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The Relationship Between Socioeconomic Disparities in Alabama Hospitals and Patient Experience

Phillimena Ashley Hopkins
Walden University

Walden University

College of Management and Human Potential

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Phillimena Hopkins

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Dr. Matt Frederiksen-England, Committee Chairperson, Health Sciences Faculty
Dr. Rabeh Hijazi, Committee Member, Health Sciences Faculty
Dr. Suzanne Richins, University Reviewer, Health Sciences Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

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Abstract

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MHA, University of Phoenix, 2011

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

Patient satisfaction has been utilized to measure healthcare quality and outcomes, which affects reimbursement. Some claim such measures could be biased as they do not consider the patient's socioeconomic status. Measuring the quality of care, Area Deprivation Index (ADI), and patient experience has been captured and publicly reported; and the measuring indicator Hospital Consumer Assessment of Healthcare Providers and Systems (HCHAPS), however, hospitals serving patients in low ADI areas generally score poorly. Grounded in the theory of Donabedian, the purpose of this quantitative correlational study was to examine the relationship between patient experience associated with socioeconomic disparities and how patients preserve their quality of care in Alabama. The research questions evaluated if there was a relationship between ADI zones in Alabama acute care hospitals and how patients responded to HCAHPS questions regarding nurse communication, physician communication, and if the patient recommended the hospital. Results were generated using data from the 2019 ADI scores and HCAHPS survey scores from 2020-2021. Using a *t*-test, the data showed there was no statistically significant relationship between ADI and HCAHPS when it came to patients understanding communications from the nurse and physicians, and neither with recommendation of the hospital. Additional research would explore multiple years of data to evaluate for a significant relationship between the variables. Positive social change may arise from these findings if administrators focus on socioeconomic disparities in low ADI by seeking to improve both physician and nurse communication with patients combined. Doing so would increase hospital reimbursement and the patient experience.

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Dedication

I would like to dedicate this research to my late sister Philia Joi Hopkins, who always pushed me to finish what I started. She was always excited about my accomplishments, especially during my academic journeys. I also dedicate this research to African American children who think they cannot not achieve higher learning and succeeding at getting a doctorate or PhD. I want them to know that all things are possible with the right mindset, skills, reading, being curious, and a willingness to become an expert in the subjects or topics that interest us. Most of all, I dedicate this research to my son Kentrell Martin for sticking by me all these years pursuing higher education. Thank you for being such a great human being. Remember, that what you give in this life, is what you will get out of this life.

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I want to thank my chair Dr. Matt Frederiksen-England who was supportive through my darkest and joyous moments. Although I had never met him face-to-face, I felt his support, love, and genuine kindness for my well-being like you were family. Thank you for keeping me grounded, focused, positive, determined, and a priority. I learned so much from you and often prayed, "God, please do not let him stop teaching before I complete my program." Dr. Kristen Wiginton, thank you for your help with my methodology process. Dr. R. Hijazi, thank you for constantly pushing me to dig deeper into my research and thinking outside the box to make my research differ from another research. I also want to thank Jen A. Rothamel, my academic advisor; you are the real MVP in my process. You saved me when I felt I could not help with life struggles during my program. I am grateful for all your support at Walden University.

To the best parents, William and Phyllis Hopkins, who have been the foundation of my educational endeavors. Thank you for being my biggest support and cheerleader. I appreciate the prayers and support when I could not see the light at the end of the tunnel. To my late sister, Philia J. Hopkins, know your words stuck with me continuously. "Sis, you got this because you are the smartest person I know"! To my son, Kentrell Martin, who, in so many words, stated, "you did this to yourself; suck it up and finish." I appreciate your sarcastic ways of encouragement; I love you to death for it. Thank you to my brother and his wife, William and Jessica Hopkins, for cheering me on. Zoeyria, Will, Kendall, and AAlia, I pray this inspires you to do whatever you put your mind to. To all my family and friends, I want to thank you for your consistent support.

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Section 1: Foundation of the Study and Literature Review

In the healthcare delivery system, patients with low socioeconomic status (SES) perceive clinicians are biased in providing treatment or quality care, which negatively affects the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores (Arpey et al., 2017). Researchers have shown that low SES patients feel their quality of care is affected by their socioeconomic disparities and notice the differences in care between low and high SES (Arpey et al., 2017). Therefore, suggesting that socioeconomically challenged neighborhoods, measured by Area Deprivation Index (ADI) physician groups who serve patients with social risk factors tend to score below the average on quality metrics (Hu et al., 2018). The researchers determined a similar relationship between neighborhood disadvantage levels and the risk for patient readmission that the community-level disparities should be analyzed at the individual level with considering socioeconomic and geographical factors (Huet al., 2018). Furthermore, hospitals are likely to face financial forfeiture and penalties, depending on the relationship between quality measures and social risk factors that can reflect on the outcome of the quality-of-care (Hu et al., 2018). The United States health care delivery system focuses significantly on patient satisfaction; however, there is a dilemma with social determinants contributing to health outcomes in low SES geographical areas (Bhavsar et al., 2018).

Patient satisfaction is a patient-reported outcome that provides information regarding distinct levels of the patient's experience before, during, and after the patient's encounter; it is helpful to healthcare organizations to reflect on feedback to adjust the services provided (Evanson & Wu, 2019). According to Weiner (2021), research has shown that finding out a patient's behaviors and the challenging factors that complicate their care, can supply a better understanding of a patient's needs. Therefore, the physician supplies a contextualized care plan

resulting in a better patient experience. The socioeconomic disparity is one of the most fundamental factors of health disparities and is measured through education, income, and age; however, it harms socially and socioeconomically disadvantaged groups (Stormacq et al., 2018). Furthermore, the Donabedian theory model measures the correlation between structure, process, and outcome that construct patient satisfaction (Ameh et al., 2017). In this research, the findings proved the correlation between socioeconomic disparities and the HCAHPS survey.

In Section 1, I introduced the study topic and gave background information on patient satisfaction surveys in Alabama hospitals to address negative feedback on HCAHPS surveys of SES patients. After presenting the problem statement, the purpose of the study, research questions, and hypothesis, I summarized the socioeconomic ADI and how the disparities apply to patient experience scores within urban hospitals. I continue with the nature of the study, definitions, assumptions and limitations, and scope and delimitations. In conclusion, each section discussed the study's significance and summary.

Background

According to Herrin, Mockaitis, and Hines (2018), community factors beyond admission to the hospital influence HCAHPS scores. HCAHPS scores increase the significance of quality-of-care measures, and so should the potential impacts of socioeconomic elements in the community. Furthermore, earlier research found that patient-recorded health care experiences differ by patient's race, education level, age, and proxy status (Herrin et al., 2018). This is significant because the lower a patient's socioeconomic status, the greater the potential for misunderstanding between the patient and provider, potentially affecting HCAHPS measures and decreasing hospital funding. Focusing on general hospitals in Alabama, I explored the

socioeconomic disparities in ADI zones in association with HCAHPS measures in ADI-zoned hospitals.

Patient satisfaction scores are not only affected by the quality of care but by variables from socioeconomic disparities (Chen et al., 2018). More data was needed on the relationships between socioeconomic and health care services outcomes through the self-reported patient experience. The HCAHPS survey intends to produce information from the patient's perspective of care and an attempt to measure care quality (CMS, 2019). Chen et al. (2018) discussed the gap in research on the relationship between socioeconomic status, healthcare outcomes, and self-reported satisfaction. Considering these underlying components are correlated with patient satisfaction, hospital administrators could design a process to improve the patient experience. Additionally, hospitals need to understand the patient's socioeconomic background levels if they want to stay transparent in their services to the community.

Problem Statement

Medicare measures hospitals on the patient experience; however, those measurements could suggest biases as they do not consider each patient's socioeconomic status (Arpey et al., 2017). The feedback provided on patient satisfaction surveys allows objective and meaningful comparisons of hospitals that enhance hospitals' accountability by increasing transparency in socioeconomic communities (Centers for Medicare & Medicaid Services (CMS), 2019). Furthermore, research has shown that a patient's clinical state (age, circumstances, behaviors, resources, and cultural perspectives) is not considered when managing a patient care plan causing contextual errors that contribute to the patient's experience (Weiner, 2021). Therefore, I analyzed details on how urban healthcare organizations in Alabama can increase the patient experience within their facilities for patients in the community with socioeconomic disparities.

The clinical and population consensus regarding patients with low SES is that they are at risk for low health literacy, which increases association with poor health outcomes; therefore, half of the American population presents difficulty in understanding health information (Stormacq et al., 2018). The socioeconomic disparities contributing to a patient's health outcomes are measured by a patient satisfaction survey, expecting hospitals to update processes to increase the patient's perspective of care. It is unclear how self-reported patient satisfaction affects health outcomes; however, (HCAHPS) surveys measure patient satisfaction used to rate hospitals (Chen et al., 2018). Furthermore, the scores show that patients with lower SES and community-level social risk factors report poor patient satisfaction experiences.

Studies have shown that physicians voiced their opinion that if health care delivery systems tailor care options to patients with socioeconomic hindrances may improve the patient experience and health outcomes (Arpey et al., 2017). The patient's access to health insurance, health services, social support programs, and improved socioeconomic status can improve patient experience. Kertesz et al. (2021) wrote that engaging patients in favorable experiences set a precedent for the health and well-being of vulnerable populations. Further, suggesting that tailored service designs for vulnerable populations aid with protecting the relationship between clinician and patient. Researchers have found that other influences on social risk factors are crucial to health care quality metrics that are felt through community levels comparable to public transportation and accessing health care in disadvantaged neighborhoods (Hu et al., 2018).

If patient satisfaction surveys, like HCAHPS, evaluate the patient's feedback, then the focus should be on positive hospital experiences (CMS, 2019). The patient satisfaction survey is designed to produce data from the patient's perspective of care, public reporting results in new incentives for hospitals, and reporting creates transparency of the quality-of-care hospitals

provide (CMS, 2019). The gap addressed in this study was that patient satisfaction scores are affected by the quality of care, has not acknowledged if variables from socioeconomic disparities can affect self-reported patient satisfaction feedback (Chen et al., 2018). According to Chen et al. (2018), little data exists on the relationship between socioeconomic status, health-care outcomes, and self-reported satisfaction. The researchers considered that researching these underlying factors associated with patient satisfaction can improve the patient experience (Chen et al., 2018).

