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Hospital Ownership and Type as Predictors of 30-Day Psychiatric Readmissions and Follow-Up

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This is to certify that the doctoral study by

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Walden University
2022

Abstract

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MA, Ashford University, 2012

BS, Tennessee State University, 2011

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Healthcare Administration

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Abstract

Studies have suggested that differences in hospital ownership structures impact the rates of 30-day hospital readmission and 30-day hospital follow-up in patients with psychiatric diagnoses. The purpose of this quantitative study was to examine the relationship between hospital ownership, hospital type, rates of 30-day psychiatric readmission, and rates of 30-day follow-up for psychiatric patients. This study drew on Donabedian's conceptual model of hospital quality assessment and used ANOVA testing for the four research questions concerning whether there is a significant relationship between: 1) hospital ownership and inpatient psychiatric patient readmission within 30 days of discharge, 2) hospital type and inpatient psychiatric patient readmission within 30 days of discharge, 3) hospital ownership and rates of 30-day follow-up for psychiatric patients, 4) hospital type and rates of 30-day follow-up. The study sample included 1,466 psychiatric hospitals or psychiatric units throughout the United States. ANOVA testing and Pearson correlation determined weak to medium-strength relationships between all sets of predictor and continuous variables based on 0.05 alpha levels and all four null hypotheses were rejected. Research recommendations include exploring patient quality outcome measures in hospitals with different ownership structures to determine potential disparities for psychiatric patients. The results of this study may also promote positive social change by challenging health care administrators to focus on treatments for psychiatric patients within hospitals and strengthen follow-up in the community through more effectively managed patient-centered care.

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Dedication

To my uncle, the late Wilburn L. Edwards and to all of those that are prisoners in their own minds. May you find peace.

Acknowledgments

This journey would not have been possible without the love, support, and prayers of my family and friends.

I would like to express my special thanks and gratitude to my parents, Zachary and Juanita McKinley. Thank you for your prayers and always believing in me and supporting me even when my path seemed unclear. I love you.

To my amazing lifelong sister-friends, I love you each of you and appreciate our friendship more than you will ever know. Thank you for getting me out of the house when I needed it. Thank you for understanding when we would go days without talking but pick up like we never left off. I am truly grateful to have you as my sisters. To my aunts, uncles, and many cousins, thank you all for years of love and support.

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Section 1: Foundation of the Study and Literature Review

Introduction

The 30-day period after psychiatric hospital or psychiatric unit discharge is a time of danger for patients, with increased risks of negative outcomes (Kurdyak et al., 2018; Wani et al., 2019). Newly discharged patients with psychiatric diagnosis require adequate monitoring and communication to decrease negative outcomes (Kurdyak et al., 2018; Haglund et al., 2019). Researchers have suggested that there may be a relationship between hospital ownership and postdischarge outreach for recent psychiatric patients; this relationship has been speculated to impact the rate of hospital readmission within 30 days (Benjenk& Chen, 2019; Germack et al., 2020; Horwitz et al., 2017; Shields & Rosenthal, 2019). A constant cycle of rehospitalization for people with psychiatric illness suggests unreliable standard of care (Neuman et al., 2014). Repeat hospitalizations lead to higher expenses for patients, hospitals, and taxpayers (Horwitz et al., 2017).

Background

The consistent quality of healthcare is necessary for the public good. Across the United States, individuals must feel reassured that their medical providers are adequately able and willing to provide them with a high standard of care. Individuals with mental health diagnoses are a particularly vulnerable group, as individuals with chronic mental health problems often have limited economic resources and return to settings which put them at greater risk for many different negative outcomes, rehospitalization and suicide in particular (Chung et al., 2017; Haglund et al., 2019). Some researchers have suggested that there is significant variance in care quality for individuals with mental health

diagnoses depending on the type of hospital ownership structure (Germack et al., 2020; Shields & Rosenthal, 2017). Follow-up rates—which indicate the frequency with which medical staff makes contact with patients—in the 30-day period after psychiatric hospital discharge and rates of hospital readmission in the 30-day period after psychiatric hospital discharge are regularly used as indicators of quality of care. (Benjenk& Chen, 2019; Kurdyak et al., 2018; Haglund et al., 2019). There has been limited research done on the effectiveness of hospital ownership and hospital type. Performing additional research on these topics would help researchers and regulators create greater standards for mental healthcare performance. In order to help extend a higher quality of care to patients with mental health diagnoses, this study seeks to determine if hospital type and hospital ownership can act as predictors of 30-day follow up for psychiatric patients and 30-day readmission after psychiatric hospital discharge.

Problem Statement

Researchers have suggested that hospital performance and patient care quality for people with mental health diagnoses significantly vary based on various contextual factors (Benjenk & Chen, 2019; Haglund et al., 2019; Kurdyak et al., 2018). People with mental health diagnoses who are considered part of a marginalized group receive lower standards of care from hospitals (Benjenk & Chen, 2019). Previously researchers have evaluated hospital performance, utilizing rates of readmission within 30 days for Medicare beneficiaries with mental health problems as a measure of hospital quality (Benjenk & Chen, 2019). Patients without chronic medical care concerns should not need to return to a hospital repeatedly after receiving treatment (Benjenk & Chen, 2019;

Kurdyak et al., 2018). When a patient returns to the same hospital within 30 days of discharge, this suggests that the patient's needs may not have been adequately met (Kurdyak et al., 2018). Repeated hospitalizations for the same condition are believed to represent poor standards of care (Benjenk & Chen, 2019). In the case of people with mental health diagnoses, 30-day readmission rates are an important metric for quality of care (Haglund et al., 2019).

For people hospitalized with mental health diagnoses, the period of time immediately following hospital discharge comes with a significantly inflated risk of suicide (Chung et al., 2017; Haglund et al., 2019). Researchers found that public hospitals, psychiatric specialty hospitals, and hospitals which primarily served minority groups were at-risk for higher rates of hospital readmission for Medicare beneficiaries with mental health problems (Benjenk & Chen, 2019). Patient management in the period immediately following hospital discharge has implications for patient outcomes and readmissions particularly for patients with mental disorders.

Another factor influencing standards of care is hospital ownership. The link between rates of hospital readmission and types of hospital ownership were studied to determine if certain ownership structures had higher rates of unplanned patient return within 30 days (Horwitz et al., 2017). Researchers have found that for-profit hospitals had higher rates of 30-day readmission than nonprofit and public hospitals (Horwitz et al., 2017). The quality of inpatient care for psychiatric patients at hospitals was studied to find relationships between ownership type and care quality (Shields & Rosenthal, 2017). Research found that Veterans Affairs (VA) hospitals performed significantly worse than

for-profit, nonprofit, and other government hospitals studied (Shields & Rosenthal, 2017).

Researchers have suggested that care quality differs substantially based on hospital ownership, the relationship between hospital ownership and quality of inpatient psychiatric treatment has not been studied, creating a knowledge gap. In this study an ANOVA model was used to identify the extent to which the independent variables — hospital type and hospital ownership — are related to the dependent variables — rates of 30-day psychiatric patient readmission and rates of 30-day follow up for psychiatric patients.

Purpose of the Study

The purpose of this quantitative study was to examine the relationship between hospital ownership, hospital type, rates of 30-day psychiatric readmission, and rates of 30-day follow-up for psychiatric patients. Hospitals must have high standards of care for psychiatric patients, regardless of compensatory structure. Type of hospital ownership and hospital type were treated as the independent variables. The dependent variables were 30-day readmission rates for patients with psychiatric diagnoses and rates of 30-day follow-up for psychiatric patients as determined by Medicare data. The focus of this study concerned whether the hospital type and ownership structure of a given hospital impacts patient care quality in relation to readmissions and follow-up care.

Secondary data relating to the variables were collected from the Center for Medicare and Medicaid's (2021) Inpatient Psychiatric Facility Quality Reporting (IPFQR) Program for the year 2020. While this data does not encompass all possible

mental health hospital settings, the sample contains significant geographic, demographic, and socioeconomic diversity.

Research Questions and Hypotheses

The research was guided by four research questions and corresponding hypotheses:

Research Question 1: Is there a statistically significant relationship between hospital ownership and inpatient psychiatric patient readmission within 30 days of discharge?

$H_0$1: There is no statistically significant relationship between hospital ownership and inpatient psychiatric patient readmission within 30 days of discharge.

H_a1: There is a statistically significant relationship between hospital ownership and inpatient psychiatric patient readmission within 30 days of discharge.

Research Question 2: Is there a statistically significant relationship between hospital type and inpatient psychiatric patient readmission within 30 days of discharge?

$H_0$2: There is no statistically significant relationship between hospital type and inpatient psychiatric patient readmission within 30 days of discharge.

H_a2: There is a statistically significant relationship between hospital type and inpatient psychiatric patient readmission within 30 days of discharge.

Research Question 3: Is there a statistically significant relationship between hospital ownership and rates of 30-day follow-up for psychiatric patients?

$H_0$3: There is no statistically significant relationship between hospital ownership and rates of 30-day follow-up for psychiatric patients.

H_a3: There is a statistically significant relationship between hospital ownership and rates of 30-day follow-up for psychiatric patients.

Research Question 4: Is there a statistically significant relationship between hospital type and rates of 30-day follow-up for psychiatric patients?

$H_0 4$: There is no statistically significant relationship between hospital type and rates of 30-day follow-up for psychiatric patients.

$H_a 4$: There is a statistically significant relationship between hospital type and rates of 30-day follow-up for psychiatric patients.

Theoretical Framework

This study used Donabedian's (1988) Structure-Process-Outcome (SPO) model to evaluate the quality of healthcare services. Donabedian (1998) sought to create a comprehensive framework for determining patient care quality, encompassing all elements of medical knowledge, medical practice, care from nonmedical entities, and patient experience.

