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Effectiveness of 7-Day and 30-Day Interval Aftercare to Reduce Psychiatric Readmissions

Aldrick Dwight Barr
Walden University

Walden University

College of Health Professions

This is to certify that the doctoral study by

Aldrick Dwight Barr

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
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Review Committee
Dr. Suzanne Richins, Committee Chairperson, Health Sciences Faculty
Dr. Harold Griffin, Committee Member, Health Sciences Faculty
Dr. Lloyd Ford, University Reviewer, Health Sciences Faculty

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

Walden University
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Abstract

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MS, Walden University, 2015

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

The results for psychiatric readmissions and 7- and 30-day follow-up care post psychiatric discharge are mixed. Psychiatric readmissions of psychiatric patients are costly. The purpose of this quantitative study was to evaluate the association between 7- and 30-day follow-up care percentages and 30-day readmission rates for an inpatient psychiatric facility (IPF). The transtheoretical model was used to assess patient readiness for behavior change and a patient-centered guide that provides strategies for patient progression during hospital readmission and post psychiatric hospital discharge. In this study, a quantitative, correlational research design utilizing public secondary data retrieved from the Centers of Medicaid and Medicare Services website with a subset of the population of the eligible 1,597 participating IPFs. A simple linear regression analysis resulted in an inverse result that indicated for every increase of 7 and 30-day follow-up care there is a decrease in 30-day IPF readmission rate. The study results may be used to benefit psychiatric patients, IPFs, health care leaders and provided on effective health care practices in which psychiatric hospital readmission rates and health care costs are decreased as a result resulting in positive social change.

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Dedication

My dear, loving mother, the late Brenda Lee Mcclary Barr, I dedicate this accomplishment to you. Thank you for being my inspiration and the reason I exist as the man I am today. You are indeed my angel. My maternal grandparents, the late David and Tereather Mcclary, thank you for setting the foundation of family, hard work, sacrifice, and how to appreciate that small things in life. My siblings, Lakeshia Barr Griffith (Darren Griffith) and Chakanna Barr, I love you two, and thanks for always being supportive in all my endeavors. To my nieces, De'Aundria, Cheyenne, Brelyn, and Logan, I hope to make you girls proud as an uncle. To my only nephew, Kyron, I intend to inspire you but always set a path that guides you to be better than me and aim above the stars.

Acknowledgments

I want to thank my Chair, Dr. Suzanne Richins, who worked diligently to make sure I made sufficient progress each term to completion. To my Committee Member, Dr. Harold Griffin, thanks for offering constructive feedback that challenged my growth as a doctoral student. Dr. Zin Htway, words cannot express how grateful I am for all your support throughout my entire doctorate journey.

Albert Barr, dad, thank you. To my special cousins, Janesha Anderson, Beverly Brown Campbell, Michael Terrell Young, and O'Brian Pompey, you all have supported and believed in me from the beginning when others did not. My Auntie, Betty Jean Verbal, thank you for being a role model for my health care career journey. To all my incredible aunties in Florida, you all are the best and thanks for everything. Thank you to my best friends, Shavar Foster and Robert Dantzler; you two are brothers I never had who have listened to me express my doubts, frustrations, excitement, and eagerness to complete this program. Brandy Caldwell, my friend, you have been motivating and encouraging, and have kept a smile on my face through my lows and highs of it all. Thank you to my line brothers, Charlotte Alumni, Fall 2016. To all my fraternity brothers of Kappa Alpha Psi Fraternity, Incorporated, this is achievement. I am incredibly thankful for my entire village, which consisted of a host of immediate and extended family, friends, co-workers, and associates. I will forever hold in my heart the contributions and sacrifices you all made for me.

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Section 1: Foundation of the Study and Literature Review

There is an on-going discussion of health care reform in the United States, emphasizing decreasing hospital readmissions (Reese et al., 2018). Amongst extant health care issues, hospital readmissions for psychiatric patients are most costly (Black & Nugent, 2018). To decrease hospital readmission and hospital readmissions costs, it is imperative to determine if an element such as follow-up intervals of 7 and 30 days for aftercare is associated with the problem of increased hospital readmissions and hospital readmission costs (Becker et al., 2016). Since the implementation of the Hospital Readmission Reduction Program in 2012, the Centers for Medicare and Medicaid Services (CMS, 2019b) have financially penalized hospitals that are above the national average for hospital readmission rates. The Inpatient Psychiatric Facility Quality Reporting (IPFQR) was developed to help hospitals reduce psychiatric readmission rates postpsychiatric discharge to reduce hospital costs associated with psychiatric readmissions (CMS, 2019b).

The findings of this can be used to support health care leaders who advocate and promote 7- and 30-day interval follow-up aftercare in hospitals, communities, health care organizations, and mental health agencies to reduce psychiatric readmissions to decrease psychiatric health care costs. Health care leaders could use the study results to redevelop psychiatric care coordination and postpsychiatric discharge processes for patients discharged with a 7- or 30-day follow-up interval for aftercare. As care coordination and discharge processes improve, health care leaders could prevent reimbursement penalties related to high psychiatric readmissions. Health care leadership could then focus on ways

to incentivize outpatient providers that are, at times, inadequately funded and responsible for keeping patients engaged as an outpatient, which could ultimately reduce the likelihood of inpatient psychiatric readmissions (Gai & Pachamanova, 2019; Wadhera et al., 2019). In this section of the research study, I discuss the problem statement, purpose of study, research questions and hypotheses, theoretical foundation, nature of the study, literature search, literature review, definitions, assumptions, and scope and delimitations.