Purpose of the Study

HCAHPS composite measures can help hospitals compare services to hospitals supplying the same services (CMS, 2019). This quantitative study examined the relationship between patients' age, education, race, and experience—the independent variable Area Deprivation Index metrics for socioeconomic disparities in the community. Patient experience, measured by the HCAHPS, is the dependent variable. According to Davison et al. (2017), the HCAHPS has several different domains that focus on communication with staff and the hospital environment but a limited indication of patient populations. Dameworth et al. (2018) suggested that health literacy and ineffective communication of patient-physician encounters contribute to poor care transactions.

The purpose of this study was to provide a foundation for the overall patient experience associated with patients with socioeconomic disparities. Patient satisfaction surveys measure the patient’s performance perspective to decide if the quality-of-care is being met in hospitals. The evidence that community factors potentially influence HCAHPS scores is beyond the hospitalization experience; and is amendable to administrators' and stakeholders' understanding of the potential effects of community factors (Herrin et al., 2018). Therefore, ADI-zoned

hospitals can use the information generated from the ADI to see how the effects of community-level socioeconomic factors contribute to HCAHPS scores. This study may supply information if there is any significant relationship between the independent and dependent variables.

Research Questions and Hypotheses

RQ1: Is there a significant difference in the percentage of patients who reported their nurses explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama between 2020-2021?

H_o- There is no statistically significant difference between the percentage of patients who reported their nurses explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama between 2020-2021.

H_1- There is statistically a significant difference between the percentage of patients who reported their nurses explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama between 2020-2021.

RQ2: Is there a significant difference in the percentage of patient's who reported their physicians explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama between 2020-2021?

H_o- There is no statistically significant difference between the percentage of patient's who reported their physicians explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama between 2020-2021.

H_1- There is statistically a significant difference in the percentage of patient's who reported their physicians explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama in 2020-2021.

RQ3: Is there a significant difference in the percentage of patient ratings who recommended their acute care hospitals found in high ADI zones and acute care hospitals found in low ADI zones in Alabama in 2020-2021?

H_0- There is no statistically significant difference in the percentage of patient's ratings who recommended their acute care hospitals found in high ADI zones and acute care hospitals found in low ADI zones in Alabama 2020-2021.

H_1- There is a statistically significant difference in the percentage of patient's ratings who recommended their acute care hospitals found in high ADI zones and acute care hospitals found in low ADI zones in Alabama in 2020-2021.

Theoretical Framework

This study's theoretical framework was Donabedian's (1966) theory of examining health services and evaluating the quality of care. This theory addresses patient satisfaction and quality of care; Donabedian's conceptual work has been used throughout healthcare research and is the dominant paradigm for assessing the quality of care. This model's approach supplies structure, process, and outcomes as the foundation for exceptional patient experience in health care organizations. For this study, Donabedian's theory was used to address the relationship between structure (ADI socioeconomic disparities), process (HCAHPS surveys), and outcome (desired results of patient satisfaction scores) to construct a measure of the patient's experience (Ameh et al., 2017). Therefore, the theory relates to the focus of this study by evaluating the relationships

between the socioeconomic disparities through the measure of HCAHPS surveys outcomes and ADI measures for Alabama hospitals. The measure of this process assesses what the patient perceives as the quality of care, and the feedback encourages better healthcare services. Research and application of Donabedian's theory stated that the quality of healthcare improvement depends on the technical and interpersonal quality of health care services (Endeshaw, 2019). Therefore, quality measurement is back into healthcare practice, and outcomes return to the patient's survival. Research and application of Donabedian's theory stated that assessing metrics for quality of care is linked to genuine care and patient needs (Ayanian & Markel, 2016).

According to Kajonius and Kazemi (2016), the Donabedian structure for quality of care has been used for years to find patient satisfaction. The researchers suggested that structural variables predicted that care quality is the staffing and the caregivers as the process variable (Kajonius & Kazemi, 2016). The study found that Donabedian's model presents evidence of the quality of care for elderly patients at home and in the nursing home (Kajonius & Kazemi, 2016). Utilizing Donabedian's theoretical framework aided with measuring processes to improve patient satisfaction scores with patients subjected to socioeconomic disparities. This theoretical approach encourages quality improvement in hospitals catered to communities struggling with socioeconomic disparities. It will allow organizations to train medical personnel in connecting with a patient-centered care approach.

Nature of the Study

The focus of this study was secondary quantitative research to examine the cause and effect of unsatisfactory patient experience amongst socioeconomically challenged patients. The research's quantitative approach allowed me to analyze earlier research with surveys and performance measure scores collected by hospitals. The descriptive research proved the

correlation between socioeconomic disparities and low patient satisfaction scores. This quantitative research aimed to expand and supply social change by determining the relationship between socioeconomically challenged communities in Alabama and the patients experience with local hospitals in those areas.

Strategies Used for Literature Review

The research study was intended to prove a reasonable association between the socioeconomic Area Deprivation Index and HCAHPS survey results in Alabama hospitals. Investigating online peer-reviewed resources on government journals, PubMed Publisher, Walden scholarly writings, scholarly articles, Walden academic dissertations, AHRQ, and Google Scholar. Furthermore, relevant resources used were statistics from the Hospital Consumers Assessment of Healthcare Providers and Systems (HCAHPS) Quality Assurance Guide V15.0, the HCAHPS Fact Sheet (October 2020), and the Centers for Medicare and Medicaid Services. The research foundation is based on the Donabedian structure for quality of care, although there are articles relevant to this research dated greater than five years. Lastly, to get relevant literature, the following terms were used: socioeconomic disparities, patient experience, patient satisfaction, health literacy, HCAHPS, ADI, and Alabama urban hospital.

Literature Review

This literature review aimed to focus on historical and recent research that concentrates on patient satisfaction scores in urban hospitals while addressing the literature gap that focuses on examining elements of socioeconomic disparities that affect the patient experience in urban hospitals. This study aimed to bridge the gap in the literature through a quantitative study focusing on hospitals by measuring the socioeconomic ADI related to the HCAHPS surveys

from the Alabama hospitals. Therefore, these results are within the framework of health policy which may be in the interest of the HCAHPS Project Team (HPT) and CMS.

In earlier research, patient satisfaction measures are essential in healthcare quality as it supplies information on the organization's success at meeting the expectations of patients (Xesfingi & Vozikis, 2016). Measuring and analyzing patient experience surveys supports improvement in healthcare settings using quality governance, public accountability, and patient choice (Bastemeijer et al., 2019). HCAHPS measures the patient experience and is designed for hospital-level organizations. In October 2019, 4,482 hospitals publicly reported HCAHPS scores based on 3.0 million completed surveys; these surveys are the patient perspectives and intended for quality improvement purposes (CMS, 2019). Hospitals are the largest consumers of value-based healthcare; therefore, it is crucial to be efficient in the quality of care and patients' safety.

According to Mazurenko et el. (2017), hospitals are concerned with improving patient satisfaction, and little is known about the distinctive characteristics associated with achieving higher patient satisfaction. The healthcare delivery systems' quality of care and improving patient satisfaction have been a priority since the 1960s and continue to be a measurement of the standard of care practices. Avedis Donabedian (1966) covered information in the field of quality measurement during his time; however, the research is a suitable framework for measuring healthcare performance. While hospitals utilize Donabedian's approach to assessing health care quality with HCAHPS to promote a high quality of care; Donabedian suggested that poor outcomes do not imply inadequate quality of care (Rupp, 2018). Analyzing hospital performance measures and patient satisfaction through HCAHPS is extremely important for high-quality care and health care marketing. According to Chen et al. (2018), the increase in patient satisfaction is used in the health care delivery system to rate, rank, and compare hospitals on their performance

and quality of care with HCAHPS. With HCAHPS being used as a model to measure patient satisfaction in hospitals, this research study analyzed the socioeconomic disparities contributing to patients' assessment of their care.

The Emersion and Development of HCAHPS

In 2002, CMS partnered with AHRQ, which is another federal program within the Department of Health and Human Services to develop a survey regarding the patient's perceptions of hospital care (CMS, 2021). According to CMS, this was the first national survey to emerge which standardized how to measure patient perceptions, with the intention of publicly reporting the survey results to help patients choose their provider. CMS reported that many individual hospital or hospital systems previously had their own surveys for patients and CMS desired to developing a survey that would be objective and meaningful. CMS wanted to increase the transparency of the quality of care provided by hospitals "in return for the public investment" (CMS, 2021, para. 2).

The AHRQ spent several years developing the HCAPS survey. They performed a scientific process, which included "a public call for measures; review of literature; cognitive interviews; consumer focus groups; stakeholder input; a three-state pilot test; extensive psychometric analysis; consumer testing, and numerous small-scale field tests" (CMS, 2021, para. 5). According to CMS, they called for public comment on three separate occasions regarding the HCAPHS survey and responded to over 1,000 public comments.

In May of 2005, the National Quality Forum endorsed the survey, and in December of 2005, the federal Office of Management and Budget provided the final approval for the survey (CMS, 2021). According to CMS, the survey was not implemented until October of 2006 and the survey results were first published in March of 2008. The survey has been used since that time.

The Deficit Reduction Act of 2005 also impacted the use of HCAHPS. According to CMS (2021), the Act incentivized hospitals to participate in the HCAHPS survey. As of July 2007, all hospitals that participate in the Inpatient Prospective Payment System (IPPS) must use the survey and submit survey results to receive full payments, those that fail to comply may receive a reduced payment (CMS, 2021). Eventually, with the Patient Protection and Affordable Care Act of 2010, the HCAHPS survey results were to be used to calculate value-based payment incentives to hospitals starting in October of 2012 (CMS, 2021).

The survey is administered by the hospitals, or contracted vendor, to randomly sample adult patients with a variety of diagnosis within 48 hours and six weeks of hospital inpatient discharge (CMS, 2021). The survey consists of 29 questions, with 19

> core questions about critical aspects of patients' hospital experiences (communication with nurses, doctors, the responsiveness of hospital staff, the cleanliness and quietness of the hospital environment, communication about medications, discharge information, overall rating of hospital, and would they recommend the hospital. (CMS, 2021, para. 4)

The survey can be administered through the phone or through the mail or a combination of both. CMS has made the survey available in multiple languages and hospital must sample patients following a prescribed protocol (CMS, 2021).