Donabedian (1998) determined that the most effective means of evaluating healthcare service quality is to focus on three aspects: structure of care, processes of care, and outcome of care. Structure of care refers to the settings in which care occurs, and encompasses material resources of care provider, human resources of care provider, and organizational structure of care provider (Donabedian, 1988). Process of care refers to what is actually done in giving and receiving care, both by the patient and by the medical practitioner (Donabedian, 1988). Outcome of care refers to the impacts of care on the patient's health, knowledge, and behavior, as well as the patient's satisfaction with the

received care (Donabedian, 1988). By evaluating the quality of these three elements of care, Donabedian (1988) established a framework through which medical care quality could be analyzed and discussed. While reviewing methods for assessing medical care quality, Donabedian (2005) found that more study regarding use of tools to evaluate quality of care was necessary.

This study responded to Donabedian's (1988, 2005) work by evaluating the validity of hospital ownership as a measure of psychiatric patient quality. This study used Donabedian's (1988) SPO model for evaluating healthcare services and quality of care to explore standards of care for patients with psychiatric diagnoses. The design of the study directly responds to Donabedian's (1988) model: "Structure of care" quality was measured by hospital ownership and hospital type, "Process of care" quality was measured by rates of 30-day follow-up for psychiatric patients, and "Outcome of care" quality was measured by rates of 30-day readmission and rates of 30-day follow-up for psychiatric patients.

Nature of the Study

This quantitative study included a cross-sectional analysis of secondary data. The use of secondary data includes the same basic research principle applicable to a study using primary data (Johnston, 2017). First, Pearson correlations between each continuous variable and readmission were conducted followed by an ANOVA analysis.

Inpatient Psychiatric Quality Measure Data set from Medicare.gov, a public-use database, was used for this study. The Medicare data provided data points for ownership of the hospital, hospital type, 30-day readmission trends for patients with psychiatric

diagnoses at psychiatric hospitals or in psychiatric units in acute care hospitals or critical access hospitals in the United States, and rates of 30-day follow-up for psychiatric patients (CMS, 2021). Quality of care was measured by rates of 30-day readmission and rates of 30-day follow-up for psychiatric patients. One limitation was a narrow perspective, due to a single researcher conducting the study and interpreting the data. This was a potential point of entry for researcher bias. To lessen bias, SPSS data analysis software was used.

Literature Search Strategy

This extensive literature review includes peer-reviewed articles and studies focused on people with mental health diagnoses, rehospitalization rates, and the impacts of hospital ownership on hospital performance. This literature focused on trends in hospitalization for people with mental health diagnoses and the ways in which hospital ownership has impacted treatment for people with mental health diagnoses. This literature covered studies on mental health treatment from across the world, however, the primary focus regarding hospital ownership is on treatment in the United States.

Several studies related to the variance in quality of care and rates of readmission between different types of hospital owners were found in preexisting literature from peer-reviewed journals. To find and compile these sources, several databases were searched, including: SAGE, MEDLINE, ProQuest, and the Walden Library. Research keywords included: *hospital readmission and psychiatric patients, psychiatric follow-up and hospitals, psychiatric rehospitalization and hospital ownership, 30-day hospital*

readmission and hospital ownership, psychiatric discharge, hospital ownership and quality, hospital ownership and outcomes, and psychiatric physician follow-up.

Literature Review Related to Key Variables and Concepts

The purpose of this quantitative study was to examine the relationship between hospital ownership, hospital type, rates of 30-day psychiatric readmission, and rates of 30-day follow-up for psychiatric patients. Donabedian (1988) found that, to properly evaluate medical care, three different contributing elements must be considered: structure, process, and outcome. Structure refers to care delivery and practical consideration, including staff, finances, equipment, facilities, and other material considerations (Donabedian, 1988). Process refers to the evaluation of relationships between patients and providers within the healthcare delivery process (Donabedian, 1988). Outcome refers to the ultimate impacts of the services delivered by healthcare professionals on patient quality of life and the general level of health communities served by the provider attain (Donabedian, 1988). Donabedian (2005) found that ongoing development of reliable tools to evaluate the quality of care was important for continuing to improve medical care.

In keeping with Donabedian's conceptual framework, this literature review seeks to use existing work to demonstrate the differences and disparities in psychiatric care which communities served by different types of hospitals may experience. For this study, the independent variable will be type of hospital ownership and the dependent variable will be rates of 30-day psychiatric patient readmission. Researchers have suggested that quality of care for psychiatric patterns can vary significantly based on the type of entity

which owns a given hospital (Shields & Rosenthal, 2017; Wani et al., 2019). While the existing literature shows variation of performance across hospital ownership types which promisingly suggests that individual hospitals can significantly raise their quality of psychiatric care, different types of hospital experience different challenges to optimizing patient care (Germack et al., 2020; Shields & Rosenthal, 2017; Wani et al., 2019).

Risks of Immediate Post-Discharge Period

The period immediately following hospitalization for psychiatric diagnoses is an extremely sensitive one for patients. The overlapping traumas of whatever event caused their initial hospitalization and the experience of hospitalization itself can be profoundly challenging for people who are already struggling with mental illness. The risk of suicide is particularly pronounced in the period after hospitalization for psychiatric diagnoses. To study the risk of suicide after discharge from a psychiatric hospital, Haglund et al. (2019) studied a national cohort of individuals discharged from Swedish psychiatric hospitals from 1973 to 2009. The researchers sought to find out if there was a change in the rate at which patients committed suicide within the 30-day period following hospital discharge; the researchers grouped patients by mental health diagnosis to see if patients with conditions were at a higher risk than the general population of mentally ill patients (Haglund et al., 2019). The researchers found that patients with all different diagnoses were at a heightened risk of suicide in the 30 days following psychiatric discharge, regardless of diagnosis; however, patients who had recently engaged in a self-harm event were at a particularly high risk (Haglund et al., 2019). This relationship between suicide risk and early discharge suggests that understanding when patients should and should not

be discharged could be used as a predictor of hospital care quality, drawing Donabedian's (1988) theoretical work on hospital care quality metrics.

Haglund et al. (2019) work was corroborated by that of Chung et al. (2017). Chung et al. (2017) did a study of 183 patient samples collected from studies on suicide rates after discharge from psychiatric facilities from January 1946 to May 2016; the researchers were looking to quantify suicide rates after psychiatric discharge and determine what moderated those rates. The researchers found that the most significant increase in risk of suicide among patients discharged from a psychiatric hospital occurred in the first three months after discharge (Chung et al., 2017). The links between recent psychiatric hospital exit and suicidal behavior are well-established and speak to an urgency in ensuring that psychiatric patients are secure.

Suicide is the main concern for patients recently discharged from a psychiatric hospital, however, there are many other potentially negative outcomes (Walter et al., 2019). Walter et al. (2019) performed a general national cohort study in Denmark to calculate the risk of multiple adverse outcomes for psychiatric inpatients, including all-cause mortality, suicide, nonfatal self-harm, homicide perpetration, homicide victimization, violent criminality, and hospitalization. The researchers studied Danish people born between 1967 and 2000 who had their first inpatient psychiatric hospitalization at age 15 or older; each individual was matched with a group of 25 others of the same age and sex without a history of psychiatric admission to provide a reliable point of comparison for these potential risks (Walter et al., 2019). Researchers found that in the first three months after discharge, psychiatric patients were at significantly elevated

risks of suicide and nonfatal self-harm and elevated risks of accidental death, violent criminality, and hospitalization (Walter et al., 2019). Risks of violent criminality, hospitalization due to violence, and accidental death remained constant through the 10-year mark (Walter et al., 2019). This, alongside Haglund et al.'s (2019) work on suicide risk and early discharge, demonstrates the importance of ongoing intervention in psychiatric patients' lives, both to the patients themselves in the case of Haglund et al. and to the community at large in Walter et al.

The literature suggested that across contexts, patients were at significant risk of negative outcomes in the period immediately following discharge from psychiatric hospitalization (Chung et al., 2017; Haglund et al., 2019; Walter et al., 2019). Suicide was specifically identified as a potential outcome for high-risk patients with psychiatric diagnoses (Chung et al., 2017; Haglund et al., 2019; Walter et al., 2019). This study will utilize 30-day follow-up as a measure of hospital quality in response to the findings of Chung et al. (2017), Haglund et al., (2019), and Walter et al. (2019).

Impacts of Follow-Up Care on Patient Outcome

Follow-up care refers to attention which patients receive from health professionals after a major health event. If psychiatric patients are put in regular contact with doctors -- particularly in the period immediately following hospitalization -- better patient outcomes are possible. Kurdyak et al. (2018) studied a group of 19,132 schizophrenic patients in Ontario to determine if meeting with a doctor within 30 days after hospital discharge impacted rates of readmission to a psychiatric hospital in the following 180 days. The researchers analyzed records collected by the Ontario Mental Health Reporting System,

which compiles data on mental health care and patients from public hospitals within Ontario. The researchers excluded patients who: (a) Were hospitalized for under 72 hours, (b) Were ineligible for public health coverage in Ontario, (c) Died before 30 days had elapsed since their hospital discharge, and (d) Were readmitted to the hospital within 30 days of their discharge (Kurdyak et al., 2018). The researchers found that patients who had seen a doctor after 30 days of their discharge were rehospitalized at lower rates than those who did not. In the case of this study, all patients were receiving care at a publicly owned institution (Kurdyak et al., 2018).

Additionally, as this study specifically focused on patients with diagnoses of schizophrenia and as this study was focused on a population in Canada, there are notable limits on the applicability of this study (Kurdyaket al., 2018). Despite the positive impacts which prompt follow-up care has on patients with mental health diagnoses (Kurdyak et al., 2018), and the high risk of negative outcome in the period immediately following hospital discharge for mental health related hospitalizations (Chung et al., 2017; Haglund et al., 2019; Walter et al., 2019), people with mental health diagnoses do not all receive follow-up care with the same standards or with the same promptness. This is often owing to both patient factors and to institutional factors.