Problem Statement

The specific problem under study was that results for psychiatric readmissions and 7- and 30-day follow-up care postpsychiatric discharge results were mixed. It is unknown if there is an association between 7- and 30-day follow-up care percentages reducing psychiatric hospital readmissions (Sfetcu, 2017). According to Sfetcu et al. (2017), results are mixed for postdischarge factors such as intervals of 7- and 30-day follow up and their impact on psychiatric hospital readmissions postdischarge of psychiatric inpatient hospitalization. Evidence was limited in previous studies to determine the effectiveness of 7-day interval aftercare to reduce hospital psychiatric hospital readmissions (Field et al., 2015; Marcus et al., 2017).

In previous research studies, both 7- and 30-day follow-up aftercare is mentioned predominantly as quality factors for inpatient psychiatric hospitals; however, it is still unclear how each interval affects psychiatric readmissions (Balogh et al., 2018; Bozzay et al., 2019; Chin et al., 2016). Although intervals of 7 days and 30 days are postdischarge follow-up factors, there is a gap in this research area regarding how those intervals are

associated with reducing psychiatric readmissions (Chin et al., 2016; Field et al., 2015; Marcus et al., 2017).

Purpose of the Study

The purpose of this quantitative study was to determine if there is an association between 7-and 30-day follow-up care percentages and readmission rates to inpatient psychiatric facilities. Since the implementation of the IPFQR program in 2013, the CMS (2019a) considers 7- and 30-day intervals for follow-up aftercare a measure of psychiatric hospital quality.

In psychiatry, quality measurement is complex compared to other health care sectors related to psychiatric care costs (Griffith, 2018). The independent variables (IVs) in this study were 7-day follow-up care percentage and 30-day follow-up care percentage. The IPFQR was developed to help monitor inpatient care quality for all inpatient psychiatric facilities (IPFs) paid under the Inpatient Psychiatric Facilities Prospective Payment System by accessing data on psychiatric readmissions based on patients discharged from an IPF's 7- and 30-day follow-up aftercare (CMS, 2019b). I used the dependent variable (DV) of 30-day IPF readmission rate for each inpatient psychiatric hospital in this study to compare with the covariates of 7- and 30-day percentage ratios of patients discharged from an IPF with 7- and 30-day, follow up and psychiatric readmissions postpsychiatric discharge.

Research Questions and Hypotheses

Research Question 1: Is there an association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge?

> $H_0$1: There is no association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.
>
> H_a1: There is a negative association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.

IV: 7-day follow-up care percentage

DV: 30-day IPF readmission rate

Research Question 2: Is there an association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge?

> $H_0$2: There is no association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.
>
> H_a2: There is a negative association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.

IV: 30-day follow-up care percentage

DV: 30-day readmission rate

Theoretical Foundation of Study

The theoretical framework of this study comprised the transtheoretical model (TTM), developed by Prochaslka and DiClemente (1982), in which they outlined decision making and the ways individuals process change to include changing their behaviors and reaching the desired goal. This framework is commonly used in therapeutic and clinical aspects to describe that self-efficacy is based on individuals' desire to change (Prochaslka & DiClemente, 1982). There are six constructs of TTM: precontemplation (i.e., not taking action and unawareness), contemplation (i.e., aiming to begin healthy behavior), preparation (i.e., determination and preparing for action), action (i.e., modifying old behaviors and move forward with the new), maintenance (i.e., sustained new healthy behaviors), and termination (i.e., progression of healthy behaviors and not relapsing; Prochaslka & DiClemente, 1982).

The TTM operates on the belief that individuals do not amend behaviors quickly and resolutely; therefore, to progress through the stages, individuals apply psychological feature, affective, and appraising processes (Behavioral Change Models, 2019). Some processes may include or might be more relevant to a specific stage of TTM; however, the process leads to ways that facilitate individuals building and maintaining amendment.

I chose the TTM for this study to explore other strategies for psychiatric patients' psychiatric interventions during their stages of decision making postpsychiatric discharge for aftercare. Depending on the patient's selected stage, it could facilitate consciousness raising, self-reevaluation, environmental evaluation, social liberation, counter

conditioning, and stimulus management. The TTM was appropriate for this study because it allowed for the rationalization of how patients can cease habitual unhealthy behaviors that might affect follow-up care and contribute to psychiatric readmissions. This TTM aligned with the research questions because it is used to assess a patient's desire to change and can be used for evaluating patients' stages of TTM that drive successful follow-up care, either 7 or 30 days postpsychiatric discharge.

Nature of Study

In this study, I employed a quantitative, correlational research design. A secondary data set, the Inpatient Psychiatric Facility Quality Measure (CMS, 2019a) was used because it contained relevant data on the IVs of IPFs' 7- and 30-day follow-up care percentage and the DV of 30-day IPF readmission rate. A correlational design was chosen for this study to determine the strength of the association between both variables as measured and determined by correlation coefficients (see Formplus, 2020). I used a descriptive analysis to explicitly identify the data set variables for this study, and those were facility-level data and not patient-level data. The priori power analysis in the G*Power software was used to input a medium effect size, alpha level of .05, and power level of 0.80 to obtain a total sample size of 1,597 participating IPFs.

Simple linear regression analysis was appropriate to use to answer both research questions because each question meets simple linear regression assumptions, the variables are continuous, and there is only one predictor for each research question (G*Power Guide, 2021; Home, 2021). The predictor for Research Question 1 is the 7-day

follow-up care percentage, and the predictor for Research Question 2 is the 30-day follow-up care percentage.