After the survey data is collected and analyzed, CMS publishes the survey data on the Care Compare website quarterly, however, adjustments are made to the scores (CMS, 2021). CMS wants to ensure that publicly reported data is "fair and accurate across hospitals", thus they "adjust for factors that are not directly related to hospital performance,but which affect how patient answers HCAHPS survey items" (CMS, 2021, para. 11). According to CMS, the adjustments eliminate advantages and disadvantages in scores that may affects survey results.

Adjustments are made based on age range, education level, patient self-rated health, patient self-rated mental health, response percentile, language spoken, male to female ratio and surgical to medical ratios (HCAHPS, 2022). Even with the adjustments, the survey has been scrutinized for fairness among other things.

Patient Satisfaction and Quality of Care

Quality of care is a dominant concept in the healthcare delivery system, and the importance of quality has changed over the last decade through the development of quality improvement programs (Xesfingi & Vozikis, 2016). Xesfingi and Vozikis's research aimed to figure out the degree of patient satisfaction and, secondly, to assess the relationship between patient satisfaction in the healthcare systems with socioeconomic provision indicators. The researcher's empirical analysis covered thirty-one countries from 2007 to 2009 and 2012. The satisfaction index is the dependent variable for patient satisfaction, and the related socioeconomic healthcare provisions are independent variables. According to Xesfingi and Vozikis (2016), their findings support a positive association between patient satisfaction and healthcare provision indicators. The socioeconomic variables shape and positively relate to patient satisfaction.

According to Evanson and Wu (2020), patient satisfaction is patient-reported outcomes; therefore, influenced by care-management experiences and not by their characteristics or disease symptoms. Evanson and Wu analyzed the satisfaction comparison among three care management groups of low-income patients with diabetes. The study helped the trial care models' usual primary care team, supported care, and technology-facilitated care. The study participants were 18 years and older, communicated in English or Spanish, and could understand the agreed structure to partake in a 6, 12, and multi-month study. The researchers used the linear regression

model to estimate the treatment's effects on the participants. Furthermore, these findings suggest that patient satisfaction is responsive to care management and influenced by interventions resulting in higher patient satisfaction. The findings in this study may aid in deciding if socioeconomic disparities in ADI-zoned hospitals can contribute to the patient's experience.

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)

The quality of care from the patient's perspective is used interchangeably through HCAHPS scores. According to Shulman et al. (2018), HCAHPS is a nationally reported survey of patient's perspectives on quality-of-care experiences in hospitals used to compare hospitals and reimbursements. The Centers for Medicare and Medicaid and the Agency for Healthcare Research and Quality derived this system consisting of 27 questions in 10 categories to measure hospital patient experience (Shulman et al., 2018). Shulman et al. (2018) and his team of researchers aimed to analyze how socioeconomic status affects the HCAHPS scores while controlling the demographic variances currently found in the HCAHPS algorithm. The researchers used binary logistic analysis to evaluate the relationship between socioeconomic disparities and the score domains of the HCAHPS to control the age, education, primary language, health status, and emergency room visits; however, linear regression was also used for the rest of the survey categories. There were 15,789 patients' HCAHPS scores collected from one hospital system, and all patients treated lived within a 2-mile radius of the facility. The quality officers of the facility collected the scores to ensure the correct collection of HCAHPS scores for the study. The results from this study supported that socioeconomic status and disparities can influence patient satisfaction scores through the HCAHPS scoring system in urban hospitals.

Support for HCAHPS

Many articles provide support for the HCAHPS survey.

Concerns with the HCAHPS Survey

Several studies have scrutinized the fairness of the HCAHPS survey alleging the survey has attributed to the opioid crisis, does not take into consideration private vs. dual occupancy patient rooms (Boylan et. Al., 2019), and the survey can discriminate against physicians who are female, young, or who are not Caucasian (Berkovich and Leff, 2019). Other researchers found that pertinent patient demographic factors influence HCAHPS scores, specifically the patient's socioeconomic status (Shulman et al. 2018).

One of the original questions in the HCAHPS survey asked patients about their pain while in the hospital. Specifically, the question was worded "how often did the hospital or provider do everything in their power to control your pain?" (Adams, Bledsoe, & Armstrong, 2016, p. 985.). According to Adams et al., this question was not meant to evaluate prescribing patterns or compare hospital staff members, but to evaluate the patients' experience on pain management. Adams (2015) described that since 1999, opioid pain relievers had quadrupled in the United States and the United States alone consumes 90% of the world's opioids. Adams et al. (2016) stated, "an underappreciated factor behind these statistics is the measurement of patient satisfaction related to point" (p. 985) referring to the HCAHPS survey. In 2016, CMS proposed removing questions regarding pain management, which was accepted and removed from HCAHPS surveys in 2017 (American Medical Association, 2016; American Society of Anesthesiologists, 2016).

Boylan et al., (2019) studied HCAHPS results for patients in private hospital rooms verse semi-private hospital rooms. The retrospective study took place in a major metropolitan area in the United States and specifically looked at HCAHPS scores post arthroplasty surgery. Within the academic medical center, were five patient units, some with private room and some semi-

private. Patients were randomly placed in room post-operatively except for patients on infection precautions, which required a private room. The authors reviewed data spanning two years, from 2015 to 2017. During the study period, 28 physicians performed 1,338 arthroplasty surgeries. The researchers found a statistically significant different between patients staying in private rooms verses semi-private, with those staying in private rooms scoring their perceptions higher.

The findings from Boylan et al., provided evidence "that hospital-related satisfaction was more strongly associated with room type than provider-related satisfaction" (p. 410). This finding suggested that hospitals with more private rooms will score higher than hospital with semi-private rooms regardless of the care provider. Verderber, ArchD, and Todd (2012) explained that since about 2007 U.S. hospitals are trying to convert or renovate hospital rooms to private rooms. Verderber explained that non-private hospital rooms have been utilized within the United States since the beginning of hospitals. Medical wards would provide an open area housing several patients. Overtime, this trend has changed; however, not all hospitals have converted to private rooms due to costs (Verderber et al. 2012).

This study finding would also implicate a disadvantage to hospitals serving populations with lower socioeconomic areas as often, hospitals in social economic disadvantage areas earn less revenue than other hospitals, making it tougher for them to afford the construction costs to renovate rooms to private rooms. Since the room impacts patient satisfaction scores, which impact reimbursement, greatly affecting hospitals in social-economic disadvantaged areas.

In a study, the researchers wanted to evaluate HCAHPS scores to see if the differ from one surgeon who performed total joint arthroplasties at two different hospitals (Mahure, Teo, & Long, 2021). The surgeon performed over 500 cases from 2015 to 2018 between two hospitals. One hospital is a tertiary academic orthopedic specialty hospital, while the second hospital is a

suburban private hospital. The minority of cases took place at the academic hospital, representing 40% of the cases, while 60% took place at the private hospital. The researchers found that 254 patients completed the HCAHPS survey. At the academic hospital, 43% of patients responded and the response rate at the private hospital was 57%. The average age of the patients were also different, while at the academic hospital the mean age was 63 and at the private hospital it was 67. The researchers found patient perceptions of their rate differed significantly between the two hospitals.

The researchers added content to the growing concerns regarding the biased found within HCAHPS survey results. The researchers limited this study to a single surgeon; thus, applicability of the study results is limited without further evaluation. Mahure et al. did suggest this study demonstrate HCAHPS are an unfair way to measure and reimburse, providers.

Although one may question the applicability of the Mahure et al., study, McFarland et. Al. (2017) performed a study that substantiate differences due to hospital size. McFarland et al., performed a study in which they reviewed HCAHPS results, comparing to hospital bed size, while also measuring if hospitals designated with Magnet status received higher scoring on nursing communication with patients. The researchers included 3,907 hospitals in the sample. The researchers found when evaluating the data, in aggregate, larger hospitals received lower patient satisfaction scores; however, the researchers did find that nursing communication ranked higher in larger hospitals. The researchers also found that hospitals with Magnet designation ranked higher with nursing communication. The results from Mahure et al., demonstrated that HCAHPS scoring does not take into consideration all the different environments that hospitals face, substantiating the unfairness of basing reimbursement off HCAHPS survey results.

Godden et al. (2019), researched the survey response rates to the HCAHPS survey. The researched found when the program was launched, the response rate was strong, but has diminished over time. In 2013, the national response rate dropped 2.3 point from the previous year, and since that time, response rates have continued with a steep decline. In 2008, the response rate averaged 33.3% however, by 2017, the response rate decreased to 26.7%. The researchers were able to show on a national level that previous studies, taken plan in California, were accurate. Godden et al., explained there is a strong relationship between HCAHPS respondents and patient satisfaction scores. With a higher response rate, the results are felt to be more accurate and a more complete evaluation of the quality of care.

Patient Socioeconomic Disparities in Healthcare

According to Shulman et al. (2018), highly pertinent demographic factors have the potential to influence HCAHPS scores through socioeconomic status. Shulman et al. studied the effects of socioeconomic status on HCAHPS scores at their single academic medical center from 2010 to 2014 while controlling the demographic variances. One institution analyzed 15,789 patients HCAHPS studied between 2010 to 2014, measuring the patients' overall hospital rating. The study's empirical analysis results supported that socioeconomic status independently affects HCAHPS scores and presented that lower median-income patients rated better than higher-income patients. Suggesting that factors affect HCAHPS scores, but the current CMS controls age, education, health status, and language. Therefore, other socioeconomic status factors affect the HCAHPS scores, which can have consequences when using the outcome for hospital comparisons or reimbursements. Furthermore, uncounted socioeconomic statuses on HCAHPS scores could decrease the value of the survey in its current process.

According to Haas et al. (2019), racial disparities in healthcare equality are among seniors through Medicare, data informing federal monitoring of disparities in the care of Medicare recipients. Haas et al. studied that CMS does well classifying non-Hispanic White and Black beneficiaries but misclassifying Asian/Pacific Islanders (API) and Hispanics. The data consists of 2,284,627 respondents of the Medicare CAHPS survey measuring hospital performance by race/ethnicity using a multinomial logistic regression, Cross-Validated Pearson correlation, and CMS administrative demographics age and education. The research limitations are that the estimates are based on sample voluntary self-reporting respondents' dataset; however, detailed post-stratification weighing on the surveys helps with future model accuracy. Furthermore, Medicare administration datasets are collected through the CAHPs survey-base to measure quality-of-care; the measures are necessary to measure subgroups through regions and health plans accurately. In turn, they allow precise evaluations of interventions and quality care improvements.