Fontanella et al. (2016) studied 7,826 minors, ages 6-17 years, who were Medicaid policyholders hospitalized for a mood disorder in the period between July 2009 and November 2010. The researchers sought to find the rates at which these minors received follow-up care and which factors were associated with receiving or not receiving follow-up care (Fontanella et al., 2016). The time immediately after a psychiatric

hospitalization is particularly important for patient monitoring, as the risk of suicide is increased for such patients (Fontanella et al., 2016). The researchers used data from Medicaid, the American Hospital Association, and the Area Resource File to determine patient demographics, patient diagnoses, services provided, and information about the geographical information the patients were from (Fontanella et al., 2016). Demographic information included age, gender, race, ethnicity, reason for Medicaid eligibility, type of mood diagnosis, duration of stay, substance abuse history, comorbidities, and prior outpatient mental health visits (Fontanella et al., 2016). Of those studied, 48.9% received follow-up care within a week of being released from the hospital, and 69.2% received follow-up care within a month; adolescents (ages 12-17 years), Black patients, and patients with substance abuse histories were less likely to receive follow-up care (Fontanella et al., 2016).

Teaching hospital patients and psychiatric hospital patients were more likely to receive follow-up care than those in nonteaching hospitals and general hospitals, respectively; patients from areas with relatively high unemployment rates were less likely to receive follow-up care than patients from areas with low unemployment rates; patients at smaller hospitals were more likely to receive follow-up care than patients at larger hospitals; and patients of hospitals with more Medicaid patients were less likely to receive follow-up care than patients of hospitals with fewer Medicaid patients (Fontanella et al., 2016). Here, older patients with greater levels of autonomy and tendencies towards defiant behavior did not receive the same levels of care as younger patients, reflecting a "patient factor" which was a barrier to care (Fontanella et al., 2016). Limited funding and

a higher volume of low-income patients in certain hospitals also acted as an "institutional" barrier to care. These persistent gaps in responsiveness and quality of care can significantly hinder the care and outcomes of patients with mental health diagnoses. This echoes the work of Chung et al. (2017), Haglund et al. (2019) and Walter et al. (2019) on the potential negative impacts of releasing a patient too early and demonstrates a gap in care quality based on the type of treatment provider—in line with the theoretical work completed by Donabedian (1988).

Hospital Readmission and Mental Illness

Due to the pervasive and unpredictable nature of mental illness, patients with mental illness diagnoses are more likely to be hospitalized on more than one occasion. Using data from the 2013 Nationwide Readmissions Database, Doupnik et al. (2018) performed a study of the relationship between mental health conditions and 30-day hospital readmissions in young patients, ages 3-12 years. The researchers found that patients with mental health conditions were significantly more likely to be readmitted to a hospital, particularly those with depression, substance abuse disorders, and multiple mental health conditions (Doupnik et al., 2018). Pederson et al. (2018) studied 6104 patients who were admitted to a hospital who were diagnosed with depression to try and find out if depressive symptoms could act as a predictor for 30-day readmission or death after hospitalization. Patients with diagnosed depression were more likely to both die and be readmitted to a hospital than patients without depression (McAlister, 2018). Chung et al., (2017), Haglund et al. (2019), and Walter et al. (2019) all demonstrated how assimilating back into one's daily life can be a tremendous stressor for a patient who has

recently been discharged from a psychiatric hospital; consequently, patient care practices which ensure minimum levels of rehospitalization are necessary for patients with psychiatric diagnoses.

Certain hospital-related factors have been thought to be predictors of rehospitalization. Tedeschi et al. (2019) studied causes of readmission among patients who were hospitalized for a mental health diagnosis in Italy over a one-year period. The researchers utilized data from the Italian Ministry of Health with which they created regression models to determine whether or not certain variables could predict future hospitalization (Tedeschi et al., 2019).The researchers found that psychotic disorder, close physical proximity from the hospital to where the patient lived, longer stay length, and higher number of hospital beds were all reliable predictors of readmission; while young age, involuntary admission, and intermediate number of hospital staff were all factors which reduced patient probability of hospital readmission (Tedeschi et al., 2019). These all suggest different potential vectors influencing hospital readmission which could be used as potential predictors of poor hospital outcomes—echoing the work of Fontanella et al. (2016) and in line with the work of Donabedian (1988).

While American hospitals face fines if they have a patient readmission ratio which is higher than they expect, reducing hospital readmissions rates can be a difficult task; Benjenk and Chen's (2018) review of 81 articles which evaluated the effectiveness of interventions found only three effective interventions in reducing hospital admission rates, two of which had direct applicability to mental illness patients. Bruce et al. (2016) studied 755 Medicare beneficiary seniors with depression diagnoses who were

hospitalized for depression. Nurses were assigned to perform regular home visits with patients, in which patient symptoms were assessed, medications were managed, goals for improvement were determined, and coordination with other health professionals was performed (Bruce et al., 2016). Participants were 35% less likely to be directly admitted to a hospital within 30 days of starting treatment, and 28% less likely to be directly admitted to a hospital within 60 days of starting treatment (Bruce et al., 2016).

Chen et al. (2018) studied the associations between local health departments in Maryland which actively provided mental health preventative care and mental health services on local people with mental health diagnoses' 30-day hospital readmissions. Using state health data and census data, the researchers determined that the availability of public mental health provisions was associated with fewer adults being rehospitalized for mental health-related causes in the subsequent 30 days (Chen et al., 2018). In both cases, direct institutional outreach resulted in positive outcomes for patients. Bruce et al. and Chen et al. corroborated Kurdyak et al.'s (2018) findings on the positive impacts of patient outreach and suggests that Kurdyak et al. may have applicability outside of the Canadian context.

Hospital Ownership and Follow-Up Rates

In the United States, there are several different profit structures which can be used to operate hospitals. Nonprofit hospitals are privately owned hospitals which reinvest profits from healthcare back into expanding patient care; for-profit hospitals are privately owned hospitals which seek to profit from patient care; government hospitals are owned by the American government; and Veteran's Affairs hospitals are government hospitals

which are freely available for veterans (Shields &Rosenthal, 2017). The goals and compensation structures of each of these organizations implies significantly different motivating factors and levels of financial security; for example, while a for-profit hospital is implicitly motivated by gaining money at patient expense -- which may imply that the hospital is more invested in collecting the patient's money than curing their ailments -- government-owned hospitals may be chronically underfunded, leading to well-intentioned, ineffective care. This is a particularly important consideration when caring for psychiatric patients, as many psychiatric patients suffer from somewhat unpredictable long-term ailments which require ongoing care (Kurdyak et al., 2018).

It is worth mentioning that while there are issues more common to hospitals with certain ownership styles, the literature suggests that individual hospitals do have a meaningful degree of autonomy in their practices. Germack et al. (2020) studied the variation in 30-day readmissions for patients with serious mental illness. The researchers used Medicare data from 2013-2016 to identify 2066 hospitals with at least 30 Medicare beneficiaries with serious mental illness, and then determined the frequency with which patients were readmitted to the same hospital in 30 days or less (Germack et al., 2020). The researchers found that readmission rates for patients with serious mental illness vary greatly from hospital to hospital; while teaching hospitals were generally found to have the lowest rates of readmission rates, there was great institutional variation in performance, even when multiple hospitals served communities with similar demographics (Germack et al., 2020). This suggests that corrections in individual hospital practices can have positive impacts for patient outcome, particularly for low-income

patients, as echoed in Shields and Rosenthal's (2017) work on care disparities in public hospital contexts.

The literature suggested that differences in hospital ownership often result in differences in patient care, particularly as it relates to post-hospitalization follow-up. As has been established by the literature outlined in the prior sections, psychiatric discharge patients need to be proactively served and monitored by health professionals, particularly given the increased risk of suicide in the months immediately following psychiatric hospital discharge (Walter et al., 2019). The existing literature indicated that: (a) Impoverished and marginalized communities are often underserved by the public healthcare resources made available to them, which are disproportionately inefficient in their approach to follow-up (Germack et al., 2020; Shields & Rosenthal, 2017); and (b) For-profit hospitals are often ineffective in their follow-up behaviors, as there is an incentive for patient readmission (Horwitz et al., 2017; Wani et al., 2019).

Benjenk and Chen (2019) employed data from 1,275 inpatient psychiatric facilities to compare how communities served by those hospitals impact the speed with which patients received follow-up care. The researchers studied the demographics of the areas surrounding each inpatient psychiatric facility, and then determined the rates at which Medicare beneficiaries hospitalized for mental illness received 7-day and 30-day follow ups with doctors to determine if there was a relationship between the speed of and the demographics the hospital served (Benjenk & Chen, 2019). The researchers found wide variance in the speed of follow-up, and found that psychiatric specialty hospitals, public hospitals, and hospitals which served primarily minority communities --

particularly, Black and Latino communities -- tended to less frequently and less quickly follow up with people with mental health diagnoses (Benjenk & Chen, 2019). This variation in care between hospitals, which ultimately results in variation in patient outcomes, is echoed in the work of Germack et al. (2020), Horwitz et al. (2017), Shields and Rosenthal (2017), and Wani et al. (2019).

The Hospital Readmissions Reduction Program (HRRP) penalizes hospitals with higher rates of readmissions than they project by imposing fines on them; the aim of this program is to ensure that patients are adequately cared for and have as few costly hospital visits as possible (Figueroa et al., 2017). Consequently, hospitals which care for vulnerable populations -- including non-English speaking populations, homeless populations, and low-income populations -- often have fines imposed on them, as many of their patrons do not have other care providers (Figueroa et al., 2017). Figueroa et al. (2017) sought to study the extent to which readmission-related challenges in safety net hospitals were due to patient-related challenges or due to limited implementation of readmission prevention strategies. Figueroa et al. surveyed 980 acute care hospital leaders from June 2013 to January 2014 regarding readmissions-related challenges; they found that while hospitals which worked with vulnerable populations had high rates of patron-related challenges -- including language barriers and transportation issues -- these hospitals were less likely to utilize readmission reduction strategies. Hospitals which worked with vulnerable populations were also less likely to use online discharge summary sharing, verbally communicate with outpatient providers, enroll patients in post discharge programs, and use other tools for ensuring a greater level of post discharge

communication (Figueroa et al., 2017). As established by Chung et al. (2017), Haglund et al. (2019), and Walter et al. (2019), psychiatric patients need to have high levels of ongoing medical professional engagement, particularly in the time immediately after discharge, in order to ensure their success and safety.