Literature Search Strategy

To search for relevant literature to review for this study, I used phrases, keywords, and trends related to psychiatric readmissions, 7- and 30-day intervals of follow-up care, and psychiatric health care costs. The following keywords and phrases were used for the searches: (a) *inpatient psychiatric facility*, (b) *discharge and discharge process*, (c) *7-day follow up*, (d) *30-day follow up*, (e) *psychiatric readmissions*, (f) *mental illness*, (g) *psychiatric aftercare*, (h) *psychiatric health care costs*, (i) *inpatient psychiatric hospitalizations*, and (j) *care coordination*. The literature reviewed included peer-reviewed, scholarly journals with a publication year between 2015 and 2021.

The scholarly, peer-reviewed articles collected provided information on the significance of postdischarge predictors, such as 7- and 30-day follow-up care postpsychiatric discharge, follow-up aftercare, psychiatric patient transitions from inpatient to outpatient care, and psychiatric hospital readmissions (Field et al., 2015; Marcus et al., 2017; Stetcu et al., 2017). This examination of whether there is an association between 7- and 30-day interval aftercare factors and psychiatric readmissions provided health care leaders with insights into current discharge processes and new strategies to reduce psychiatric patient recidivism. According to Sfetcu et al. (2017), results for postdischarge factors such as intervals of 7- and 30-day follow-up aftercare and the impact they have on psychiatric hospital readmissions postdischarge of psychiatric inpatient hospitalization are mixed.

Literature Review Related to Key Variables and Concepts

I conducted this to examine the relationship between 7- and 30-day follow-up care percentage and 30-day readmission rates postpsychiatric discharge from an IPF. Stetcu et al. (2017) confirmed the need for further research on 7- and 30-day follow-up intervals and whether those intervals significantly affect psychiatric hospital readmissions. Field et al. (2015) and Marcus et al. (2017) found that evidence was limited on the effectiveness of 7- and 30-day intervals of aftercare to reduce psychiatric hospital readmissions connected with other health care factors; however, they did not explicitly mention what those other health care factors were.

Griffith (2018) and Aswania et al. (2018) examined several other health care-related factors such as patient care coordination, follow up with health care providers, aftercare type, and aftercare practices postpsychiatric discharge from an inpatient facility. They determined that it would be a best practice to explore various health care factors. Griffith assessed patient recidivism postpsychiatric inpatient discharge and psychiatric hospital readmissions by focusing on the correlation of behavioral trends and patterns from the beginning of patient admission and throughout the patient's stay in psychiatric inpatient hospitals. During an inpatient hospital stay, there was a need to further examine patients' thoughts of aftercare and patient openness to follow up, whether 7- or 30-days (Griffith, 2018).

Aswania et al. (2018) and Rentas et al. (2019) noted the difference in patients' desire for aftercare and how professionals, such as licensed clinical social workers, discharge planners, and therapists, should strategize effective care coordination for

patient follow-up care postpsychiatric discharge. Aswania et al., (2018) article supports the use of the 7- and 30-day follow-up care variables in the current study because those variables are exclusively related to aftercare postpsychiatric discharge.

Zisman et al. (2018) and Adanes et al. (2019) published shared perceptions of care coordination and shared decision making between psychiatric patients and health care providers.

According to Krys et al. (2019), health care leaders can empower patients by permitting them to make decisions about their aftercare allows them to make informed decisions during psychiatric hospitalization discharge. Smith et al. (2017) and Marcus et al. (2017) determined that patient-centered plans are significant components of compliance, leading into patients' future by driving their recovery following inpatient discharge with a voluntary plan.

The determination of patient aftercare services, patient-centered plans, past discharge summaries, and adverse events accounted for before patient discharge from inpatient hospitalization has lower risks of readmissions associated with patient follow-up within 30 days of being discharged. Wadhera et al. (2019) suggested that meaningful associations have not been discovered regarding readmissions or aftercare services postpsychiatric discharge. Field et al. (2015) wondered whether excessive follow-up visits postpsychiatric release was a trend with no impact on reducing patient risks of deteriorating and mental health conditions worsening.

Definitions

7-day follow up: Patient follow up 7 days after hospitalization for mental illness (CMS, 2020).

30-day follow up: Patient follow up 30 days after hospitalization for mental illness (CMS, 2020).

30-day IPF rate: The readmission rate per each psychiatric facility (CMS, 2020).

Aftercare: Clinical and nonclinical services that aim to meet on-going aspects of patients' health and social needs including, but not limited to, supported accommodations by primary and behavioral health specialists and outpatient providers that may also require attention to patients' physical, mental, cultural, and spiritual needs (Aswania et al., 2018; Griffith, 2018).

Continuity of care: A measure of patient care, stability, provider relationships, and care plans that connect existing and past care to accommodate changes in patients' needs and circumstances over a period of time (CMS, 2020).

Hospital Readmissions: A patient who is readmitted to any hospital within 30 days of being discharged from an IPF (CMS, 2020).

Inpatient psychiatric hospitalization: A person admitted into a psychiatric facility for a consecutive amount of days (CMS, 2020).

IPF discharge: A patient who is discharged from a psychiatric facility after being admitted and remained in the facility for several days until a psychiatrist discharges them from the hospital (CMS, 2020).

Patient-level data: Information on each patient including, but not limited to current and past health conditions, treatment history, follow up, hospital admissions, and reasons for admissions (CMS, 2020).

Assumptions

According to Creswell (2018), assumptions include testing theories, building in protections against bias, controlling for alternative or counterfactual explanations, and generalizing and replicating findings. I made the following assumptions for this study:

1. The patients discharged from an IPF receive aftercare that is cohesive to their psychiatric or mental health condition, specifically postdischarge.
2. Patient readmissions represent patients admitted to a hospital with an inpatient psychiatric unit postpsychiatric discharge.