The area-level socioeconomic deprivation measurement in communities uses the Area Deprivation Index to identify and monitor health inequality patterns at the geographical level (Singh & Lin, 2019). ADI is derived from using analytical methods for documenting population socioeconomic health inequalities; while measuring the effect of neighborhood disadvantages on readmissions and discharges from ADI-zoned hospitals (Singh & Lin, 2019). According to Rosenzweig et al. (2021), research showed that socioeconomic or racial disparities in cancer patient outcomes are narrowly focused on, such as disease progression and survival; however, these disparities are explained through inequity in access to care. The researchers found that higher ADI was associated with a significantly higher anxiety rate among patients with advanced cancer, recommending that geographic information could aid clinical staff in providing

geographical, social support systems (2021). Therefore, signifying that ADI-zoned hospitals may look at the patient's quality of life by what means they answer HCAHPS surveys to understand their healthcare experiences with clinicians.

In a study performed by Okunrintemi et al. (2019), they sought to evaluate the differences in how patients of difference levels of income experienced healthcare. The researchers used a sample size of 68,447 to represent a total population of 176.8 million US adults who had received healthcare services between 2010-2013. They collected data from the Consumer Assessment of Healthcare Provider and Systems (CAHPS) survey. In their study, 32% of the participants were high-income earners, 23% were very-low-income earners. The retrospective study reviewed measures such as "access to care, provider responsiveness, patient-provider communication, shared decision making, and patient satisfaction (p. 884). The researchers found that those who earned a very-low-income experienced 1.63 times greater odds of experiencing difficulty accessing care, had 1.34 times higher odds of experiencing poor communication, and had 1.68 times higher experiencing delays, and reported overall poorer provider satisfaction.

Herrin et al. (2018) performed a study reviewing HCAHPS in comparison to "sociodemographic, cultural, and access-to-care factors of the surrounding community" (p.. 461). In the observational study, they used HCAHPS scores and reviewed other data sources, such as hospital characteristic data from the American Hospital Association. In addition, community factor data was evaluated from the Area Health Resource File. The researchers were able to include 4,065 hospitals in their review. They found that smaller hospitals, non-teaching hospitals, and community hospitals, including public hospitals, overall have higher HCAHPS summary scores. These findings align with the findings of Mahure et al. (2017) study where they compared HCAHPS data based on hospital size. Herrin et al. also found that many cultural

factors, such as population statistics (size of population and percentage of individuals who do not identify as Caucasian affect patient HCAHPS scores. Their findings suggested that areas of "persistent poverty, high poverty, lower employment, and low education all had lower HCAHPS summary scores" (p. 467).

Shulman et al. (2018) and his team of researchers aimed to analyze how socioeconomic status affects the HCAHPS scores while controlling the demographic variances currently found in the HCAHPS algorithm. The researchers used binary logistic analysis to evaluate the relationship between socioeconomic disparities and the score domains of the HCAHPS to control the age, education, primary language, health status, and emergency room visits; however, linear regression was also used for the rest of the survey categories. There were 15,789 patients' HCAHPS scores collected from one hospital system, and all patients treated lived within a 2-mile radius of the facility. The quality officers of the facility collected the scores to ensure the correct collection of HCAHPS scores for the study. The results from this study supported that socioeconomic status and disparities can influence patient satisfaction scores through the HCAHPS scoring system in urban hospitals.

Patient Experience in Urban Hospitals

U.S. hospitals, which are urban and nonprofit, engage in critical prompt matters such as race and class-based disparities to access medical services (Franz et al., 2019). The focus in urban hospitals is to direct patient care by using mechanisms to address social determinants in the local communities. This research aimed to reconsider the assumptions underlying earlier sociological research on hospitals focusing on clinical care; and studying hospitals considering their changing relationships with the community (Franz et al., 2019). The study is a trial for the

evolution of the changing urban hospital surrounding local communities in partnering with advocating health policy for internal patient care and external health advocacy for patients (2019). Sociological methods are practical for analyzing the changes in the community and supplying an extensive depiction of the hospital. Furthermore, the researchers suggest reconsidering the approach in exploring urban medical hospitals and the correlation between the changing community. Therefore, the study supports a significant relationship between patient care and external community health advocacy in urban hospitals.

Definitions

In this section, you will find a list of detailed definitions of terms used throughout the study.

Area Deprivation Index (ADI): a measure created by the Health Resources and Services Administration (HRSA), although since been refined, adapted, and validated to the Census Block Group neighborhood level. It allows rankings of neighborhoods by socioeconomic disadvantage in a region of interest while its use can give informed information on health delivery and policy (Neighborhood Atlas, n.d).

Education: the socially organized and regulated process of experience from earlier generations and taking courses in an educational institution (Naziev, 2017).

Health Literacy: the level at which a person can understand, communicate, and process basic health information to make proper health decisions (CMS, 2020).

HCAHPS: abbreviation for (Hospital Consumer Assessment of Healthcare Providers and Systems) the survey instrument used to collect data for measuring patient perception of their care and publicly reports survey results of patients' perspectives on hospital care (CMS, 2020).

Patient Experience: the range of interactions patients have with health care systems and their perception of care with health care services (Agency for Healthcare Research and Quality, 2017).

Patient Satisfaction Scores: the measurement of a patient's direct and indirect experience with their care quality and recognized as an essential metric of health-care quality (Chen et al., 2018).

Race: a group of people of common ancestry, genetics, or cultural traits (American Heritage Dictionary of the English Language, 2011)

Socioeconomic Disparities: a person's status is usually measured by education, occupation, and income between social groups (Stormacq et al., 2018).

Urban Hospital: this hospital is found within the U.S. Census-designated Metropolitan statistical area (Alabama Hospital Association, 2020).

Assumptions

This study held assumptions in addressing patient satisfaction scores with socioeconomic disparities in the community. First, I assumed that all urban hospitals use patient experience surveys or systems that drive improvement. Thus, differences in patient experience surveys and socioeconomic disparities may influence varying patient satisfaction scores in urban hospitals. The second assumption is that patients' data as feedback on their experience is exact and forthcoming. Lastly, I assumed that there would be no missing information or data. Miscalculations and missing data could potentially bias the results of the study.

Scope and Delimitations

The focus was to examine socioeconomic disparities amongst patients using ADI-zoned hospitals and the effects that disparities have on patient satisfaction scores within urban

hospitals. Urban hospitals in the U.S. were chosen as the target population because these hospitals are in areas where patients experience socioeconomic determinants. The research study incorporated a secondary dataset from the HCAHPS surveys of 2020. The research study analyzes the year 2020-2021 for regional or national ratings.

The research proposal supplied an overview of the implications of urban hospitals and the possibility of an association between patient's socioeconomic disparities and patient satisfaction scores. It also presented a relevant intention of researching to present social significance for a target population in 2020-2021. Furthermore, there was terminology within Section 1 that expounded on key terms used throughout the research study. The research question and nature of the study supply clarity for the grounding of the research. In the following sections, the analysis of the research question and literature review are presented to address the literature gap. The literature review presents the theoretical framework for the research study to prove the need for further research on patient satisfaction scores and their relationship with socioeconomic disparities.

Gap in Literature Addressed

The review of earlier related literature addressing HCAHPS in urban hospitals suggested the need for added research to assess whether the ADI socioeconomic disparities influence the patient's experience. The measure of area-level social economic deprivation in urban communities can be a better predictor of health outcomes than the traditional metric of individual and family income data (Rosenzweig et.al, 2021). The patient-centered care factors and CMS protocols on HCAHPS measure as a predictor has been the leading policy nationally for healthcare organizations. Researchers suggest that ADI in that neighborhoods the patient reside in contributes to readmission risk, but little is known statewide (Jencks et. al, 2019). Patients

living in socioeconomically stressed communities contributes to in adverse health declines and poor health care outcomes (Singh et al, 2019) Despite the obvious concerns in ADI and HCAHPS measures, there is no known research that has determined if there is a correlation between ADI and HCAHPS patient experience scores in Alabama.

The study addressed the understudied area of the impact of socioeconomic disparities on HCAHPS rating in acute care hospitals in Alabama. The literature review contains research that included the patient's recommendation of the hospital, and communication levels of the nurses and physicians; along with the independent variable ADI socioeconomic levels used to measure the influences in the urban hospitals. The literature review did not highlight all HCAHPS scores for urban hospitals. The existing literature for earlier studies did not explore the key variables, including HCAHPS and ADI. In this study, I present statistics on the relationship of physicians and nursing communication with patients, patients rating of their hospital; and how ADI can contribute to the HCAHPS scores. This may contribute to understanding whether socioeconomic disparities have any impact on how patients answer certain questions on the HCAHPS.

Significance

This study provides systematic insight into the correlation between patients with socioeconomic disparities and low patient satisfaction scores in the healthcare system. Patient satisfaction has been the government's focus on providing the patient with better health outcomes; therefore, it has gained the attention of health administrators because CMS will link reimbursement of payments to their performance scores (Mazurenko et al., 2019). The complexity of patient-centered care in the healthcare industry has advanced over the years due to the Affordable Care Act (ACA), which focuses on increasing patient and physician relationships. Rai et al. (2018) said that the Institute of Medicine measures the value of care through patient

satisfaction feedback in the healthcare industry. In addition, the ACA has mandated an adjustment to the Medicare rates to assess value-based performance by patient-centered care (Rai et al., 2018). Patients suffer from socioeconomic challenges in their communities, leaving them prone to adverse health outcomes.