Veterans' Affairs hospitals also have challenges with ensuring strong patient care. Shields and Rosenthal (2017) evaluated accredited inpatient psychiatric hospitals to see if their ownership was related to their quality of care, as determined by their performance on the standards of the Joint Commission's Hospital-Based Inpatient Psychiatric Services measure set. This seven-point evaluation tool encompasses the following measures: percentage of patients who received admission screening for violence risk, substance use, psychological trauma history, and patient strengths; hours of physical restraint per 1,000 patient hours; hours of seclusion per 1,000 patient hours; percentage of patients discharged on multiple antipsychotic medications; percentage of patients discharged on multiple antipsychotic medications without an appropriate justification; percentage of patterns for whom a post discharge continuing care plan was transmitted to the next level of care upon discharge (Shields & Rosenthal, 2017). The researchers used publicly available data from the Joint Commission to evaluate the performance of 665 accredited inpatient psychiatric hospitals, grouping them into for-profit, nonprofit, VA, and nonVA government hospitals (Shields & Rosenthal, 2017). The researchers found that while the HBIPS measures of quality may be somewhat unreliable, VA hospitals performed significantly worse than for-profit, nonprofit, and other government hospitals in most HBIPS measures of quality (Shields & Rosenthal, 2017). This performance gap, the

researchers asserted, speaks to the challenges which come with underfunding VA hospitals (Shields & Rosenthal, 2017). This also speaks to the challenges with properly providing for patients who rely on publicly funded healthcare services, in line with the work of Benjenk and Chen (2019).

The studies by Benjenk and Chen (2019), Figueroa et al. (2018), and Shields and Rosenthal (2017) all demonstrate significant gaps in public mental health resource accessibility for impoverished communities, communities of color, as well as significant gaps in hospitals' rates of follow-up. This speaks to a significant problem with access to stable mental health resources in low-income communities. While for-profit hospitals also have significant problems with addressing patient need, their performance deficits take the form of high readmission rates.

Using Medicare data which encompassed nearly 6.8 million hospital admissions claims at 4474 different hospitals, Horwitz et al. (2017) studied the association of eight different hospital characteristics with hospitals' risk-standardized 30-day readmission rate. The researchers found that urban and rural hospitals had greater proportional readmission rates than suburban areas; and that for-profit hospitals had substantially greater readmission rates than publicly owned hospitals (Horwitz et al., 2017). The researchers speculated that readmissions at for-profit hospitals may suggest that financial incentive of customer return may encourage such hospitals to improperly serve their patients. Horwitz et al.'s (2017) findings on for-profit hospitals are supported by Wani et al.'s (2019) study of schizophrenia patients and hospital readmission. Wani et al. (2019) studied the effect which hospitals can have on readmission for patients of schizophrenia

and other psychotic disorders; such conditions are the second most common cause of 30-day hospital readmission after discharge. The researchers found that schizophrenic patients and patients with psychotic disorders were significantly likelier to be readmitted within 30 days if their first admission was in a private hospital (Wani et al., 2019).

Potential Solutions to Readmission Rates

In keeping with the work of Chen et al. (2018), telepsychiatry may provide an effective means of reducing rates of hospital readmission for people with mental health diagnoses. Telepsychiatry refers to the use of telemedicine -- in which patients use communications technology to meet with healthcare workers -- for mental health care (Mehrotra et al., 2017). Researchers have shown that telemedical psychiatric interventions can be more effective than traditional psychiatric treatment. Fortney et al. (2013) followed 364 rural patients diagnosed with depression over an 18-month period from 2007-2009; roughly half of the participants received mental health care from an on-site provider at a traditional psychiatric practice, and roughly half of the participants received mental healthcare from a team of telemedicine providers. The telepsychiatry health patients' received care from a psychiatrist and psychologist via videoconferencing, a nurse and pharmacist via telephone, and an on-site nurse provider (Fortney et al., 2013). The telepsychiatry patients were found to have a more pronounced reduction in depression symptoms than the traditional patients; the researchers hypothesized that this may be because telemedical patients engaged in self-management activities at greater rates than traditional patients, such as socializing and exercising (Fortney et al., 2013). This research suggests that telepsychiatry approaches may provide an effective means of

limiting rates of psychiatric patient readmission, as it allows health professionals to remotely check in with patients, limiting the need for time-consuming in-person visits. This also may help address the challenges with low-income patients with limited access to high-quality public healthcare, as discussed by Benjenk and Chen (2017) and Shields and Rosenthal (2019).

While telepsychiatry health has consistently grown over the past decade, significant progress still needs to be made. Mehrotra et al. (2017) studied Medicare mental health claims from beneficiaries in rural areas in the period 2004-2014 to determine how frequently telehealth resources have been used in the treatment of mental illness. The researchers cross-referenced Medicare claims data with zip codes to identify which patients could qualify as both rural and a mental illness sufferer (Mehrotra et al., 2017). The researchers then analyzed the number of claims which rural Medicare recipients suffering from mental illness made which involved remote conferencing with a medical professional (Mehrotra et al., 2017). The researchers found that every year during the decade-long period studied, telepsychiatry visits increased by roughly 45%; by the end of the period, there were 5.3 telepsychiatry visits per 100 rural beneficiaries with a mental illness and 11.8 telepsychiatry visits per 100 rural beneficiaries with a serious mental illness (Mehrotra et al., 2017). It should also be noted that Medicare has since mandated that all telehealth visits take place via videoconference at a medical facility to ensure their safety (Mehrotra et al., 2017). This provides a potential means of keeping in contact with patients who have mental health problems, demonstrating a potential solution to the problem of inadequate follow-up, in conversation with the work of Chung

et al. (2017), Haglund et al., (2019), and Walter et al. (2019) on the importance of mental health follow-up.

Li et al. (2020) analyzed data from the 2017 American Hospital Association Annual Survey to determine how many acute care hospitals were utilizing telemedical approaches to psychiatric patients. The researchers obtained data from 3,475 acute care hospitals; of the hospitals surveyed, 15.8% utilized telepsychiatry treatments (Li et al., 2020). 19.4% of urban hospitals used telepsychiatry approaches, while rural core hospitals and rural noncore hospitals were significantly less likely to adopt these approaches (13.6% and 8.3%, respectively) (Li et al., 2020). Federal hospitals, (48.9%) hospitals in larger health systems (3.9%), hospitals with a greater number of beds (6.2%) and hospitals who served Medicare patients at greater proportions (4.9%) were all more likely to offer telepsychiatry services than their counterparts (Li et al., 2020). Wide availability of consumer communications technology and the increased need for socially distanced conferencing with health professionals as a result of the ongoing COVID-19 crisis may help further establish and standardize telepsychiatry practices, allowing for a simpler means of patient outreach, though it is yet unclear what the ongoing implications of the pandemic will be. This may help address the location-based care inequities discussed by Benjenk and Chen (2017) and Shields and Rosenthal (2019).

Definitions

For-profit hospital: Privately owned hospitals which receive funding through keeping the profits generated from patient care (Shields & Rosenthal, 2017).

Hospital type: The type of medical care provider which administered hospital services to psychiatric patients, as categorized by the Center for Medicare and Medicaid Services (2021). “Acute care hospitals” referred to traditional hospitals; “critical access hospitals” referred to nonhospital medical providers which perform emergency patient intake; and, “psychiatric” hospitals referred to dedicated psychiatric units (CMS, 2021).

Hospital ownership: The entity by which a hospital is owned, be it a nonprofit organization, a business, the federal government, or a different organization entirely. Medicare used 11 different hospital categories to code data: “Department of Defense,” “Government-Federal,” “Government-Hospital District or Authority,” “Government-Local,” “Government-State,” “Physician,” “Proprietary,” “Tribal,” “Voluntary non-profit - Church,” “Voluntary non-profit - Other,” and “Voluntary non-profit - private” (CMS, 2020).

Nonprofit hospital: Publicly or privately owned hospitals which invest profits generated back into patient care (Shields & Rosenthal, 2017).

Person with mental health diagnoses: An individual suffering from intrusive irregularities in emotion, cognition, or behavior (Haglund et al., 2019).

Private hospital: Hospitals owned, operated, and funded by a nongovernmental organization (Shields & Rosenthal, 2017).

Psychiatric specialty hospitals: Publicly or privately owned hospitals which predominantly work with patients who have ongoing, severe, or dire psychiatric diagnoses (Benjenk& Chen, 2018).

Public hospital: Hospitals owned, operated, and funded by the government, including hospitals operated by the Department of Veterans Affairs. (Shields & Rosenthal, 2017).

Thirty-day patient follow-up rates: The frequency with which staff members at a given hospital actively make contact with a patient within 30 days of their discharge (CMS, 2021).

Thirty-Day psychiatric patient readmission: The frequency with which individuals who have been discharged from a psychiatric hospital have been readmitted (Wani et al., 2019).

Thirty-Day readmission: Rates of 30-day readmission to a hospital are often used as a benchmark to determine quality of care. If high rates of patients are readmitted to the same hospital within 30 days of dismissal, it often suggests that the hospital in question is providing low-quality care (Kurdyak et al., 2018).

U.S. Department of Veterans Affairs hospitals: Public hospitals which serve U.S. Military veterans at free or reduced rates (Shields & Rosenthal, 2017).

Assumptions

For any experimental project to successfully achieve its objectives, a set of assumptions must be made in the interest of controlling the independent variable to the greatest possible extent. Several assumptions weremade in the course of this study. First, it was assumed that subjects' psychiatric diagnoses were correctly made by a trained professional. Second, it was assumed that patients were being honest in disclosing their perceptions of their care. The third and final assumption was that psychiatric outpatient

care methodology involved similar types of intervention. These assumptions were made to ensure that the data generated from the study had broad enough generalizability that the findings can have practical applications in other contexts.

Scope and Delimitations

This study has some limitations which must be acknowledged.This study focused on 30-day readmission and 30-day follow-up trends for psychiatric patients served by psychiatric hospitals or by psychiatric units in acute care hospitals or critical access hospitals, using Medicare data from between 2020. This data - which represents the most recent data available - includes information on age, gender, patient history, patient satisfaction, rates of readmission, and hospital types. This scope was chosen to limit research to a specific population which is simultaneously broad enough that it accounts for certain types of geographical/demographic variance and limited enough that data analysis does not become unnecessarily broad and burdensome.