Scope and Delimitations

The scope of this study was to determine if there is an association between 7- and 30-day follow-up care and 30-day psychiatric hospital readmissions rate. The literature and secondary data were delimitated to represent the variables explicitly for this study (see Creswell, 2018). The delimitations included the 7- and 30-day follow-up care percentages and 30-day IPF readmission rate. This study is generalizable and can be used to assess other components of psychiatric patients discharged from IPFs, psychiatric readmissions, and overall monitoring of IPFs by CMS. CMS (2019a) collected the data used for this study in 2019.

Significance, Summary, and Conclusions

To date, there is conflicting evidence about the extent to which 7- and 30-day interval aftercare reduces psychiatric readmission rates (Balogh et al., 2018; Bozzay et al., 2019). This study contributes to field by adding to prior research that indicates 7- and 30-day intervals as quality measures but does not definitively conclude to what extent each interval reduces inpatient psychiatric hospitalizations. CMS (2019a) is financially penalizing hospitals for hospital readmissions above the national average. In the findings and analysis, I summarize the financial ramifications that high readmission rates have on psychiatric inpatient hospitals. Furthermore, the findings will help health care leaders, such as behavioral health care specialists and health care providers, to develop social practices and interaction in society while considering health care costs.

The findings of this study can lead to positive social change by supporting the mission of health care leaders who advocate and promote 7- and 30-day interval follow-up aftercare in hospitals, communities, health care organizations, and mental health agencies to reduce psychiatric readmissions. Additionally, the statistical evidence in the findings will assure health care professionals that the use of follow-up care intervals can lower psychiatric hospital readmission rates to decrease health care costs. Providing this reassurance to health care professionals, specifically those in the disciplines of psychiatry and behavioral health, will highlight current research and empower others in society to resume advocating postdischarge factors that decrease inpatient psychiatric recidivism.

Health care leaders could also utilize the study findings to restructure psychiatric care coordination and postpsychiatric discharge processes related to patients discharged

with a 7- or 30-day follow-up interval for aftercare. Through reducing reimbursement penalties related to high psychiatric readmissions, leaders could then focus on ways to incentivize outpatient providers that are, at times, inadequately funded and responsible for keeping patients engaged and not readmitted to inpatient hospitals (Gai & Pachamanova, 2019; Wadhera et al., 2019).

Section 2: Research Design and Data Collection

The purpose of this quantitative research study was to determine if there is an association between 7- and 30-day follow-up care percentage and 30-day IPF readmission rates to IPFs. In Section 2, I provide the research design and rationale, methodology, population, sampling procedures, operationalization of constructs, data analysis plan, threats to validity, ethical procedures, and a summary.

Research and Design Rationale

In this study, the IVs were 7- and 30-day follow-up care percentage and the DV was 30-day IPF readmission rate. I employed a quantitative, correlational research design. This research design aligned with the research questions because it is used to determine if a statistical relationship and prevalence exist between two variables (see Formplus, 2020). The correlational design is nonexperimental, so I observed both the natural relationships between the variables without subjecting them to external conditioning (see Formplus, 2020). The research design was not limited by time or resources. Although the outcome of a correlational design for future this study could be negative, it can later become positive in future related studies on this topic, further advancing knowledge in the discipline (Creswell, 2018).

Methodology

The target population was IPFs because I was not conducting this study at a patient level. However, psychiatric patients with mental illness will benefit from this research study. Secondary quantitative hospital data collected by CMS from U.S. IPFs were used for this study. The total sample for this study was 1,597 participating IPFs. I

used a G*Power analysis to calculate a minimum sample size needed from the total of 1,597 IPFs.

This study did not consist of working with a population but rather a subset of the people. The subset of the population was a sample of the eligible participating IPFs, of which 1,597 IPFs report 7- and 30-day follow ups regarding psychiatric hospital readmissions of the facilities' patients (see CMS, 2019a). The data used in this study were collected by the CMS for the Inpatient Psychiatric Facility Quality Measure Data by Facility data set for 2019–2020.

Sampling and Sampling Procedures

The sampling frame was 1,597 participating IPFs using a secondary, quantitative data set from CMS. IPFs report their data to CMS, and CMS verifies reports from IPFs through QualityNet (CMS, 2020). QualityNet is a website approved for secure communications and data exchange between health care providers (CMS, 2020). The sample parameters consist of IPFs submitting measure and nonmeasure data to a secure portal housed by QualityNet with complete data accuracy. The IPFs must sign a completeness acknowledgment or attestation that the data entered are accurate and complete. There will not be any samples drawn because the 1,597 participating IPFs are the sample.

The data set for this study was readily available on the CMS (2019a) website for Inpatient Psychiatric Facility Quality Measure Data by Facility and accessed for free. I did not need permission to gain access to the data set. The data set did not consist of any legal documents or historical data.

G*Power is a power analysis used for many statistical tests for social and behavioral sciences (G*Power Guide, 2021). I determined the sample size using G*Power software for each research question as a part of the routine statistical data analysis procedure. An effect size of medium, alpha level of .05, and power level of 0.80 were used to calculate the minimum sample size of 55 for both research questions. There was no participant recruitment necessary for the collection of data.

Instrumentation and Operationalization of Constructs

The CMS (2019b) is part of the Department of Health and Human Services and was founded in 1965. I accessed the Inpatient Psychiatric Facility Quality Measure Data by Facility data set was accessed through the CMS federal government website.

QualityNet was an appropriate developer for this study because it decreases the likelihood of internal validity threats for the secondary quantitative data set used for this study and provides a secure and verified record of the data submitted to CMS. CMS (2019a) does not require permission to utilize its data sets because it is public and readily available on their website. To participate and submit data for reporting in the IPFQR Program, facilities must obtain a QualityNet user account and register with the QualityNet Secure Portal (CMS, 2020). All users requesting access to the QualityNet Secure Portal must be individually approved and verified at the facility level and submitted to QualityNet. This mandatory registration process is used to maintain the confidentiality and security of health care information and data transmitted via the QualityNet Secure Portal. QualityNet ensures that only CMS-approved sites have access

for the secure exchange of health care quality data for facility reporting, offering reliable and valid information before being published by CMS.

