation	Care Transition	1.000	.662
	Hospital Cultural Competency	.662	1.000
Sig. (1-tailed)	Care Transition	.	.000
	Hospital Cultural Competency	.000	.
N	Care Transition	3901	3901
	Hospital Cultural Competency	3901	3901

Table 4

Simple Linear Regression ANOVA for Care Transition

	Sum of Squares	df	Mean Square	F	Sig.
Regression	80249.74	1	80249.74	3035.72	.000[b]
Residual	103070.70	3899	26.44		
Total	183320.44	3900			

Note. Dependent Variable: HCAHPS Care Transition
Predictors: (Constant), HCAHPS Doctor Communication

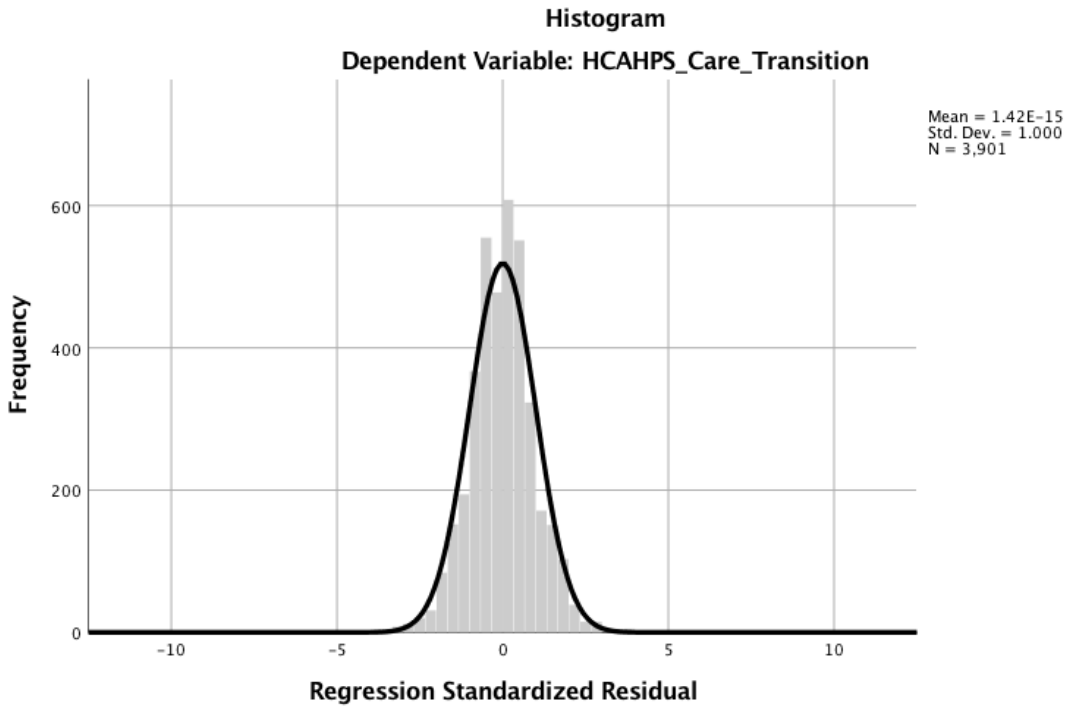

Figure 1. Histogram of care transition.

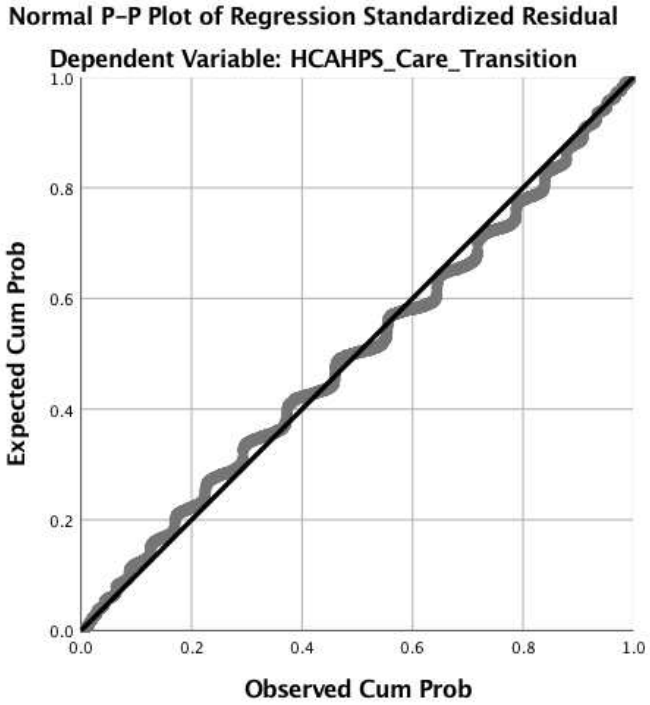

Figure 2. Normal P-Plot of care transition.