A delimitation is a boundary a researcher intentionally sets for the purposes of limiting research scope. The main delimitation in this study was that the only data utilized was from Medicare, which limited the scope to certain types of healthcare patients. This data did not include extensive qualitative information which displays the personal perspectives of the psychiatric patients studied. The size of the data sample was large enough that data can be reasonably generalizable. Including information from private health insurance providers may allow for a broader understanding of the demographic gaps in mental healthcare equity to be built.

Limitations

Limitations are elements of the study which cannot be controlled by a researcher (Antwi& Hamza, 2015). No study can truly be all-encompassing, and most studies intentionally limit their scope to focus on the particular circumstances or characteristics impacting a given population. One of the limitations of this study was the source of the analyzed data, which disproportionately focuses on the experiences of psychiatric patients in particular income brackets. Another limitation was the period of time covered by the analyzed data, which may not account for ongoing changes in the healthcare market.

Significance

This study is significant in that it adds to the body of knowledge regarding the relationship between hospital ownership, hospital type, 30-day hospital follow-up, and readmission within 30 days. Improving the quality of psychiatric care may create positive social change through increasing the overall well-being of community members, which could result in their enhanced productivity as members of the community, leading to a strengthened economy and an increase in a positive community environment.

Summary and Conclusion

This study analyzed the extent to which hospital ownership and hospital type act as predictors of quality of care for psychiatric patients, in order to ensure patients receive higher standards of care. The existing literature shows that the 30-day period after hospital discharge for a psychiatric diagnosis is an extremely important period in the course of a patient's recovery, in which the patient is at an elevated risk of negative

outcomes. In order to ensure a safe transition into their daily lives, patients must receive adequate support from medical professionals during this period. Researchers have suggested that rates of 30-day follow-up and 30-day readmission to a hospital a patient had been discharged from is a strong indicator of the quality of care for a given hospital. Researchers have also suggested that rates of 30-day readmission and rates of 30-day follow up for people with mental health diagnoses may vary based on the type of ownership structure of a given hospital. Section 2 presents the methodology, power analysis, and operationalization of the variables.

Section 2: Research Design and Data Collection

Introduction

Existing literature has suggested that there is a relationship between type of hospital ownership and quality of care, particularly for psychiatric patients (Horwitz et al., 2017; Shields & Rosenthal, 2017). The purpose of this quantitative study was to analyze the extent to which hospital ownership has an impact on the quality of psychiatric patient care in psychiatric hospitals and psychiatric units in acute care hospitals and critical access hospitals in the United States that participate in Medicare. This section discusses the study's research design, data collection methods, data analysis plan, threats to validity, and ethical assurances.

Methodology

Research Design and Rationale

This proposed quantitative study used Pearson correlations to test the relationships between the two dependent variables (e.g., rates of 30-day psychiatric patient readmission and rates of 30-day follow-up for psychiatric patients); the study also used ANOVA testing to test the relationship between each independent variable and each dependent variable. To explore the statistical relationships between hospital ownership, hospital type, 30-day follow-up rates for psychiatric patients, and 30-day readmission rates, the means of 30-day follow-up rates for psychiatric patients and 30-day readmission rates were first calculated and compared. Then, ANOVA testing was used to determine if there were statistically significant differences in the mean rates of 30-day follow-up for psychiatric patients and rates readmission after 30-day discharge between

hospitals with ownership structures and hospitals of different types, as designated by CMS (2021). Eta square tests were then run to determine effect size. This research methodology helped clarify the extent to which the overall fit of the models for each of these independent variables can be used as an effective predictor of 30-day readmission rates and 30-day follow-up rates for psychiatric patients.

Population

The sample included 1466 psychiatric hospitals or psychiatric units throughout the United States involved in the Center for Medicare and Medicaid's (2021) Inpatient Psychiatric Facility Quality Reporting (IPFQR) Program in 2020 in the United States. IPFQR seeks to provide consumers with a more robust understanding of psychiatric care quality in the ultimate aim of encouraging higher care standards (CMS, 2021). IPFQR evaluates inpatient psychiatric services from psychiatric hospitals and psychiatric units, which are defined as mental health or behavioral health units in Acute Care Hospitals or Critical Access Hospitals (CMS 2021). The IPFQR program used existing Medicare data to identify the type of hospital ownership structure which each care provider had. Medicare characterized individual hospitals in one of four categories, “acute care,” “critical access,” “children’s,” or “psychiatric." This study focused on all psychiatric patients who were being served at these facilities. The researcher used data from the Centers for Medicare and Medicaid Services’ (2020) “Inpatient Psychiatric Facility Quality Measure Data - by Facility" table to explore this.

Sampling and Sampling Procedures

Power analysis is used to determine the sample size needed to confidently determine a statistical relationship (Laerd Statistics, 2018). The researcher used SPSS V.27 to perform an a priori power analysis. An a priori power analysis uses the following factors: (a) statistical test of mean difference between two dependent means which is equal to a dependent sample *t* test; (b) statistical power of 0.95; (c) effect size .25; (d) a .05 level of significance; and (e) three independent variables. This calculation suggested that a sample size of 132 or above is appropriate for this study, meaning that the size of 1466 will be statistically significant.

Instrumentation and Operationalization of Constructs

In order to create coherent criteria for the constructs this study will use, the two independent variables were coded. Though instrumentations were not utilized in this study, as data had already been collected, creating a coherent image of how different pre-collected data will be categorized and utilized is extremely important. In this study, the output consisted of rates of 30-day readmission and rates of 30-day follow-up rates for psychiatric patients. Both rates were collected by CMS (2021).

Two different inputs were defined. Medicare's "Hospital General Information" list was used to code hotel ownership data; 11 different hospital categories used by Medicare will be utilized to code data. "Department of Defense," "Government-Federal," "Government-Hospital District or Authority," "Government-Local," "Government-State," "Physician," "Proprietary," "Tribal," "Voluntary non-profit – Church," "Voluntary non-profit – Other," and "Voluntary non-profit – private." "Department of

Defense" and "Government" hospitals were coded as "public," "tribal" hospitals were coded as "tribal," "proprietary" hospitals were coded as "for-profit," and all "voluntary" hospitals were coded as "nonprofit." "Physicians" were excluded from this coding, as their institutional affiliations are not made clear by this designation.

"Hospital type" was coded into three categories, in accordance with CMS' (2021) data. "Acute care hospitals" referred to traditional hospitals; "critical access hospitals" referred to nonhospital medical providers which perform emergency patient intake; and, "psychiatric" hospitals referred to dedicated psychiatric units (CMS, 2021).

Data Analysis Plan

To examine the relationship between hospital ownership, hospital type, and hospital quality, hospital ownership and type were used as the independent variables. Rates of 30-day readmission for psychiatric patients and 30-day follow-up for psychiatric patients, using Medicare data, were the dependent variables. The researcher applied this across all the states. ANOVA testing was conducted to address categorical independent variables, and eta testing was used to determine the strength of the associations. The researcher used SPSS to simplify the processing of the complex statistical data presented in this study. The software assisted in determining the trends of hospital ownership and patient experience and readmission as well as to quantify data from the target population measuring multiple aspects within the samples while potentially exploring additional findings. While ANOVA testing, unequal variances were checked for and post hoc tests were performed.

Threats to Validity

Any factor within a study which impacts the generalizability of that study's results can be considered a threat to external validity. The main threat to external validity in this study was population limitation; as this study focuses on hospitals and psychiatric units which provide psychiatric services to Medicare patients, it is possible that the severity of patients' psychiatric disorders may have been further pronounced by other factors relating to age or low socioeconomic status, including malnutrition, homelessness, and low care standards from nonhospital providers. By collecting data from across state contexts, this study sought to create the broadest possible sample of hospital contexts. Threats to internal validity refers to the extent to which the researchers can control for potential unforeseen variables (Flannelly et al., 2018). In the case of this study, the Medicare data being used did not necessarily account for all potential confounding factors which may impact the study.

Ethical Procedures

As this study used only secondary data, no human participants were involved in the study; consequently, no permissions or consent forms were necessary to ethically conduct the study. Before enacting this study, permission was sought from Walden University's Institutional Review Board (IRB). To ensure this study remained ethical, only publicly available data collected and published by Medicare was utilized. No modifications were made to the data to ensure that all information was properly reported.

Per the recommendations of the Walden University IRB, after completing the study, the data will be stored for a seven-year period. This practice seeks to ensure that

relevant data is preserved. Though the data were publicly available at the time of the study, there is a possibility that the data will become inaccessible in the future. The data will be stored on a flash drive and kept in a locked filing cabinet.

Summary

The purpose of this quantitative study was to examine the relationship between hospital ownership, hospital type, rates of 30-day psychiatric readmission, and rates of 30-day follow-up for psychiatric patients. The researcher sought to determine the extent to which hospital ownership can act as a predictor of two measures of psychiatric patient care quality: rates of hospital readmission within a 30-day period and rates of 30-day follow-up for psychiatric patients by hospitals. The researcher analyzed hospital data from psychiatric patients at psychiatric hospitals and psychiatric units obtained from Medicare's IPFQR program during the period from 2020, using both ANOVA and eta analyses. This section discussed the study's population, the sampling procedures which were utilized, the data collection plan, the data analysis plan, threats to validity, and ethical procedures. Section 3 will present the results and discuss the findings of the study.

Section 3: Presentation of the Results and Findings Section

Introduction

The purpose of this quantitative study was to examine the relationship between hospital ownership, hospital type, rates of 30-day psychiatric readmission, and rates of 30-day follow-up for psychiatric patients. Research has suggested that there are significant inequities in care for psychiatric patients at hospitals with different ownership structures (Horwitz et al., 2017; Shields & Rosenthal, 2017). The findings of this research, guided by Donabedian's (1988) Structure-Process-Outcome model of healthcare evaluation, could be used to both further verify this contention and ultimately improve the quality of psychiatric care across ownership structures. The research problems and data guided the methodological and analytical choices. The research questions explored in this study were:

Research Question 1: Is there a statistically significant relationship between hospital ownership and inpatient psychiatric patient readmission within 30 days of discharge?