The IVs for this study were the 7- and 30-day follow-up percentages, and both are predictor variables and continuous for each research question. The DV for this study was the 30-day IPF readmission rate, and it was defined as a continuous variable for each research question. I used a linear model to study the continuous predictor IVs and the continuous DV.

Data Analysis Plan

In this study, I used G*Power analysis the simple linear statistical regression test. There is a different mathematical formula for every statistical test. The mathematical formula for a simple linear statistical regression has four variables: medium effect size, alpha level (i.e., level of precision), power level, and the calculated minimum sample size (G*Power Guide, 2021). I did not calculate a maximum sample size for this study. If three of the mathematical formula variables are known, the fourth can be calculated using the G*Power analysis. The data were cleaned for any of the values related to the variables that were shown as not available in the data set.

The G*power analysis provided the minimum sample size needed to complete a simple linear regression test for this study. I also conducted a descriptive analysis; however, descriptive research does not require a G*Power analysis because it is not a statistical test. The descriptive presentation showed all the variables in an appropriate descriptive form to interpret the simple linear regression statistical test results. If variables in this study were scale, I used a histogram during the presentation, and

elements, such as the mean, median, and mode, were shown. If the variables were not scaled and instead were nominal, dichotomous, and ordinal, then bar charts and frequencies were used for presentation.

Research Questions

Research Question 1: Is there an association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge?

$H_0$1: There is no association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.

H_a1: There is a negative association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.

IV: 7-day follow-up care percentage

DV: 30-day IPF readmission rate

Research Question 2: Is there an association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge?

$H_0$2: There is no association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.

H_a2: There is a negative association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.

IV: 30-day follow-up care percentage

DV: 30-day readmission rate

Threats to Validity

In this study, I grouped all internal, external, and statistical conclusions for this research study. Reliability and validity are well-known social research measures. Since G* Power analysis is commonly used in social and behavioral research, as to the data analysis plan which includes the medium effect size, alpha level (i.e., level of precision), power level, and the calculated minimum sample size (G*Power Guide, 2021).

When experimenters draw incorrect inferences from the sample data to other persons, other settings, and past or future situations, external validity threats arise (Creswell, 2018). The external threats to validity in this study would limit my results from being applicable for IPFs only in the United States, including all 50 states in the United States, but not limited to, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands (CMS, 2020).

Internal validity threats are experimental procedures, treatments, or experiences of the participants that threaten the researcher's ability to draw correct inferences from the data about the population in an experiment (Creswell, 2018). I did not identify any

internal threats related to the data set. The data set is readily available 24/7 online at the CMS (2019a) website and can be accessed for free.

Ethical Procedures

I accessed the data used in this study from the CMS's (2019a) Inpatient Psychiatric Facility Quality Measure Data by Facility data set with 1,597 participating IPFs. There was no specific patient information identified, so no informed consent was needed. I did not identify any ethical concerns for this study. There were no patient identifiers that needed to be removed from the data set before accessing it because it was hospital data and not patient-level data. The data set is public and readily available, so no releases or agreements were required for me to use this data set.

Before analyzing the data obtained for this study, I received approval from Walden University's Institutional Review Board (IRB). The IRB has specific protocols that were followed to seek approval, one consisting of completing an IRB Application Form A once I reached the University Research Review stage (Walden University, 2021). I indicated required information, such as my name, study type, the title of the study, data components and variables, research questions, and the discipline for this study on the IRB application. IRB approval ensured there were no violations or compromises of ethics regarding the data set used and provided tailored guidance (Walden University, 2021). IRB approved of the dataset for this study, and the approval number is 04-02-21-0438907. Data were then exported to a Microsoft Excel spreadsheet, stored on an external hard drive, and deleted 5 years after the analysis is complete.

Summary

In this quantitative study, I utilized a quantitative secondary data set. A simple linear regression statistical test was conducted to determine an association between 7- and 30-day follow-up percentages and 30-day IPF readmission rates. The target population was IPFs; however, psychiatric patients with mental illness will benefit from this research study. In the next section, I will present the results and findings of this study.

Section 3: Presentation of the Results and Findings

The purpose of this quantitative research study was to determine if there is an association between 7- and 30-day follow-up care percentages and readmission rates to IPFs. The following research questions and corresponding hypotheses guided this study:

Research Question 1: Is there an association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge?

$H_0$1: There is no association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.

H_a1: There is a negative association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.

IV: 7-day follow-up care percentage

DV: 30-day IPF readmission rate

Research Question 2: Is there an association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge?

$H_0$2: There is no association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.

H_a2: There is a negative association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unitpost psychiatric discharge.

IV: 30-day follow up care percentage

DV: 30-day readmission rate

I used a simple linear regression to predict the DV using the IVs. The descriptive statistics were used to analyze the samples of this study, consisting of the DV and IVs. Finally, the results of the statistical test allowed me to answer the research questions and either fail to reject or reject the null hypothesis.

In Section 3, I outline the secondary data set, descriptive statistics, and statistical tests used to address the two research questions. Additionally, the results are presented based on the statistical simple linear regression analysis, hypothesis testing, and level of association between the IVs and DV for this study as well as the findings that describe the rejection or failure to reject the null hypothesis.

Data Collection of Secondary Data Set

CMS collects and reports the data retrieved from IPFs every 2 years, so these data were collected 2 years ago in 2019. There was no participant recruitment involved in the data collection for this secondary data set; therefore, there were no discrepancies from the plan presented in Section 2.