Appendix D: Results of Patient Experience

Table 1

Simple Linear Regression Residuals Statistics for Patient Experience

	Minimum	Maximum	*M*	*SD*	*N*
Predicted Value	45.17	89.14	72.47	5.66	3901
Residual	-42.26	25.72	.000	6.38	3901
Std. Predicted Value	-4.82	2.94	.000	1.00	3901
Std. Residual	-6.63	4.03	.000	1.00	3901

Note. Dependent Variable: HCAHPS Overall Hospital Rating

Table 2

Simple Linear Regression Model Summary for Patient Experience

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.664[a]	.441	.441	6.38	1.72

Note. Predictors: (Constant), HCAHPS Doctor Communication
Dependent Variable: HCAHPS Overall Hospital Rating

Table 3

Simple Linear Regression Correlations for Patient Experience

		Overall Hospital Rating	Hospital Cultural Competency
Pearson Correlation	Overall Hospital Rating	1.000	.664
	Hospital Cultural Competency	.664	1.000
Sig. (1-tailed)	Overall Hospital Rating	.	.000
	Hospital Cultural Competency	.000	.
N	Overall Hospital Rating	3901	3901
	Hospital Cultural Competency	3901	3901

Table 4

Simple Linear Regression ANOVA for Patient Experience

	Sum of Squares	df	Mean Square	F	Sig.
Regression	125071.43	1	125071.43	3076.46	.000[b]
Residual	158511.08	3899	40.65		
Total	283582.50	3900			

Note. Dependent Variable: HCAHPS Overall Hospital Rating
Predictors: (Constant), HCAHPS Doctor Communication

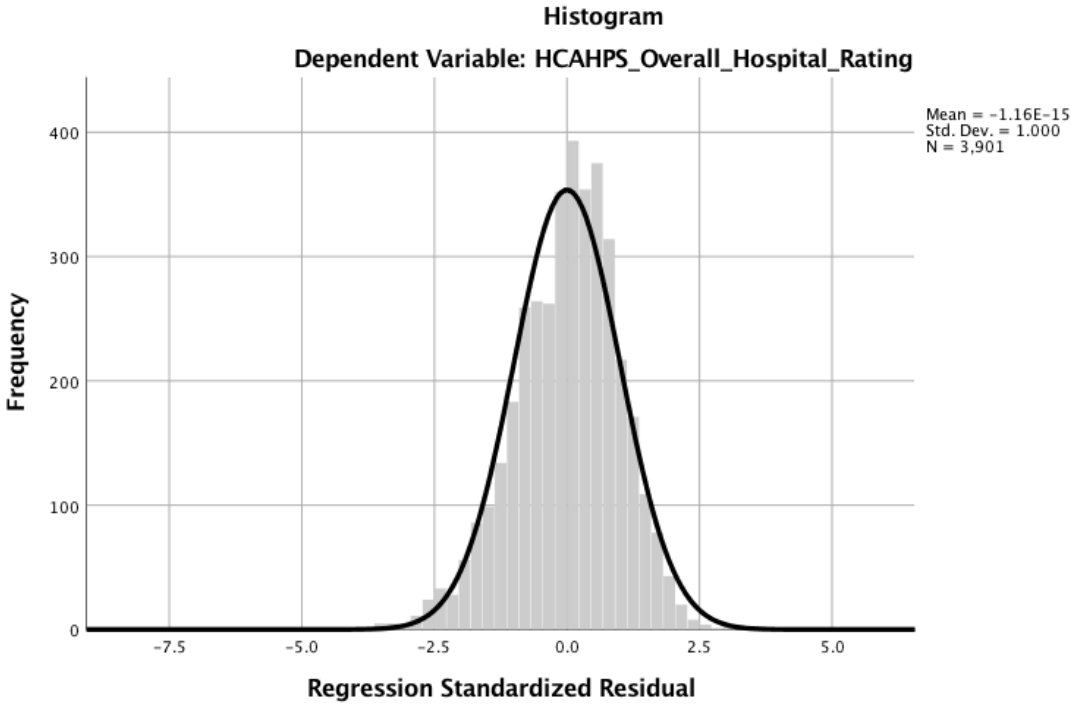

Figure 1. Histogram of patient experience.