$H_0$1: There is no statistically significant relationship between hospital ownership and inpatient psychiatric patient readmission within 30 days of discharge.

H_a1: There is a statistically significant relationship between hospital ownership and inpatient psychiatric patient readmission within 30 days of discharge.

Research Question 2: Is there a statistically significant relationship between hospital type and inpatient psychiatric patient readmission within 30 days of discharge?

$H_0$2: There is no statistically significant relationship between hospital type and inpatient psychiatric patient readmission within 30 days of discharge.

H_a2: There is a statistically significant relationship between hospital type and inpatient psychiatric patient readmission within 30 days of discharge.

Research Question 3: Is there a statistically significant relationship between hospital ownership and rates of 30-day follow-up for psychiatric patients?

$H_0$3: There is no statistically significant relationship between hospital ownership and rates of 30-day follow-up for psychiatric patients.

H_a3: There is a statistically significant relationship between hospital ownership and rates of 30-day follow-up for psychiatric patients.

Research Question 4: Is there a statistically significant relationship between hospital type and rates of 30-day follow-up for psychiatric patients?

$H_0$4: There is no statistically significant relationship between hospital type and rates of 30-day follow-up for psychiatric patients.

H_a4: There is a statistically significant relationship between hospital type and rates of 30-day follow-up for psychiatric patients.

Secondary datasets from the Center for Medicare and Medicaid Services regarding both hospital quality and ownership structures, as well as the statistical analyses conducted to answer the research questions are described and detailed in this section. A summary of the statistical analysis is also presented. The results are briefly summarized at the end of the section.

Data Collection of the Secondary Data Set

Process of Collection of Secondary Data

Data for this study were collected from two sources, both of which were publicly available online through the Center for Medicare and Medicaid Services and required no special permissions to obtain. Rates of inpatient psychiatric patient readmission within 30 days of discharge were collected from the Center for Medicare and Medicaid Services' (CMS, 2021). Inpatient Psychiatric Facility Quality Reporting (IPFQR) Program in 2020 in the United States. This sample included data from all patients admitted to a hospital within 30 days of discharge from a psychiatric hospital or psychiatric unit in an acute care hospital or critical access hospital between January 1, 2020 and December 31, 2020 (CMS, 2021). This sample also included data regarding rates of 30-day follow-up by healthcare providers (CMS, 2021). Individual healthcare providers as listed by CMS (2021) were evaluated with their 30-Day Readmission Rate number.

Hospital ownership and hospital type data were collected from the Center for Medicare and Medicaid Services' "Hospital General Information" listings. This information was collected via a nationwide survey of hospitals which accepted Medicare and Medicaid patients in the year 2020 (CMS, 2021). This survey contained data for all of the 1466 organizations which took part in the IPFQR survey. Hospital types were either categorized as acute care hospitals, critical access hospitals, or psychiatric hospitals. Acute care hospitals are general hospitals which can provide emergency healthcare services (CMS, 2021). Psychiatric hospitals are hospitals which focus on providing care to patients with psychiatric problems.

Hospital ownership data were also gathered from CMS' (2021) "Hospital General Information" listings. Hospital ownership structures were broken into 10 categories: "Government-Federal," "Government-Hospital District or Authority," "Government-Local," "Government-State," "Physician," "Proprietary," "Tribal," "Voluntary non-profit - Church," "Voluntary non-profit - Other," and "Voluntary non-profit - private." Ownership structures were identified and reported by hospital officials as a part of the CMS survey.

Descriptive Characteristics of Sample and Population

Table 1 outlines the descriptive statistics of the continuous variables. This included both the rates of 30-day follow-upfor psychiatric patients and the rates of 30-daypsychiatricreadmission rates. The mean 30-day follow-up rate was 50.04%. The mean 30-day readmission rate was 20.18%. The standard deviation for 30-day follow-up ratesfor psychiatric patients was 14.569%, and the standard deviation for 30-daypsychiatricreadmission rates was 2.804%. There were 64 more responses to the question on 30-daypsychiatric readmission rates than to the question on 30-day follow-up ratesfor psychiatric patients.

Table 1

Dependent Variable Statistics Table

Statistics	30-Day Follow Up Rate	30-Day Readmission Rate
N Valid	1402	1466
N Missing	64	0
Mean	50.04	20.18
Median	50.00	20.00
Std. Deviation	14.569	2.804
Minimum	6	11
Maximum	96	37

Figure 1 shows the histogram of follow-up rates. The histogram is approximately normally distributed, though it has a slight left skew. The mean percentage of 30-day follow-up for psychiatric patients among hospitals in the sample is about 50%, with a standard deviation of 14.596%.

Figure 1

Graph of Follow-Up Rate Frequency

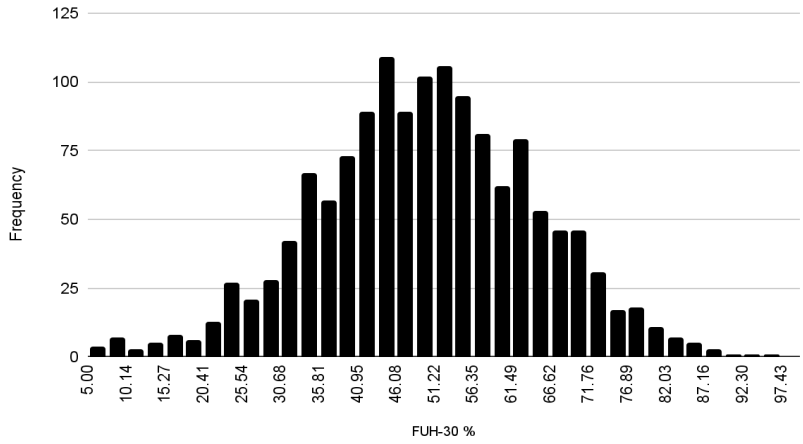

Figure 2 shows the histogram of 30-day psychiatric readmission rate. This histogram is approximately normally distributed but has a slight right skew. The mean incidence of

30-daypsychiatricreadmission at the hospitals in the sample is 20.18%, with a standard deviation of 2.804%.

Figure 2

Graph of 30-Day PsychiatricReadmission Rate

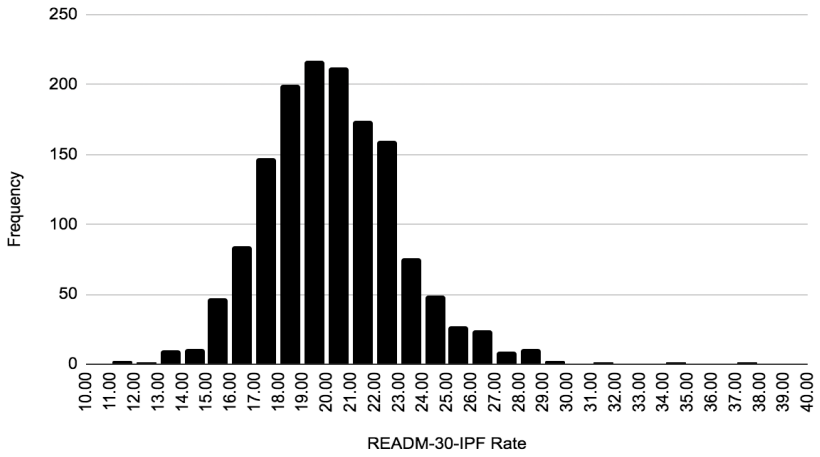

Table 2 indicates the frequency of different hospital types within the sample. Regarding type in Table 2, 64.5% of hospitals in the sample were acute care hospitals, 3.9% were critical access hospitals, and 31.7% were psychiatric hospitals or wards. Because several follow-up rates were missing from the data set in question (n=64), the sample size was slightly lower for the follow-up rate analyses.

Table 2

Frequency Table of Hospital Type

Hospital Type	Frequency	Percent	Valid Percent	Cumulative Percent
Acute Care Hospitals	945	64.5	64.5	64.5
Critical Access Hospitals	57	3.9	3.9	68.3
Psychiatric	464	31.7	31.7	100.0
Total	1466	100.0	100.0	

Table 3 indicates the frequency of different hospital ownership structures within the sample. Regarding ownership in Table 3, 39.2% of hospitals in the sample had "voluntary nonprofit - private" ownership models and 31% had "proprietary" ownership models.Because several follow-up rates were missing from the data set in question (n=64), the sample size was slightly lower for the follow-up rate analyses.

Table 3

Frequency Table of Hospital Ownership

Hospital Ownership	Frequency	Percent	Valid Percent	Cumulative Percent
Government - Federal	10	.7	.7	.7
Government - Hospital District of Authority	83	5.7	5.7	6.3
Government - Local	90	6.1	6.1	12.5
Government - State	90	6.1	6.1	18.6
Physician	6	.4	.4	19.0
Proprietary	454	31.0	31.0	50.0
Tribal	1	.1	.1	50.1
Voluntary non-profit - Church	63	4.3	4.3	54.4
Voluntary non-profit - Other	94	6.4	6.4	60.8
Voluntary non-profit - Private	575	39.2	39.2	100.0
Total	1466	100.0	100.0	

Tables 4 indicates that the mean follow-up rate across contexts is around 50%. All hospital type means of 30-day follow upfor psychiatric patients were around 50% (acute

care 51%, critical care 53%, and psychiatric hospitals 47%), in line with global means. Meanpsychiatricreadmission rates varied from 17.89% for state government hospitals to 21.70% for individual physician's offices. This indicates that the mean 30-day follow-up rates for psychiatric patientsand readmission rates are both relatively consistent across hospitals of different types.