Health organizations constantly focus on the relationship between the patient and the physician. With 20% to 40% of US adults contributing to the lack of health literacy, low health literacy has been associated with the low belief of patients' self-deficiency in the community (Dameworth et al., 2018). By analyzing patient satisfaction scores, this study focused on understanding whether these ADI socioeconomic disparity zones affect the patient experience and belief of the quality of health services provided. The research will supply a closer look at patient satisfaction scores and their contributions to the negative impact on health outcomes. The question for urban hospital administrators in this study is whether focusing on urban communities' socioeconomic disparities changes the HCAHPS surveys' outcomes. Will this lead to a positive social change for urban hospitals across the U.S. Health Care Delivery System? The positive social change that can come from this study is that the patient's socioeconomic status is used when measuring the complexity of the patient's experience in urban hospitals, aid with increasing quality of care standards and awareness of socioeconomic barriers of the patients.

Summary

The proposed quantitative research study explored a correlation between ADI socioeconomic disparities and HCAHPS scores in finding patient satisfaction. The HCAHPS Quality Assurance (2021) guideline V15.0 was used as a secondary data source. The secondary data source was converted into IBM SPSS, which aided with analyzing the independent, dependent variables associated with the research for this study. The literature review finds both

historical and recent research addressing the associations between HCAHPS scores and other variables, such as ADI socioeconomic disparities.

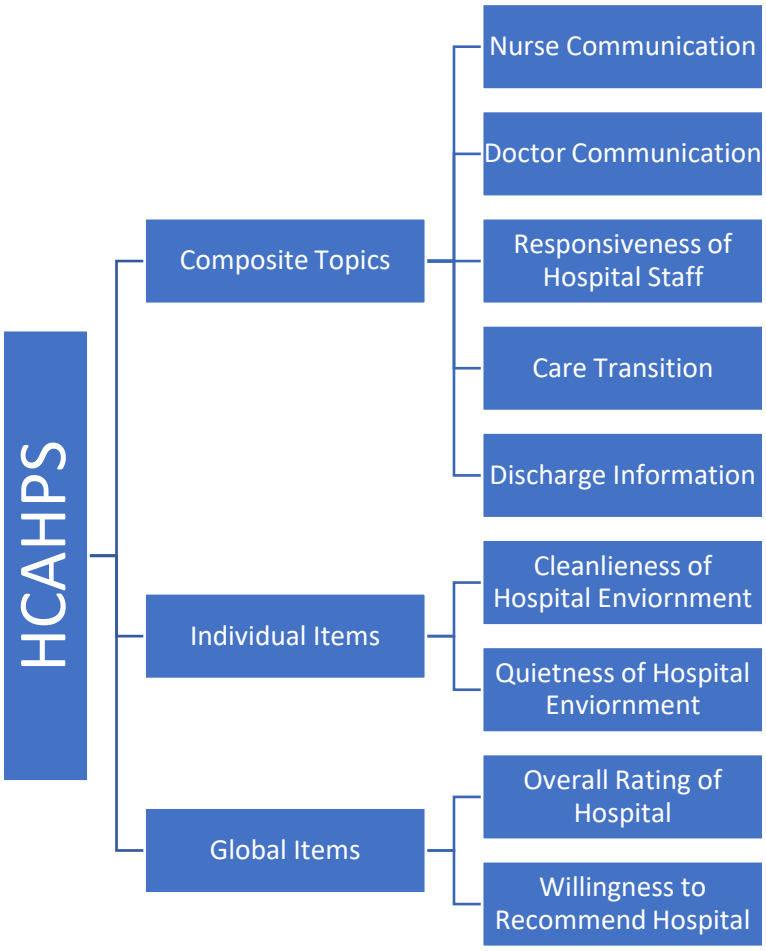
Section 2: Research Design and Data Collection

This study aimed to understand the relationship between HCAHPS surveys and how ADI-zoned hospitals can increase positive ratings from patients with socioeconomic disparities. In this quantitative study, I will assess if there is a relationship between socioeconomic disparities and the process of patient satisfaction scores through HCAHPS surveys within Alabama hospitals. This assessment can help address the health care system by improving the patient's perspective on the quality of care and health outcomes.

According to the Agency for Healthcare Research and Quality (2018), the HCAHPS has 10 domains that focus on communication with staff and the hospital's environment but a limited sign of patient populations. Figure 1 shows all eleven domains that roll into the HCAHPS score.

Figure 1

10 Domains of HCAHPS



Dameworth et al. (2018) said that health literacy and ineffective communication of patient-physician encounters contributes to poor care transactions. The evidence of patient satisfaction and quality of care is interpersonal relationships and their related aspects of care (Astuti & Nagase, 2016). Patient satisfaction surveys measure performance to determine if the quality of care is shown. An HCAHPS survey allows urban hospital administrators to analyze the efficiency of the provider's quality of care; however, considering the ADI socioeconomic diverseness of the patients supplying feedback could improve patient satisfaction scores within the health system.

I included a detailed analysis of this study's research design and methods in this section. I evaluated the HCAHPS hospital survey dataset using nurses, physicians, and overall patient experience ratings per hospital. Donabedian's theory model for assessing the quality-of-care data is a simulation statistic for patient satisfaction and quality of care in a large health system that is depicted through patient survey scores and socioeconomic health statuses within urban, rural, and inner-city hospitals. The data did not violate the patient's privacy per Health Insurance Portability and Accountability Act, and no patient health information was acquired. Within the research design and rationale section, I analyzed the research question and suppled justification for using a *t*-test to decide the relationship between the independent and dependent variables.

Lastly, I analyzed the published and researcher instrumentation of the studies, including methods to improve validity. The data analysis plan addresses the software and data cleaning procedures suitable for the study. In the last sections, I discuss the external validity threats and the precautions taken to decrease the threats. All ethical procedures were considered in using secondary data and collecting the data.

Research Design and Rationale

This study used quantitative methodology. For this research study, quantitative research was the necessary approach to analyze data to determine the relationship between ADI-zoned Alabama hospitals and HCAHPS scores when influenced by patients in ADI-zoned areas. The relationships of the questions were decided by analyzing patient satisfaction scores over time with data collected through the HCAHPS survey system in ADI zoned hospitals where the quality-of-care is measured. The dependent variable is ADI-zoned hospital patients using HCAHPS surveys for patient experience measures. The independent variable is the ADI ratings, using the HCAHPS survey system in the ADI areas of Alabama.

Using a quantitative approach, the correlation research design is right for the study to decide if there is a relationship between the independent and dependent variables by using the statistical technique of a *t*-test. Furthermore, correlation research is recommended when using large data groups that include surveys and archival data that change over time (McCombes, 2019). The Statistical Package for the Social Sciences (SPSS) was also used to streamline the complexity of the data in this study. The design assists with using survey data to assess the relationship between the independent and dependent variables of this study. According to McCombes (2019), methods like surveys are suitable for using correlation research; however, it cannot prove the capacity at which one variable can influence another (McCombes, 2019).

Before analyzing the data, data coding was performed to categorize the urban hospitals in Alabama in low and high ADI-zones. Analyzing the data easily, the data was coded in SPSS software to reflect data collected from ADI zoned hospitals in Alabama. This involved identifying 60 hospitals from the ADI database, classifying hospitals ranked 1-5 in Group 1 and 6-10 in Group 2. In this study, data from the HCHAPS Questions 3, 7, and 19 were utilized to analyze and categorize as 3 research questions. The goal of this quantitative study was to aid in deciding variations in urban hospital HCAHPS surveys with the relationship between the clinical staff and whether they recommend their chosen hospital. In this approach, the independent *t*-test was performed to describe the relationship between the independent and dependent variables while comparing them with the categorized low and high ADI zoned areas. With this research, I explored how low and high ADI-zoned hospitals are not correlated to the HCHAPS scores within Alabama hospitals. Quantitative research was appropriate for this study for finding the gap in research by using secondary data; furthermore, in the attempt to create social change within the target population, the research design explored was essential for use in this research.

Methodology

Target Population

There were two prominent sets of populations in this study. The first population consisted of clinical personnel (nurses and providers) in nonprofit acute care hospitals in Alabama in 2020. The second population was the patients located in high and low ADI zones in Alabama in 2019 who participated in HCAHPS between 2019-2020. The only patients and clinical personnel from nonprofit Alabama hospitals were included in this study since the research questions concentrated on the relationship between the patients experience and clinical staff in nonprofit hospitals in Alabama. Also, how they assist patients living in high or low ADI zones in the community.

Furthermore, added measures for the patient population required the HCAHPS surveys from all nonprofits hospitals in Alabama that reported scores between 2019-2020. According to the Agency for Healthcare Research and Quality (AHRQ) 2019 HCAHPS fact sheet, in October 2019, 4,482 hospitals publicly received HCAHPS scores based on 3 billion completed surveys (AHRQ, 2019). The researcher included the survey variables used to aggregate HCAHPS scores with socioeconomic disparities in patient age, education, and race for hospitals in this study and communication with patient-centered care. Data collected from the HCAHPS Quality Assurance Guidelines V15.0-year 2020 (CMS, 2020). This research focused on the nurses, physicians, and patient's overall nonprofit hospital ratings. exclude based on demographics, sex, and poverty level but the Area Deprivation Index zones (Neighborhood Atlas, n.d) and HCAHPS to determine the association of patient satisfaction scores with socioeconomic disparities within these ADI zones.

Sampling and Sampling Procedures

The data collected from the Agency for Healthcare Research and Quality (AHRQ) 2020 HCAHPS fact sheet and HCAHPS Quality Assurance Guidelines V15.0-year 2020 was analyzed for 4,482 hospitals publicly HCAHPS scores with the aid of the HCAHPS survey guidelines (CMS, 2019). The data includes detailed information on questions used to measure the patient experience through HCAHPS surveys examined in this study and socioeconomic status. In concurrence with the secondary dataset from the HCAHPS Quality Assurance Guidelines V15.0 (CMS, 2020), the survey questions queried nurses, physicians, and patients' overall ratings of the hospital were examined to explore the relationship of the questions with patient satisfaction. The analyses are independent samples *t*-test where the two IV groups will be compared for a significant difference between the three outcome variables. Furthermore, the power analysis will forecast the use of G*Power. The power analysis forecast sample size of 4,482 hospitals for this study, given of 80% power level with a probability of a level of significance of 0.001, deciding the effect of socioeconomic disparities on HCAPHS scores. Therefore, the effect size, power level, and the number of explanatories is forecasted to aid with a sufficient sample size for this research.