Results

In this section, I present the sample of the descriptive statistics and the test of statistical assumptions. Additionally, this section contains the overall findings of this

study on psychiatric hospital readmission rates due to 7- and 30-day follow-up care percentage.

Descriptive and Demographic Characteristics of the Sample

The target population was IPFs at a patient level. The recommendations made as a result of this study are for the target population of IPFs; however, psychiatric patients with mental illness will benefit from this research study. Secondary, quantitative hospital data collected by CMS from IPFs in the United States were used for this study. The sample consists of a subset of the IPF population, of which 1,597 IPFs report 7- and 30-day follow ups regarding psychiatric hospital readmissions of the facilities patients (see CMS, 2019a). Therefore, the sample of the current study was representative of the population. The external threats to validity in this study limit the results from being applicable for IPFs only in the United States. Therefore, the sample includes all 50 states of the United States, but not the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands (CMS, 2020).

Descriptive Statistics of Variables

This study was guided by two quantitative research questions with one predictor variable and outcome variable each. The IVs, the DV, and 7- and 30-day follow-up ratios are shown and described in Table 1. The frequency statistics for this study consisted of the central tendency, which included the mean, median, mode, and sum. In the dispersion section, standard deviation, variance, range, minimum, maximum, and standard error mean were chosen, and skewness and kurtosis were included.

Since all the variables for this study are scale variables, I did not display frequency tables. However, if the variables were categorical, a presentation of the frequency table would have been selected.

For Research Question 1, the IV was 7-day follow-up care percentage. In Table 1, the *N* valid is the number of nonmissing values. Missing was defined as the data value that is not stored for a variable in the observation of interest, and the missing data value for the 7-day follow-up care percentage is 183. The arithmetic mean across the observation for the independent variable is 27.2792, indicating that the observations are near 27.2792, and it is also known as the average. The standard error of mean suggests how different the population mean is likely to be from a sample mean (Laerd Statistics, 2013). Here the standard error of the mean is 0.33304; therefore, the model mean varies from the population by 0.33304. The median is the value that will split the distribution, and half of all values are above the value, and half are below the median of 25.8000. The most frequent value for the 7-day follow-up care percentage is 25.000. The average amount of variability in the data set for this variable is 12.42553, which is the standard deviation. In the data set, variance is the measure of variability, which is 154.394. For the skewness, the extent of degree and the direction of asymmetry is 0.564. The skewness for the IV of 7-day follow-up care percentage is a positive value, meaning that it is positively skewed and has a tail on the right side. The standard error of skewness is the skewness ratio to its standard error and can be used to test normality (Laerd Statistics, 2013). The skewness is .066, which indicates the ratio of skewness to the standard error. Kurtosis reflects the measure of the tail extremity of either the presence of outliers in distribution

(Laerd Statistics, 2013), and for this variable, it is .530, which is < 3 and indicates a platykurtic or negative distribution. The standard error of kurtosis is interpreted as a positive value for kurtosis, indicating that the distribution's tails are no longer here and the value is positive. The standard error of kurtosis is 0.131, which is a positive value and represents a longer tail than a normal distribution (see Table 1).

Table 1

Descriptive Statistics for IVs and DV

		7-day follow-up care percentages	30-day follow-up care percentages	30-day IPF readmission rate
N	Valid	1,392	1,392	1,454
	Missing	183	183	121
M		27.2792	49.6025	20.17304
SEM		.33304	.37633	.072883
Mdn		25.8000	49.1000	20.00000
Mode		25.00	50.00	19.300
SD		12.42553	14.04068	2.779146
Variance		154.394	197.141	7.724
Skewness		.564	.010	.413
Std. Error of Skewness		.066	.066	.064
Kurtosis		.530	.020	.537
Std. Error of Kurtosis		.131	.131	.128
Range		84.60	92.30	18.700
Minimum		.00	.00	11.500
Maximum		84.60	92.30	30.200
Sum		37,972.70	69,046.70	29,331.600

Concerning Research Question 2, the IV of 30-day follow-up care percentage is represented in Table 1 with a total of 1,392. On average, 49.6025 30-day follow-up care percentages were considered. Table 1 indicates that there are 183 missing percentages

from the listing. There are 50 most repeated follow-up care percentages in the analysis. The middle percentage in the analysis for Research Question 2 is 49.1. Table 1 shows that there is a standard error of .066 from the range of percentage data. The standard deviation, in this case, is representative of how spread out the data are from the mean, which is 14.04068, indicating the data set variance is 197.141, which shows a greater range of the data set. The value in which the peak of tail distribution differs from a normal distribution is indicated by the kurtosis value of .020. A skewness of .010 indicates a symmetrical distribution. Between the largest and smallest data values, this data range is 92.30, with a minimum of 0 and a maximum of 92.30.

The outcome variable for both Research Questions 1 and 2 is the 30-day IPF readmission rate. As shown in Table 1, the average for this variable is 20.173. The standard error of means was 0.072883, indicating a lower variability from the mean, which is < 5 %. The median value is 20 after the readmission rate observations are arranged in chronological order. In terms of the highest frequency value, 19.3 is the mode, and the standard deviation is 2.779, indicating the measure of variability. A variance of 7.724 is shown in Table 1, which also shows the variability of readmission rate from the mean. The skewness of 0.413 indicates a positive skewness to the right, and the standard error of skewness of 0.064 indicates a lower variability, which is less than 10%. The kurtosis value is 0.537, which is an average level. The standard error of kurtosis is 0.128, indicating a measure of variability. The range and difference between the highest and lowest value of the data set are 18.700. There is a minimum of 11.5 of the

least value of readmission rate, while the maximum is 30.2 of the highest value of the readmission rate. The sum of 29,331 is the total of all the readmission rate observations.