Table 4

Hospital Type Means for Follow Up and Readmission Rates

Hospital Type		30-Day Follow Up Rate	30-Day Readmission Rate
Acute Care Hospitals	Mean	51.19	20.36
	N	905	945
	Std. Deviation	14.528	2.808
Critical Access Hospitals	Mean	53.22	19.56
	N	50	57
	Std. Deviation	18.548	2.246
Psychiatric	Mean	47.36	19.87
	N	447	464
	Std. Deviation	13.791	2.824
Total	Mean	50.04	20.18
	N	1402	1466
	Std. Deviation	14.569	2.804

Table 5 indicated that meanpsychiatricreadmission rates across contexts is around 20%, hospital ownership means varied more widely than hospital type means. Excluding tribal hospitals -- only one of which was included in the data set -- mean follow-up rates ranged from 37.77% for physicians' offices to 60.69% for federal government hospitals. Standard deviations for hospital ownership means were between 15.7% and 11.9%, indicating a wide variability between different hospital ownership structures.

Table 5

Hospital Ownership Meansfor Follow Up and Readmission Rates

Hospital Ownership		30-Day Follow Up Rate	30-Day Readmission Rate
Government - Federal	Mean	60.69	18.67
	N	9	10
	Std. Deviation	14.981	2.111
Government - Hospital District or Authority	Mean	47.23	20.59
	N	79	83
	Std. Deviation	15.697	2.421
Government - State	Mean	43.93	17.89
	N	85	90
	Std. Deviation	15.697	2.421
Physician	Mean	37.77	21.70
	N	6	6
	Std. Deviation	11.716	3.375
Proprietary	Mean	45.99	20.65
	N	439	454
	Std. Deviation	11.942	2.804
Tribal	Mean	15.40	22.60
	N	1	1
	Std. Deviation		
Voluntary non-profit - Church	Mean	53.56	19.74
	N	59	63
	Std. Deviation	14.766	2.440
Voluntary non-profit - Other	Mean	52.09	19.80
	N	89	94
	Std. Deviation	14.085	2.631
Voluntary non-profit - Private	Mean	54.54	20.21
	N	558	575
	Std. Deviation	14.392	2.707
Total	Mean	50.04	20.18
	N	1402	1466
	Std. Deviation	14.569	2.804

Table 6 provides acase processing summary thatindicated how much of the data in each set was unusable. Unusable points do not contain some aspect of information necessary for analysis. In the comparison of follow-up rates and hospital types, 54 data points were unusable. In the comparison of follow-up rates and hospital ownership, 64 data points were unusable. Both comparisons relating to 30-daypsychiatricreadmission rates had no unusable data points. This provides a limit to the analysis' effectiveness.

Table 6

Case Processing Summaryfor Data Exclusions

	Included		Excluded		Total	
Cases	N	Percent	N	Percent	N	Percent
30-Day Follow Up Rate * Hospital Type	1402	95.6%	54	4.4%	1466	100.0%
30-Day Readmission Rate * Hospital Type	1466	100.0%	0	0.0%	1466	100.0%
30-Day Follow Up Rate * Hospital Ownership	1402	95.6%	64	4.4%	1466	100.0%
30-Day Readmission Rate * Hospital Ownership	1466	100.0%	0	0.0%	1466	100.0%

Study Results

Results of Statistical Analysis for Research Question 1

In Table 7, an ANOVA test was run to determine the relationships between hospital ownership and readmission rate among psychiatric patients. It was determined that the relationship between hospital ownership and psychiatric readmission rates was significant at the .05 level (.000). The researcher must reject the null hypothesis of RQ1; there is a statistically significant relationship between hospital ownership and inpatient psychiatric patient readmission within 30 days of discharge.

Table 7

ANOVA Table for Hospital Ownership and Psychiatric Patient Readmission Rate

			Sum of Squares	df	Mean Square
30-Day Readmission Rate * Hospital Ownership	Between Groups	Combined	657.794	9	73.088
	Within Groups		10858.274	1456	7.458
	Total		11516.067	1465	

			F	Sig.
30-Day Readmission Rate * Hospital Ownership	Between Groups	Combined	9.800	.000

In Table 8, an eta test was run to determine the effect size of hospital ownership. Hospital ownership had a very small effect on psychiatric readmission rates (.057).

Table 8

Effect Size for Hospital Ownership and Psychiatric Patient Readmission Rate

	Eta	Eta Squared
30-Day Readmission Rate * Hospital Ownership	. 239	.057

Summary of Results for Research Question 1

In order to answer Research Question 1: Is there a statistically significant relationship between hospital ownership and inpatient psychiatric patient readmission within 30 days of discharge? ANOVA and eta tests were run. While the ANOVA test indicated that a statistically significant relationship existed between hospital ownership and psychiatric patient readmission, the eta tests indicated that the effects were fairly small. Consequently, the null hypothesis had to be rejected.

Results of Statistical Analysis for Research Question 2

In Table 9, an ANOVA test was run to determine the relationship between hospital type and psychiatric patientreadmission rate. It was determined that the relationship between hospital type andpsychiatricreadmission rates were significant at the .05 level (.002). The researcher must reject the null hypothesis of RQ2 which states: there is a statistically significant relationship between hospital type and inpatient psychiatric patient readmission within 30 days of discharge.

Table 9

ANOVA Table for Hospital Type and Psychiatric Patient Readmission Rate

			Sum of Squares	df	Mean Square
30-Day Readmission Rate * Hospital Type	Between Groups	Combined	98.931	2	49.466
	Within Groups		11417.136	1463	7.804
	Total		11516.067	1465	

			F	Sig.
30-Day Readmission Rate * Hospital Type	Between Groups	Combined	6.339	.002

In Table 10, an eta test was run to determine the effect sizes of hospital type. Hospital type had a small effect on readmission rates (.009).

Table 10

Effect Size for Hospital Type and Psychiatric Patient Readmission Rate

	Eta	Eta Squared
30-Day Readmission Rate * Hospital Type	.093	.009

Summary of Results for Research Questions 2

In order to answer Research Question 2: Is there a statistically significant relationship between hospital type and inpatient psychiatric patient readmission within 30 days of discharge? an ANOVA test, an eta test, and a Pearson correlation were run. While the ANOVA test indicated that there was a statistically significant relationship between

hospital type and psychiatric readmission rates, eta and Pearson correlation tests indicated that the statistical relationship was extremely small. Consequently, the null hypothesis of RQ2 had to be rejected.

Results of Statistical Analysis for Research Question 3

In Table 11, an ANOVA test was run to determine the relationship between hospital ownership and follow-up rates among psychiatric patients. It was determined that the relationship between hospital ownership and follow-up rates was significant at the .05 level (.000). The researcher must reject the null hypothesis of RQ3 concerning whether there is a relationship between hospital ownership and rates of 30-day follow-up for psychiatric patients.

Table 11

ANOVA Table for Hospital Ownership and Rate of 30-Day Follow-Up

			Sum of Squares	df	Mean Square
30-Day Follow Up Rate * Hospital Ownership	Between Groups	Combined	28257.351	9	3139.706
	Within Groups		269129.184	1392	193.34
	Total		297386.535	1401	

			F	Sig.
30-Day Follow Up Rate * Hospital Ownership	Between Groups	Combined	16.239	.000

In Table 12, an eta test was run to determine the effect size of hospital ownership on follow-up rates. Hospital ownership had a very small effect on follow-up rates (.095).

Table 12

Effect Size for Hospital Ownership and Rates of 30-Day Follow-Up

	Eta	Eta Squared
30-Day Follow Up Rate * Hospital Ownership	.308	.095

Summary of Results for Research Question 3

In order to answer Research Question 3: Is there a statistically significant relationship between hospital ownership and rates of 30-day follow-up for psychiatric patients? an ANOVA and an eta test were run. While the ANOVA test indicated that statistically significant relationships existed between hospital ownership and 30-day follow-up for psychiatric patients, the eta tests indicated that the effects were small. Consequently, the null hypothesis of the RQ3 had to be rejected.

Results of Statistical Analysis for Research Question 4

In Table 13, an ANOVA test was run to determine the relationship between hospital type and follow-up rate among psychiatric patients. It was determined that the relationship between hospital type and follow-up rates were significant at the .05 level (.000). Therefore the null hypothesis of RQ4 is rejected concerning whether there is a statistically significant relationship between hospital type and rates of 30-day follow-up for psychiatric patients.

Table 13

ANOVA Table for Hospital Type and 30-Day Follow-Up

			Sum of Squares	df	Mean Square
30-Day Follow Up Rate * Hospital Type	Between Groups	Combined	4905.656	2	2452.828
	Within Groups		292480.879	1399	209.064
	Total		297386.535	1401	

			F	Sig.
30-Day Follow Up Rate * Hospital Type	Between Groups	Combined	11.732	.000

In Table 14, an eta test was run to determine the effect sizes of hospital type. Hospital type had a small effect on follow-up rates (.016).

Table 14

Effect Size for Hospital Type and 30-Day Follow-Up

	Eta	Eta Squared
30-Day Follow Up Rate * Hospital Type	.128	.016

In Table 15, a Pearson correlation was run to determine the relationship between follow-up rates and readmission rates. The p-value was found to be .000. There is a weak but statistically significant negative correlation between follow up rates and hospital ownership (-.142) at the two-tailed .01 level. There is also a weak but statistically

significant negative correlation (-.142) between readmission rates and hospital ownership. In both cases, an increase in one variable predicts a decrease in the corresponding variable.

Table 15

Correlation Between Follow-up Rate and Psychiatric Patient Readmission Rate

		30-Day Follow Up Rate	30-Day Readmission Rate
30-Day Follow Up Rate	Pearson Correlation	1	-.142
	Sig. (2-tailed)		.000
	N	1402	1402
30-Day Readmission Rate	Pearson Correlation	-.142	1
	Sig. (2-tailed)	.000	
	N	1402	1466

Summary of Results for Research Question 4

In order to answer Research Question 4: Is there a statistically significant relationship between hospital type and rates of 30-day follow-up for psychiatric patients, an ANOVA test, an eta test, and a Pearson correlation were run. While the ANOVA test indicated that there were statistically significant relationships between hospital type and follow-up rates, eta and Pearson correlation tests indicated that the statistical relationship was extremely small. Consequently, the null hypothesis of RQ4 had to be rejected.