This method collected data from HCAHPS Hospital-State 2021 Annual Files for Alabama and HCAHPS Quality Assurance Guidelines V15.0 supplied survey information and socioeconomic disparities between 2019-2020. Furthermore, the ADI zoned hospitals patient experience was targeted in this study for patient satisfaction analysis (Neighborhood Atlas, n.d). By comparing socioeconomic disparities provided by the HCAHPS survey, I evaluated whether these socio statuses directly affected the patient satisfaction scores in urban acute hospitals in Alabama. Conclusions in the study help show directives within ADI zones that suggest a need to

develop positive interactions with patients in specific areas of the local community to increase a positive patient experience.

This quantitative study used secondary data sources to answer research questions affecting the connection between socioeconomic disparities and HCAHPS scores. The information provided by the HCAHPS Hospital-State 2021 Annual Files and HCAHPS Quality Assurance Guidelines V15.0 was publicly available, and no permission was necessary to use the data. The research used the Area Deprivation Index zip file to decide the percentage of patients in socioeconomic areas in Alabama (Neighborhood Atlas, n.d). This study did not use any live participants or the participant's identification; however, secondary data from the HCAHPS hospitals dataset zip file between 2020-2021 (AHRQ, 2020) was used for this study; therefore, no consent forms were necessary. The study used secondary data that does not require human participants to obtain information. Ethical precautions were taken into consideration; however, data was used from the AHRQ database available to the public.

Instruments and Operationalization of Constraints

The HCAHPS Hospitals-State supplied data for Alabama hospitals in 2020-2021 transition measures for U.S hospitals that was used as a secondary dataset for this study (AHRQ, 2020. The secondary dataset encompassed guidelines for general hospitals in the United States as the unit analysis aided in supplied data for the dependent variable HCAHPS Hospital-State 2021 Annual Files and the independent variable ADI socioeconomic disparities (Neighborhood Atlas, n.d), concentrated on the patient’s experience. SPSS was the statistical tool used to measure data from this study to conduct the ordinal regression analysis. After analyzing the calculations for linear regression using SPSS, further interpretation helped decide a null or alternative hypothesis.

The independent variable was the ADI socioeconomic zones in the community. The dependent variables within the research included the nurses, physicians, and the patient's overall experience with rating the hospital within the HCAHPS survey. The research location was with urban hospitals in underserved areas while concentrating on socioeconomic disparities in Alabama communities. The timeframe for the research includes 2020-2021, aimed at exploring the current and past findings about socioeconomic disparities contributing to the patient satisfaction scores in ADI zones.

Data Analysis Plan

This study used the independent *t*- test to decide the association of socioeconomic disparities from the Area Deprivation Index zones in the communication between the patients and the nurses, and physicians, and whether they recommend the hospital through the HCAHPS surveys. A multiple linear regression was conducted to decide the association in the research question concerning continuous dependent variable in this study. Therefore, correlation research was included in the analysis to decide the independent variable ADI rating and the effects on the dependent variables: socioeconomic disparities on the patient experience with nurses, physicians, and overall experience with the hospital.

RQ1: Is there a significant difference in the percentage of patients who reported their nurses explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama between 2020-2021?

H_o- There is no statistically significant difference between the percentage of patients who reported their nurses explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama between 2020-2021.

H_1- There is statistically a significant difference between the percentage of patients who reported their nurses explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama between 2020-2021.

RQ2: Is there a significant difference in the percentage of patient's who reported their physicians explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama between 2020-2021?

H_0- There is no statistically significant difference between the percentage of patient's who reported their physicians explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama between 2020-2021.

H_1- There is statistically a significant difference in the percentage of patient's who reported their physicians explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals located in low ADI zones in Alabama in 2020-2021.

RQ3: Is there a significant difference in the percentage of patient ratings who recommended their acute care hospitals found in high ADI zones and acute care hospitals found in low ADI zones in Alabama in 2020-2021?

H_0- There is no statistically significant difference in the percentage of patient's ratings who recommended their acute care hospitals found in high ADI zones and acute care hospitals found in low ADI zones in Alabama 2020-2021.

H_1- There is a statistically significant difference in the percentage of patient's ratings who recommended their acute care hospitals found in high ADI zones and acute care hospitals found in low ADI zones in Alabama in 2020-2021.

According to Lund Research (2020), independent *t*-test is a statistical test also called two sample *t*-test, that determines if there is a statistical significance between the means in two unrelated data. It is explained that in most cases the researcher is looking to show that we can possibly reject or accept the alternative hypothesis (2020). The researcher also explained that the independent *t*-test assumes the variances of two variables, this assumption of homogeneity of variances is tested using the Levene's Test of Equality of Variances when running the independent *t*-test. The Levene's Test provides an *F*-statistic and the significance value (*p*-value); therefore, the concern in this test is the significance value whether it is greater or less than 0.05 (Lund Research, 2020).

For this research, the Statistical Package for the Social Sciences (SPSS) was used to interpret the process of clarifying the complexity of the statistical data in this study. The software aided with determining the relationship between socioeconomic disparities and HCAHPS scores in urban acute care hospitals and gave a quantifying analysis of measuring multiple aspects in the sample that can explore different findings. To evaluate the assumptions of the multiple regression in SPSS, the researcher checked the assumptions of homogeneity variance and the correlated relationship between the independent and dependent variables. Therefore, to ensure a valid statistical interference can be interpreted from the regression, the researcher checked for the normal distribution of residuals by producing a P-P plot. Residuals showed if the line deviates from the diagonal and if error terms can be decided between the response variable and predicted value. To evaluate the homoscedasticity, the researcher determined if the standard deviation of

error terms has constant variance, and the assumption holds. Finally, checked if the explanatory variables have an unequal variance and the *p*-value is less than 0.05 I have violated the assumption of variances. Furthermore, if the explanatory variables are remarkably correlated, this is multicollinearity. This means that the regression model can become unstable with inaccurate influences, and the variables could represent the same societal factors.

Threats to Validity

A particular threat to the validity of this proposed study would have been instrumentation, as this study closely focused on HCAHPS scores in urban acute care hospitals with socioeconomic disparities. The samples used in this proposal were collected from HCAHPS scores from urban hospitals to reduce the effect on instrumentation in this study and show a more expansive selection. History could threaten internal validity, which occurs when differences are shown in samples of the dependent variable measured at various times. The potential problem was that the dependent variable was measured before and after exposure to independent variables, while other external events can be the source of change. To reduce the probability of internal validity, differences within the samples were accounted for throughout the research study to avoid affecting the study results.

Ethical Procedures

Compliance with ethical research procedures was paramount when performing research. The Secondary Data Set was publicly available on the AHRQ website and did not require IRB approval or permission to access. Furthermore, the data from the Neighborhood Atlas was publicly accessible and does not require IRB approval or permission to access. Prior to engaging in the next steps of this project, I received IRB 12-16-21-0705718 approval from Walden

University. The data from HCAHPS Hospital-State 2021 Annual Files and ADI area-level reports did not have patient identifiable information, thus, HIPAA was not a concern.

Summary

In summary, the proposed quantitative research study was analyzed to decide a correlation between socioeconomic disparities through ADI and with HCAHPS surveys. The HCAHPS Hospital-State 2021 Annual Files and AL-2019 ADI Census Block Group was used as the secondary data source for this study. Donabedian's theory of relationships between structure, process, and the outcome was used to measure the patient's experience in urban hospitals. This method, data from the HCAHPS Hospital-State 2021 Annual Files, supplied the survey used for all hospitals in the United States measuring the patient experience. The sample HCAHPS Hospital-State 2021 scores between 2020-2021 and AL-2019 ADI Census Block Group were analyzed as an exact size to ensure they were suitable for the use of correlation research; therefore, to use the multivariant regression. This section discussed the study's research design and rationale, target population, setting and sampling, constraints, data analysis, and the threat of validity. Section 3 supplies the analysis and results of the research study.

Section 3: Presentation of the Results and Findings

The purpose of this quantitative study was to examine if ADI socioeconomic zoned communities impact the overall scores on HCAHPS surveys to decide the exact level of patient satisfaction through Press Ganey questioning methods. In earlier research, HCAHPS supply measures of patient satisfaction in U.S. hospitals to decide the level of care as reimbursement measures for hospitals or health care systems (CMS, 2020). This study aids with the assumption that there is a relationship between socioeconomic disparities and HCAHPS scores in the Alabama healthcare systems. In Section 3, I explain the secondary data set, the analysis, and the results by research question.

Data Collection of Secondary Data Set

The secondary dataset was from the HCAHPS Hospital-State 2021 Annual Files, which includes data collection from CAHPS database for the state of Alabama (CMS, 2020). The data collection for HCAHPS is gathered quarterly due to hospitals reporting of the patient experience yearly (CMS, 2020).

> Beginning in July 2007, IPPS hospitals ("subpart (d) Hospitals") must collect, submit, and publish HCAHPS data to receive a full Annual IPPS Payment Update (APU). IPPS hospitals that do not report the required quality measures, including the HCAHPS survey, may receive a 2.0% reduced APU. Non-IPPS hospitals, such as Critical Access Hospitals, can participate in HCAHPS voluntarily. The HCAHPS survey results also serve as the foundation for the patient care experience section of the hospital's value-based purchasing program. (CMS, 2019)

The survey excluded pediatric patients under 18 years old and psychiatric patients because the current instrument does not address the unique situations of pediatric patients, and the behavioral

health issues of psychiatric patients. Reimbursement is decided according to these scores which are based on how patients value their care during inpatient and outpatient clinical care. As the datasets are not powered by a survey platform, the recruitment and responses rate does not correspond to the HCAHPS Hospital-State 2021 Annual Files. I found no inconsistencies in the data; however, the data had missing information on hospitals that did not report due to the COVID-19 pandemic. The analyses excluded hospitals that did not report.