Test of Statistical Assumptions

I conducted a simple linear regression statistical test using SPSS statistics to analyze the secondary data for this study. The process used to ensure that the simple linear regression analysis could be used for this study consisted of whether the data passed the seven assumptions required for the linear regression to give a valid result: (a) there is a continuous DV, (b) there is a continuous IV, (c) a linear relationship should exist between both variables, (d) there should be no significant outliers, (e) independence of observations should exist, (f) data needs to show homoscedasticity, and (g) residuals (i.e., errors) of the regression line are approximately customarily distributed should be checked (Laerd Statistics, 2013).

Test of Statistical Assumptions for RQ1

For Research Question 1, Assumptions A and B were met with the DV being the readmission rate, measured in decimals and quantitative terms, and being continuous. Additionally, the IV was the 7-day follow-up care percentage, and since the percentage is a numerical value with a decimal, the IV was also continuous. Therefore, there were no violations of Assumptions A and B of the linear regression for Research Question 1 in this study.

Concerning Assumption C, the points appeared to be scattered on the scatterplot and do depict a linear relationship; however, it seems to be a weak relationship. I established linearity by visual inspection of a scatterplot.

Regarding Assumption D, there were outliers in the initial linear regression analysis and results, so I chose to remove the outliers. There were four points of the data set outside of the scope of the outcome variable of 30-day IPF readmission rate for this study. Since those four points exceeded a 30-day IPF readmission rate, to generalize the findings within the scope of the outcome variable, I identified the points as outliers and removed them. The removal of the four outliers consisted of going into the data set in SPSS, clicking "sort by," and selecting the outcome variable of 30-day IPF readmission rate; the sort order was ascending. The four points that revealed that needed to be removed as outliers were: 33.000, 34.500, 34.900, and 35.000. Removing these points from the data set did not affect the validity of this assumption because the remaining points were within the scope of the outcome variable present in this study. There are reports of the results of both approaches (i.e., with and without the outlier; see Figures 1 and 2). Following the removal of the outliers, I made observations, and from the scatter plot I determined there is a low to moderate association between the two variables. Although it is not strong, the 7-day follow-up care percentage is independent of the readmission rate.

Figure 1

7-day Follow-Up Care Percentage Scatterplot With Outliers

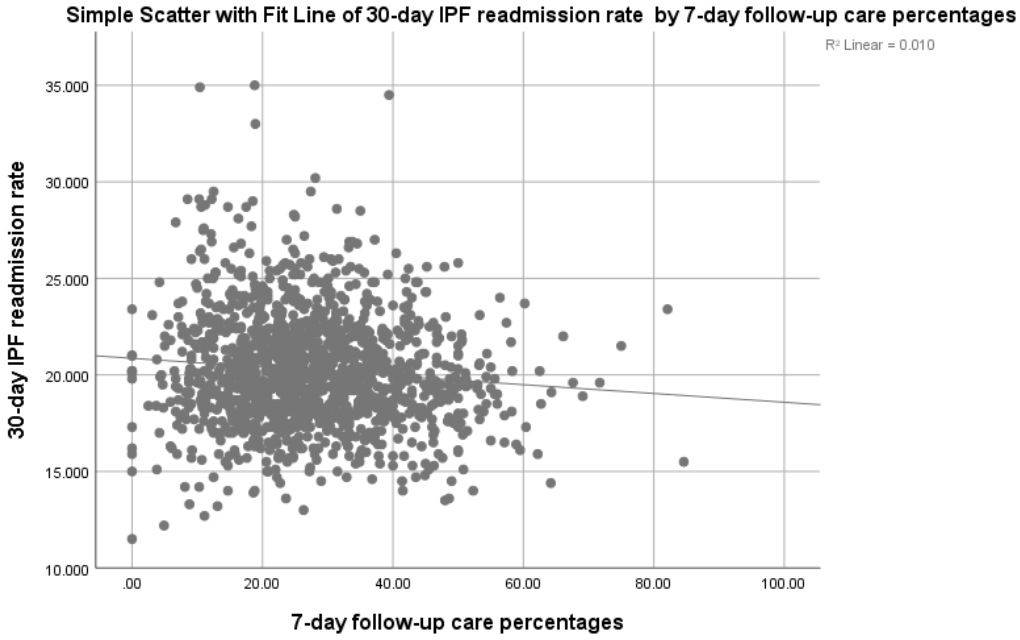
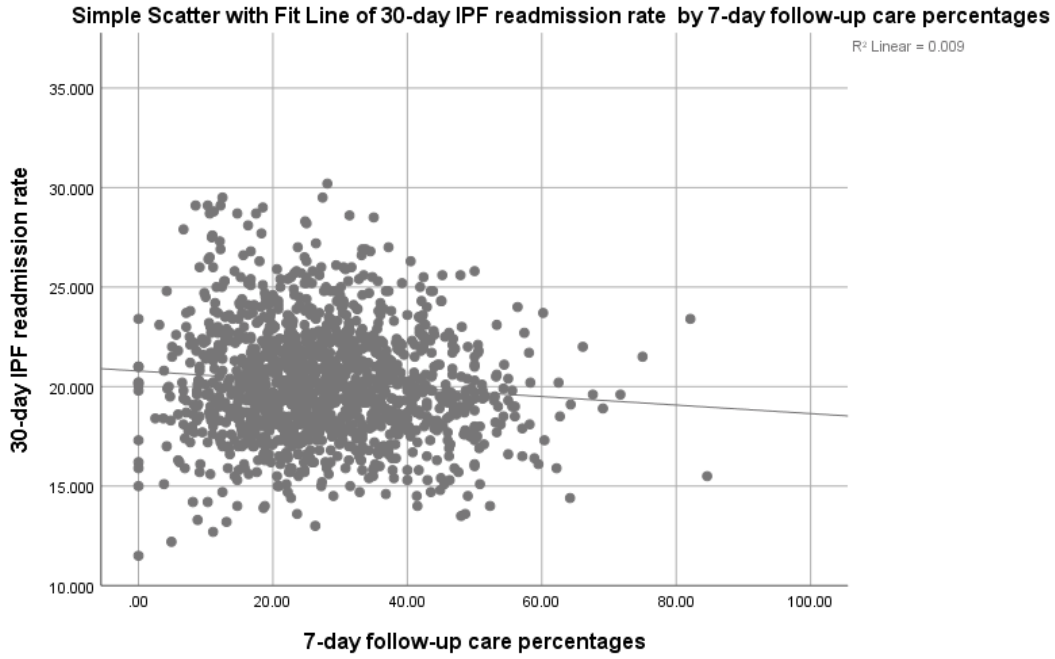