Summary

The purpose of this quantitative study was to investigate the relationships between hospital ownership, hospital type, rates of 30-day psychiatric readmission, and rates of 30-day follow-up for psychiatric patients. ANOVA testing indicated statistically significant relationships between the predictor and outcome variables, and a Pearson correlation determined a statistically significant inverse relationship between follow-up

rates and readmission rates. Four research questions were stated and analyzed in section three. Based on p values at the 0.05 alpha level, all four null hypotheses were rejected. Eta squared tests determined weak to medium-strength relationships between all sets of predictor and continuous variables. Section 4 provides an analysis of the results and the application for professional practice and implications for social change.

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

Introduction

The purpose of this quantitative study was to examine the relationship between hospital ownership, hospital type, rates of 30-day psychiatric readmission, and rates of 30-day follow-up for psychiatric patients. The appropriate statistical analyses to determine the nature of these relationships were Pearson correlations and ANOVA analyses. The four research questions resulted in the null hypotheses being rejected at the 0.05 alpha level. All findings indicated statistical relationships between the predictor and outcome variables explored in the research questions. The following information provides an analysis of the four research questions.

Analysis of Research Questions

Research Question 1 Analysis

Research Question 1 (RQ1) concerned whether there wasa statistically significant relationship between hospital ownership and inpatient psychiatric patient readmission within 30 days of discharge. To investigate this question, an ANOVA test was performed. The ANOVA testcompared the average rates of inpatient psychiatric patient readmission in hospitals with different ownership structures. This was done todetermine if hospitals with particular ownership structures had higher or lower rates of inpatient psychiatric patient readmission within 30 days of discharge. Higher rates of readmissions suggest lower hospital quality, as this implies that the hospital did not adequately serve the patient during their initial visit. The results of the ANOVA test suggested that the relationship between hospital ownership and readmission rates were significant at the .05

level (.000), meaning that there was a statistically significant relationship between hospital ownership and rates of inpatient psychiatric patient readmission within 30 days of discharge.

After this was determined, an eta test was run. Eta tests are run to determine the strength of a statistical relationship. The eta effect size was .057, indicating a very small statistical impact on readmission rates. Consequently, the null hypothesis for RQ1was rejected; however, the statistical connection was extremely slight. The alternative hypothesis was accepted indicating there is a relationship between hospital ownership and 30-day readmissions for psychiatric patients.

Research Question 2 Analysis

Research Question 2 (RQ2) concerned whether there was a statistically significant relationship between hospital type and inpatient psychiatric patient 30-day readmissions.To investigate this question, the researcher first performed an ANOVA test. The ANOVA test compared the average rates of readmission at several different types of hospitals. This was done todetermine if hospitals of particular typeshad higher or lower rates of inpatient psychiatric patient 30-day readmissions. Higher rates of readmissions suggest lower hospital quality, as the high ratesimply that the hospital did not adequately serve the patient during their initial visit. The results of the ANOVA test suggested that the relationship between hospital ownership and readmission rates were significant at the .05 level (.002), meaning that there was a statistically significant relationship between hospital type and rates of inpatient psychiatric patient readmission within 30 days of discharge.

After this was determined, an eta test was run. Eta tests are run to determine the strength of a statistical relationship. The eta of the effect size was .009, indicating a small statistical impact on readmission rates. The null hypothesis for RQ2 was rejected and the alternative hypothesis was accepted indicating there was a relationship between hospital type and 30-day readmissions.

Research Question 3 Analysis

Research Question 3 (RQ3) concerned whether there was a statistically significant relationship between hospital ownership and rates of 30-day follow-up for psychiatric patients. To investigate this question, the researcher first performed an ANOVA test. The ANOVA test compared the average rates of 30-day patient follow-up in hospitals with different ownership structures.This was done to determine if hospitals with particular ownership structures had higher or lower rates of patient follow-up within 30-days of discharge. Lower rates of follow-up suggest lower hospital quality, as this may indicate that the hospital did not adequately check on the patient's condition and status after discharge.The results of the ANOVA test stated that the relationship between hospital ownership and follow-up rates was significant at the .05 level (.000), meaning that there was a statistically significant relationship between hospital ownership and rates of patient follow-up within 30 days of discharge.

After this was determined, an eta test was run. Eta tests are run to determine the strength of a statistical relationship. The eta of the effect size was .095, indicating a very small statistical impact on follow-up rates. Consequently, the null hypothesis for RQ3 was rejected; however, the statistical connection was extremely slight. The alternative

hypothesis was accepted indicating there was a relationship between hospital ownership and rates of 30-day follow-up for psychiatric patients.

Research Question 4 Analysis

Research Question 4 (RQ4) concerns whether there was a significant relationship between hospital type and rates of 30-day follow-upfor psychiatric patients.To investigate this question, the researcher first performed an ANOVA test. The ANOVA test compared the average rates of 30-day patient follow-up in hospitals of different types. This was done todetermine if hospitals of particular types had higher or lower rates of patient follow-up within 30 days of discharge. Lower rates of follow-up suggest lower hospital quality, as this may indicate that the hospital did not adequately check on the patient's condition and status after discharge. The results of the ANOVA test suggested that the relationship between hospital type and follow-up was significant at the .05 level (.000), meaning that there was a statistically significant relationship between hospital type and rates of patient follow-up within 30 days of discharge.

After this was determined, an eta test was run. Eta tests are run to determine the strength of a statistical relationship. The eta of the effect size was .016, indicating a very small statistical impact on follow-up for psychiatric patient care. Consequently, the null hypothesis for RQ4 was rejected; however, the statistical connection was extremely slight. The alternative hypothesis was accepted indicating there was a relationship between hospital type and rates of 30-day follow-up for psychiatric patients.

Findings Relating to the Literature

Though the results of this study generally corroborated the findings of the extant literature, the findings of this study were less conclusive than those of Wani et al. (2019) and Shields and Rosenthal (2017) as both indicated that hospital ownership types and hospital managerial structures could have a significant impact on the quality of patient care. Germack et al. (2020), Figueroa et al. (2017), Benjenk and Chen (2019), and Shields and Rosenthal (2017) all reported that different hospital characteristics, including ownership, hospital area demographics, hospital compensation structures, and hospital funding sources, were predictors of the quality of care that their patients received. The results of this study indicated that there are slight statistical relationships between hospital ownership structure, hospital type, and quality of care. This study primarily corroborates the findings of Shields and Rosenthal (2017) and Horwitz et al. (2017), both of which used large, cross-sectional public data sets to evaluate hospital quality of care.

Findings Related to the Theory

In line with Donabedian's (1988) quality evaluation model, there appears to be a significant connection between poor care structures and outcomes. Donabedian (1988) contended that "structure of care", which refers to the material and physical contexts in which medical care occurs, and "outcome of care," or the outcome of patient health, were two significant measures of healthcare quality. In this study, structures of care quality were measured by hospital ownership, and the outcome of care was measured by rates of 30-day readmission and 30-day follow-up for psychiatric patients.

Interpretation of the Findings

The results of this study suggested that further exploration into the impact of hospital ownership and hospital type on the quality of patient care is warranted. Also, this study's results echoed the findings of Horwitz et al. (2017) and Shields and Rosenthal (2017), who both found that hospital ownership and quality are connected and drew attention to the significant disparities in care quality between provider types. Further, as much of the existing literature discusses, gaps in care immediately surrounding hospital discharge can be devastating for certain high-risk groups, such as psychiatric patients, who are often in unsafe situations upon initially leaving the hospital (Benjenk& Chen, 2019; Haglund et al., 2019; Kurdyak et al., 2018).

Limitations of the Study

This study's most significant limitation may concern variable bias since multiple regression analysis was not used to control for possible confounders. Another limitation concerned the data that was obtained from the Centers for Medicare and Medicaid (2021) as differing interpretations of specific hospital characterizations may have led to miscategorizations, although this factor seems unlikely to have meaningfully skewed the data. Another limitation concerned sorting of the data because patients may not follow up with the original facility but could be referred elsewhere within the continuum of care.Also, patient follow-up rates may have been unintentionally decreased, which could mean that hospital types or ownership structures facilitate more positive patient outcomes.A final limitation concerned the applicability of the study results to health care in the U.S. rather than other countries with different healthcare models.

Recommendations for Further Research

Though this study helped further explore the relationships between hospital ownership structures and hospital performance, more work should be done to examine and ultimately address the inequities in patient care. Further research could explore which covariates had an inordinate impact on the outcomes of certain hospital types or the outcomes of hospitals with different ownership structures, and this could create a more in-depth analysis at how different types of organizational owners respond to their sources of funding. Further research could also explore disparities in patient outcome measures within various hospital departments to determine how ownership structures may disproportionately impact particular types of psychiatric care.

Implications for Professional Practice and Social Change

Professional Practice

This study's outcomes demonstrated relationships between different hospital types, different hospital ownership structures, and different types of patient outcomes. Hospital-level leaders may use the data collected and analyzed during this study to encourage creating measures that improve internal quality oversight. Patients and families may also use information from this study to make more informed decisions about where to seek care and send their loved ones for medical care.

Social Change

The potential findings of this study may help encourage positive social change by drawing attention to equity gaps between different healthcare providers. The results of this study suggest that hospital ownership structure may impact the quality of patient

care. Legislators looking to address healthcare inequities, particularly inequities faced by Medicare and Medicaid beneficiaries, could use this information to examine the disparities in the quality of patient care between healthcare providers. These research findings could encourage professionals to assess the standards of patient care to which hospitals and other healthcare organizations must adhere.

Conclusion

Researchers have suggested that hospitals with different organizational structures may provide different standards of care (Horwitz et al., 2017; Shields & Rosenthal, 2017). Through an analysis of hospital ownership data and measures of patient care data from the Centers for Medicare and Medicaid Services (2021), I sought to determine the extent to which hospital type and ownership could act as predictors of 30-day follow-up rates for psychiatric patients and 30-day inpatient psychiatric patient readmission rates. This study's outcomes have echoed the existing literature's findings about possible inconsistencies in care quality and may further strengthen scholastic and political attempts to improve care for psychiatric patients in all types of healthcare organizations.

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