After obtaining the data from an Excel file and importing it into SPSS, I reduced the data to focus on hospitals in two groups: low and high ADI areas. In the 2020 HCAHPS survey, 4,482 hospitals publicly reported HCAHPS scores based on 3 million completed surveys; these surveys are the patient perspectives and intended for quality improvement purposes. Singh et al. (2019) stated that ADI is an analytic method tool that has proved to be powerful in documenting and monitoring population health inequalities across time and space. This tool selects indicators of education, wealth, occupation, unemployment rates, poverty rates, and income distribution in communities, which are used in the construct of ADI. Furthermore, because of this, I was interested in how cohesive these tools are for hospitals in Alabama. My study focused exclusively on Alabama hospitals, so the data was reduced to 93 hospitals from the AL-2019 ADI Census Block Group (Neighborhood Atlas, n.d). However, 33 Alabama hospitals were analyzed without data to avoid inaccuracies. Therefore, resulting in condensing the AL-2019 ADI Census Block Group zip file to the final sample size was 60. Table 1 shows 60 hospitals within the low and high ADI zones; furthermore, the analysis shows that there are more hospitals residing in the low ADI zones. Therefore, comparing the two groups and three dependent variables, with the conversion of ADI state ranks to Group 1 for ADI scores of 1-5 and Group 2 for ADI scores of 6-10.

Table 1

Descriptive Statistics ADI State Rankings

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	8.3	8.3	8.3
	2	8	13.3	13.3	21.7
	3	7	11.7	11.7	33.3
	4	4	6.7	6.7	40.0
	5	7	11.7	11.7	51.7
	6	5	8.3	8.3	60.0
	7	7	11.7	11.7	71.7
	8	3	5.0	5.0	76.7
	9	9	15.0	15.0	91.7
	10	5	8.3	8.3	100.0
	Total	60	100.0	100.0	

The analysis assisted with seeing the frequency and percentage at which each Alabama hospital rank from 1-5 and 6-10, allowing a more condensed analysis for which hospitals are in the lower ADI zones compared to hospitals in the higher ADI zones as shown in Table 2.

Table 2

Alabama ADI State Recode with Dependent Variables

	ADI State Recode	N	Mean	Std. Deviation	Std. Error Mean
DOCTOR_COMM	low ADI zone	31	91.52	2.158	.388
	high ADi Zone	29	91.69	2.647	.492
NURSE_COMM	low ADI zone	31	90.77	2.276	.409
	high ADi Zone	29	89.97	2.163	.402
RECOMMEND	low ADI zone	31	87.06	4.289	.770
	high ADi Zone	29	85.21	4.337	.805

Table 3 displays the overall descriptive statistics of the sample, indicating the sample size and the percentages of how patients scored doctor and nurse communication, and recommended hospitals.

Table 3

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
DOCTOR_COMM	60	84	96	91.60	2.388
NURSE_COMM	60	86	95	90.38	2.241
RECOMMEND	60	76	95	86.17	4.377
Valid N (listwise)	60				

Results.

I ran a *t*-test analysis for this study to find the relationship between the dependent and independent variables. The *t*-test for equality of means was chosen to evaluate significant differences between groups, this study had the following assumptions:

- The variables (independent and dependent) chosen for this study were categorical variables measuring at a nominal scale.
- The variables had at least two categories, hospitals ranking 1-5 in low ADI zones and ranking 6-10 in high ADI zones, as presented in Table 1.
- The three questions on communication and recommendation used from the HCAHPS survey V 15.1 2020 used responses for Question 19 “no, definitely”, “no, probably”, “yes, probably”, and “definitely, yes”, as well as “never”, “sometimes”, “usually”, and “always” for Questions 3 and 7.

Results of Test Hypotheses

This section is a detailed analysis of the results of the research questions in my study. The following tables represent the result analyses:

Research Question 1 Analysis

RQ 1: Is there a significant difference in the percentage of patient's who reported their nurses' explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals found in low ADI zones in Alabama 2020-2021?

Table 4 shows the analysis results for the association between the percentage of the patients who reported their nurses' explained things in a way, they understood between hospitals found in high Area Deprivation Index zones and hospitals found in low ADI zones in Alabama was not significant because in *t* test all *p* values were greater than 0.05, greater than the level of significance.

Table 4

Independent Test for Nurse Communication

		Levene's test for Equality of variances		t-test for equality of Means							
						Significance				95% confidence interval of the difference	
		F	Sig.	*t*	*df*	One-sided *p*	Two-sided *p*	Mean difference	Std. Error difference	Lower	Upper
NURSE_COMM	Equal variances assumed	.397	.531	1.409	58	.082	.164	.809	.574	-.340	1.958
	Equal variances not assumed			1.411	57.984	.082	.164	.809	.573	-.338	1.956

It can be concluded that there is no statistically significant difference in mean between the percentage of patients who reported their nurses explained things in a way they understood in hospitals found in high and low ADI zones in Alabama. For research question one, the null hypothesis is accepted, and the alternative hypothesis is rejected.

Research Question 2 Analysis

RQ 2: Is there a significant difference in the percentage of patient's who reported their physicians' explained things in a way they understood between acute care hospitals found in high ADI zones and acute care hospitals found in low ADI zones in Alabama between 2020-2021?

Table 5 shows that the result of the *t*-test significance of 0.386 is greater than 0.05, greater than the level of significance. In this case, the null hypothesis was accepted, with a 95% confidence level that the Type I error did not occur.

Table 5

Independent Samples Test Doctor Communication

		Levene's test for equality of variances		t-test for equality of means							
										95% confidence interval of the difference	
						Significance					
		F	Sig.	*t*	*df*	One-sided *p*	Two-sided *p*	Mean Difference	Std. Error Difference	Lower	Upper
DOCTOR_ COMM	Equal variances assumed	.762	.386	-.279	58	.391	.781	-.174	.622	-1.418	1.071
	Equal variances not assumed			-.277	54.119	.391	.783	-.174	.626	-1.429	1.081

In conclusion, there were no statistically significant differences between the percentage of patient's who reported their physicians' explained things in a way they understood in hospitals located in high or low ADI zones in Alabama.

Research Question 3 Analysis

RQ 3: Is there a significant difference in the percentage of patient's ratings who recommended their acute care hospitals found in high ADI zones and acute care hospitals found in low ADI zones in Alabama between 2020-2021?

Table 6 shows that the results of the *t*-test significance of 0.773 is greater than 0.05, greater than the level of significance. In this case, the null hypothesis is accepted, with a 95% confidence level that the Type I error did not occur. In conclusion, there were no statistically significant differences in the mean between the percentage of patient's who recommended their hospitals located in high or low ADI zones in Alabama.

Table 6

Independent Samples Test Recommend

		Levene's test for equality of variances		t test for equality of means							
						Significance				95% confidence interval of the difference	
		F	Sig.	*t*	*df*	One-sided *p*	Two-sided *p*	Mean Difference	Std. error Difference	Lower	Upper
RECOMMEND	Equal variances assumed	.084	.773	1.667	58	.050	.101	1.858	1.114	-.372	4.088
	Equal variances not assumed			1.667	57.640	.050	.101	1.858	1.115	-.374	4.089

Summary

The purpose of this quantitative data analysis was to investigate and summarize the relationship of socioeconomic despaired ADI zoned hospitals and HCAHPS surveys that can

supply information on whether these measures address the gap of how they affect the measure of the patient experience. I used the independent *t* test analysis to measure if there is a statistically significant difference between hospitals physician-patient communication or nursing-patient communication found in high ADI zones and low ADI zones, and the overall patient satisfaction scores as well if there is any significance difference with the patients recommending these hospitals in ADI zones. Results of this study showed that HCAHPS surveys and ADI-zoned hospitals are not cohesive in deciding whether patients affected by socioeconomic disparities in the community are receiving the best patient experience from these Alabama hospitals. In conclusion, I have determined that testing the three research questions for this study shows that there is no statistically significant relationship between the independent and dependent variables of this study.

In Section 4, I discuss the research findings along with the study's limitations. Recommendations for further research will be addressed and the discussion of how this study will bring forth positive social change in the healthcare delivery industry through healthcare administration.

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

The general purpose of this quantitative study was to focus on the research gap in finding whether specific patient satisfaction measures are beneficial to hospitals in communities affected by social economic disparities in Alabama. Therefore, HCAHPS surveys and ADI measures supply a detailed analysis of how hospitals supply quality care. A quantitative approach using a descriptive review of data was right for this study to reveal the relationship between HCAHPS survey questions related to communication and recommendation of the hospital (dependent variable) and low and high ADI zoned hospitals (independent variable). The concern for patient satisfaction measures in socioeconomically deterred areas was the determining factor for this research; as the quality of care is a priority, the evidence of community factors potentially influencing HCAHPS scores is beyond hospitalization experience (Herrin et al., 2018). However, underserved areas still lack the understanding of communication with patients with health literacy and other social environmental factors that hinder them from obtaining quality care, receiving quality care, or understanding their care. I evaluated the patient experience from their responses using secondary data from the HCAHPS surveys and ADI scores.

The secondary data analysis concluded that there was no statistically significant relationship between the independent and dependent variables in this study. The findings revealed that in both hospitals of socioeconomically low and high ADI areas, patient experience response on the HCAHPS surveys was no different. Furthermore, the dependent variables' percentage average was alike in the analysis output.

Interpretation of Findings

Healthcare organizations still lack the necessary tools to link social aspects to positive health outcomes (Johnson et al., 2021). I considered that there was a problem with the HCAHPS scores that a gap in knowledge responsible for the amplitude of the relationship between ADI and satisfaction may be modest when compared to patient age and wait time, but it is additive for rising deciles of social deprivation (Stephens et al., 2021). Based on the results from the t-test independent analyses, it is clear that HCAHPS surveys and ADI measures used for hospitals in Alabama support the other on the socioeconomical level in measuring the quality of care and the patient experience. It also lends credence to arguments that plans that disproportionately serve disadvantaged communities could be penalized by success metrics since they do not account for sociodemographic characteristics (Durfey et al., 2018).

The patients' health care experience is primarily the guide to determine quality of care and patients satisfaction indicator of their position on patient-physician centered care. A doctor's interpersonal and communication abilities should extend past the medical doctor-patient connection (DPC) to include the two parties' shared perceptions and sentiments about the nature of the issue (Belasen and Belasen, 2018). The results of this study showed that, despite the fact that patient care is occasionally perceived as being solely technical, there is evidence that DPC accurately predicts clinical outcomes and patient opinions of hospitals. Research has also been limited in regard to understanding patient-physician relationship in the overall success of the patient experience.