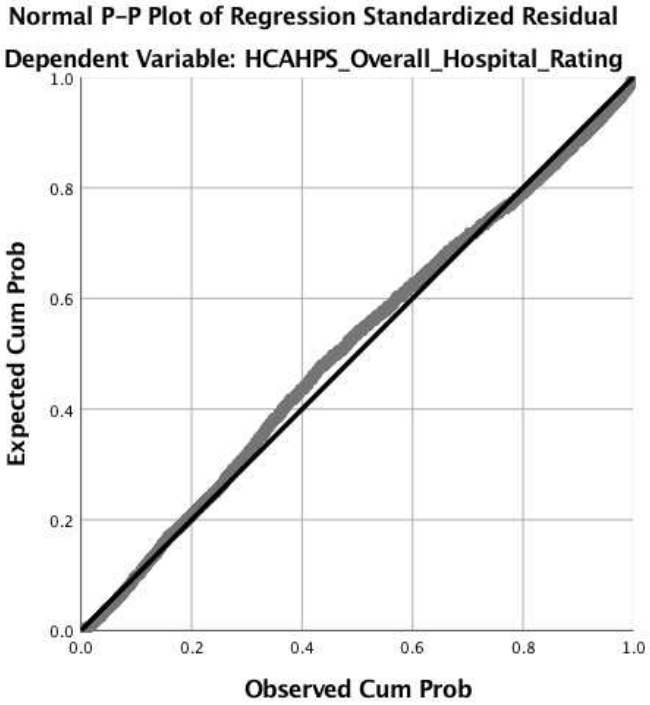

Figure 2. Normal P-Plot of patient experience.

Appendix E: Results of Hospital Cultural Competency

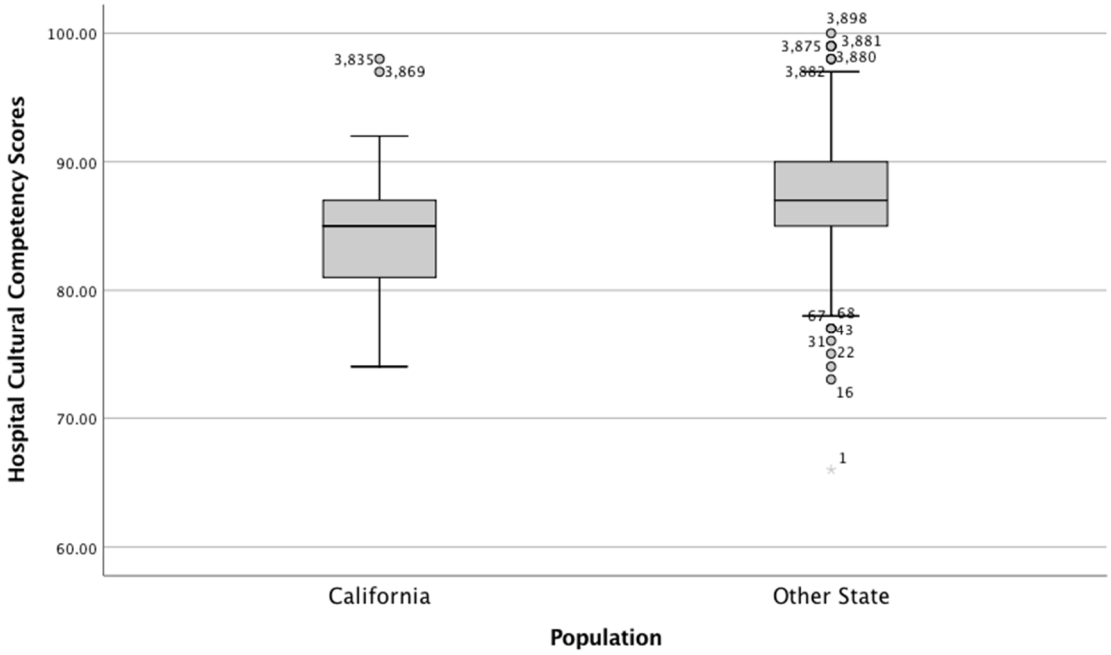

Figure 1. Boxplot for hospital cultural competency scores by population.