Furthermore, Tiperneni et al. (2022) found that adding additional afternoon rounding and implementing the AIDET (Acknowledge, Introduce, Duration, Explanation, and Thank you) approach with admitted patients with critical complications, language barriers, and decreased

health literacy there was an increase by 8% for the provider communication domain of the HCAHPS scores from January to December 2021. In this study, there were some limitations when trying to measure data from the weekends due to cross coverage, reduced staff, and shortage of office hours; however, they are utilizing this approach to continue to increase the patient experience at Monmouth Medical Center. Patient-centered care is the main emphasis for the health care delivery system, and HCAHPS surveys aim to attain data from the patients perception of care while assisting healthcare administrators determine the best course of action to increase the patients experience. I found more hospitals use internal instruments to measure the patients perceptions of their hospital experience, while utilizing the national reporting system HCAHPS to promote internal educational practices for their physicians.

As a result, Austin et al. 2021 study suggests that poor communication is linked to higher health care costs, while hospitalized patients run the danger of misinterpreting their health information as a result of being overloaded with information. In order for patients to grasp what their doctors are saying throughout their stay or routine visits, it is suggested that a sustainable approach to better communication methods is essential. This is done while taking the patients' socioeconomic factors into account.

Another factor to take into account is the nursing staff's ability to effectively communicate, which is crucial for improving patient communication among the nursing staff. According to a study by Austin et al. published in 2021, IBR (Interprofessional Bedside Rounds) shows the value of consistency, encourages accessibility, and enhances patient happiness and perception of their care through face-to-face encounters. Adding nurse practitioners (NP) to the healthcare system raises HCAPHS scores on the HCAHPS's nurse communication domain over a three-year period by 9.4% (Gormley et al., 2019; Austin et. Al., 2021). But it also saw a 10.7%

increase in the doctors' communication domain. In a different study, Allenbaugh et al. (2019) discovered that nurses' patient communication skills greatly improved during a pilot that required both physicians and nurses to use a curriculum that trained them through video demonstration, role playing, and didactics. By comparing 150 pre- and 152 post-training discharge observations, the nurses were evaluated during this procedure. It was discovered that during the study period, the HCAHPS considerably improved in 3 of the 5 communication domains. In contrast, the study showed that nurses who have received more training can improve patient relationships in areas where there is a lack of knowledge or interpretation of their treatment, while also working together to resolve communication problems. The authenticity of the delivery of care from nurses makes a difference in the patients hospital experience. Wolf et al., (2021) suggest that we recognize the humanity of the system and the people who are a part of it when we put an emphasis on the experience in healthcare; this produces the outcomes and results that we all know are deserving of being achieved.

Earlier studies have researched factors that influence patient satisfaction scores. However, to my knowledge my research will be the first to research acute care hospitals in Alabama in socially challenged areas and how it could influence the measures of the HCAHPS. Gallan et al., (2022) study looked to find any correlation in the aspects of health care experience that are important to patients but is not being measured on standardized surveys. The study suggested modernizing patient satisfaction instruments to capture all topics that are important to the patient. The CMS (2021) article states, that the survey's primary goal is to gather information about patients' perspectives on care that will enable accurate and meaningful comparisons between hospitals on issues that matter to patients. Second, hospitals are given fresh incentives to raise the standard of care when the survey findings are made public. Third, by improving

transparency about the level of hospital treatment given in exchange for the public's investment, public reporting helps to improve health care accountability. In order to ensure that the survey is reliable, beneficial, and applicable, the Centers for Medicare & Medicaid Services (CMS) and the HCAHPS Project Team have made significant efforts (CMS, 2021). Furthermore, according to Shulman et al. (2018), the exclusion of demographic factors from the scoring algorithm that may have an impact on scores raises questions about whether HCAHPS scores accurately reflect the quality of all hospitals or whether unproven demographic factors may be to blame for low HCAHPS scores. Adding to the evidence that socioeconomic status affects HCAHPS score, while accounting for demographic variable that is now discernible as having an impact on HCAHPS scores. According to the null hypothesis in the study, no beneficial influence on HCAHPS scores was discovered in this study's analysis of the effects of socioeconomic status on test scores. As a result, in the case of equal healthcare quality, it is likely that socioeconomic factors, if weighed in the assessments, could influence HCAHPS ratings. Hospitals should review their data collection procedures to make sure response rates are optimal and survey administration factors are minimized as long as there is a moderate link between response rates and HCAHPS ratings (Godden et al., 2019). According to Shulman et al. (2018), low socioeconomically disadvantaged locations must not be used as an excuse for low HCAHPS scores; instead, the caliber of the care provided should be considered as the patients perception of care. Therefore, HCAHPS response rates are crucial because they influence HCAHPS at the hospital level and assess reliability (Godden et al., 2019). Subsequently, by focusing on the importance of quality care measures in acute care hospitals, this study expands on the current understanding of socioeconomic disparities in areas of Alabama that may impact the HCAHPS

score in such facilities and how this could enhance the relationship among both patients and professionals across the healthcare delivery systems.

Limitations of Study

Although the Agency of Health for Healthcare Research and Quality and the Centers for Medicare and Medicaid partnered to implement the HCAHPS survey and influence the patient safety culture improvement, demographic biases within the survey limit patient resources. The first limitation I considered is that the only hospitals required to report collected HCAHPS data are IPPS (Inpatient Prospective Payment System) reporting hospitals. The surveys were limited in involuntary opinion and constructed for inpatient representation to determine different levels of patient satisfaction. Furthermore, suggesting that only IPPS hospitals distribute the survey and willfully submit their findings and data according to the CMS guidelines. The hospitals distribute the surveys differently to the inpatient population but need to consider if the patient has health literacy or the level of education that will allow them to interpret the survey correctly. Finally, different statistical techniques could control biases in the data and cause the relationship between surveying and interpretation to give inconsistent values to patient satisfaction results.

The Health Resources and Services Administration (HRSA) created ADI to make neighborhood disadvantage metrics accessible to display health disparities as a significant problem in the United States. The ADI analytic method measures these socioeconomic disparities by documenting and monitoring these areas of concern in the population. The first limitation was that the survey uses American Community Survey (ACS) Five Year Estimates in its construction, which leaves the ADI results subject to errors within the ACS (Neighborhood Atlas, n.d). Therefore, the choice of geographic units will influence the ADI value, suggesting that the ADI be linked to the Census Block Group close to the neighborhood. Additionally, the

data from the Alabama ADI areas were not all reported due to the COVID-19 pandemic in 2020. The hospitals going through crisis did not report their metrics during this time and were scrubbed from the list for this research study. Finally, the HCAHPS surveys and ADI metrics do not report together, nor do they use the same statistical techniques to control bias in their patient satisfaction, quality of care, care resources, and allocation of resources. Data was presented as submitted, and no other attempts were made to verify the accuracy of the data submitted in this study.

Recommendations

The results of this study may assist with collaborating existing research on the relationship between patient satisfaction and quality of care in low and high ADI areas of Alabama. Conversely, the lack of a relationship between the HCAHPS survey for patient satisfaction and the ADI scores to determine disadvantaged neighborhoods or communities should be further researched. The correlation between the percentage of patients rating for communication with nurses and doctors in Alabama did not show any significate relationship with ADI scores in Alabama. Also, there was no correlation between the patient's hospital ratings and the ADI scores for Alabama hospitals. Further research using the HCAHPS survey and other forms of patient satisfaction measures from Alabama hospitals should be explored to determine whether there is a correlation between socioeconomic disparities and patient satisfaction surveys. Additionally, further research could be developed to see why there is no proper analysis on revamping the HCAHPS survey to convey the socioeconomic aspects of the patient to determine their level of understanding of the questions asked on the survey. This data could help IPPS hospitals determine how to approach each patient differently so that the data is calculated accurately for medical error recovery within the hospitals.

Finally, more thorough research should be explored to analyze two different years of data to see if there is a significant change in the HCAHPS and ADI scores and how the variable can influence the patient satisfaction scores. Identifying how socioeconomic disparities affect the relationship between patient satisfaction survey results can help health care administrators seek ways to improve satisfaction among patients and providers.

Implications for Professional Practice and Positive Social Change

Professional Practice

For healthcare administrators, the research of this study provides evidence on information supporting the patients experience and if socioeconomic disparities add in the perception of quality of care. The study findings provide context for health administrators on the importance of patient-centered care, socioeconomically challenged patients, with infancies on the patient's experience. The relationship between the providers and nursing staff communication with the patients as support mechanisms could provide positive reinforcements for hospital administrators. Social determinants of health continue to be undervalued, despite the fact that many health systems have started using their own data for quality improvement initiatives (Johnson et. al, 2021). The finding in this study indicated that a focus on socioeconomic disparities in ADI scores and HCAHPS scores could improve HCAHPS scores if the two measures are utilized as one unit; separately, they have no significant association. Furthermore, provides reflection on the possibility of modernizing the HCAHPS survey across the healthcare system.

Positive Social Change

The study implications for social change by providing evidence of the benefits of HCAHPS survey's results in areas of low and high ADI scores, providing key evidence about

socioeconomical disparities and the patients experience. These administrators may be able to change the approach to the quality of care that determines the construct of the work environments for clinical staff to understand the level of socioeconomical disparities and its contribution to the patients experience. This may also shape how health care organizations reach their communities with health fairs, patient safety, positive quality of care, and the overall patient experience. Therefore, giving medical encounters more thought and consideration will help to enhance doctor-patient communication and ultimately the success of the patient experience (A. Belasen & A. T. Belasen, 2018).

Conclusion

The overall patient experience or patient satisfaction is essential to quality of care. The government has made it a top priority for payment reimbursement, transparency, and hospital recognition. The health care delivery system has delegated the task of providing patient safety, quality care, and an exceptional patient experience. Although past research has been explored ADI amongst patients with diseases or HCAHPS scores questions on communication between patients and the nurse or physicians, there is limited research on incorporating ADI and HCAHPS into one measurement. Additionally, this study showed no correlation between patients reporting their physicians or nurses explained things in a way they understood in hospitals located in high or low ADI zones, nor was there a correlation between the percentage of patients who recommended the hospital.

The findings in this study offer evidence that HCAHPS scores for patient satisfaction and ADI scores of socioeconomic disparities have no statistical significance. This information may assist health care delivery system administrators to develop processing that would provide a more conclusive strategy in socioeconomic determinants in the community. However, further

study is necessary regarding how patients answer the questions on HCAHPS and if they understand what they are reading. Hence, will we find that they are answering blindly without understanding the questions due to health literacy or language barriers?

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