Figure 2

7-day Follow-Up Care Percentages Scatterplot Without Outliers



Assumption E, the independence of the variables in the model summary under the Durbin Watson statistic can range from 0 to 4. In addition, residuals were independent, as assessed by a Durbin-Watson statistic of 0.17.

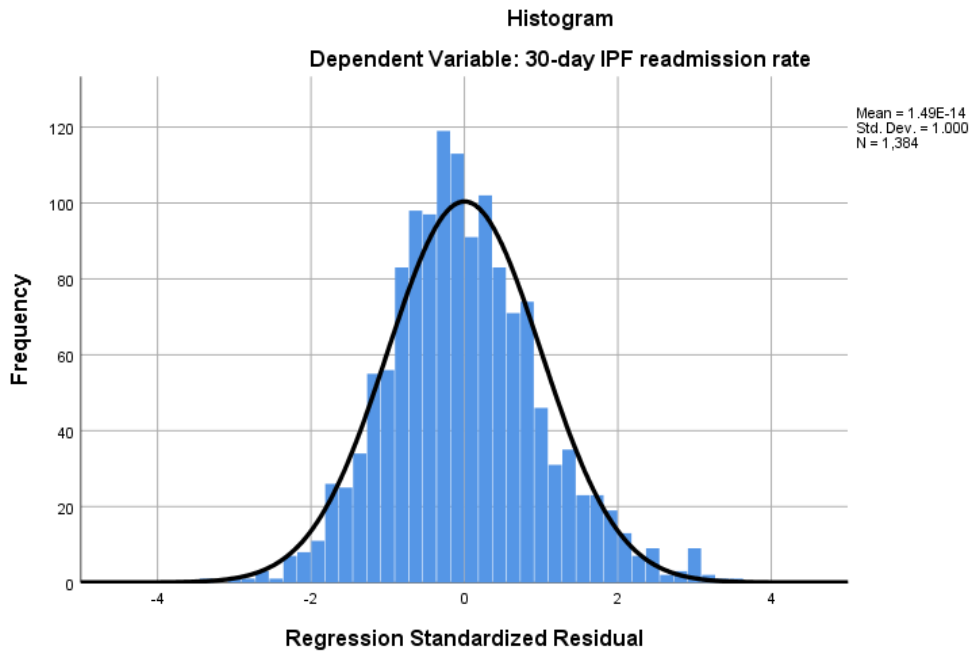
Assumption F, homoscedasticity was assessed by visual inspection of a plot of standardized residuals versus standardized predicted values.

Assumption G, Residuals were normally distributed as assessed by visual inspection of a normal probability plot, see Figure 3.

Assumption G, Residuals were normally distributed as assessed by visual inspection of a normal probability plot, see Figure 3.

Figure 3

Histogram of Normality for Dependent Variable 30-day IPF Readmission Rate



Test of Statistical Assumptions for RQ2

For Research Question 2, Assumptions A and B, the dependent variable is the readmission rate, measured in decimals and quantitative terms, so the dependent variable is continuous. In addition, the independent variable is the 30-day follow-up care percentage, and since the percentage is a numerical value with a decimal, the independent variable is also continuous. Therefore, there were no violations of Assumptions 1 and 2 of the linear regression for Research Question 2 in this study.

Assumption C, the points on the scatterplot do resemble a straight line. However, this resemblance is slightly weak since the points are not uniformly clustered around the straight line passing through it. Hence, it does depict a linear relationship but a little weaker one.

Assumption D, there were outliers in the initial linear regression analysis and results, and the option chosen was to remove the outliers. There were four points of the dataset outside of the scope of the outcome variable 30-day IPF readmission rate for this study. Since those four points exceeded a 30-day IPF readmission rate, to generalize the findings within the scope of the outcome variable, the points were identified as outliers and were removed. The removal of the four outliers consisted of going to the dataset in SPSS, clicking sort by, and selecting the outcome variable 30-day IPF readmission rate, sort cases, the sort order was ascending. Four points revealed that needed to be removed as outliers were: 33.000, 34.500, 34.900, and 35.000. Once successfully removed from the dataset, it did not affect the validity of this assumption since the remaining points were within the scope of the outcome variable present in this study. There are reports of the results of both approaches (i.e., with and without the outlier; see Figures 4 and 5). Following the outliers being removed, an observation was made, and from the scatterplot, we can see a low to moderate association between the two variables. Although it is not strong, the 30-day follow-up care percentage is independent of the readmission rate.

Figure 4

30-day Follow-up Care Percentage Scatterplot With Outliers

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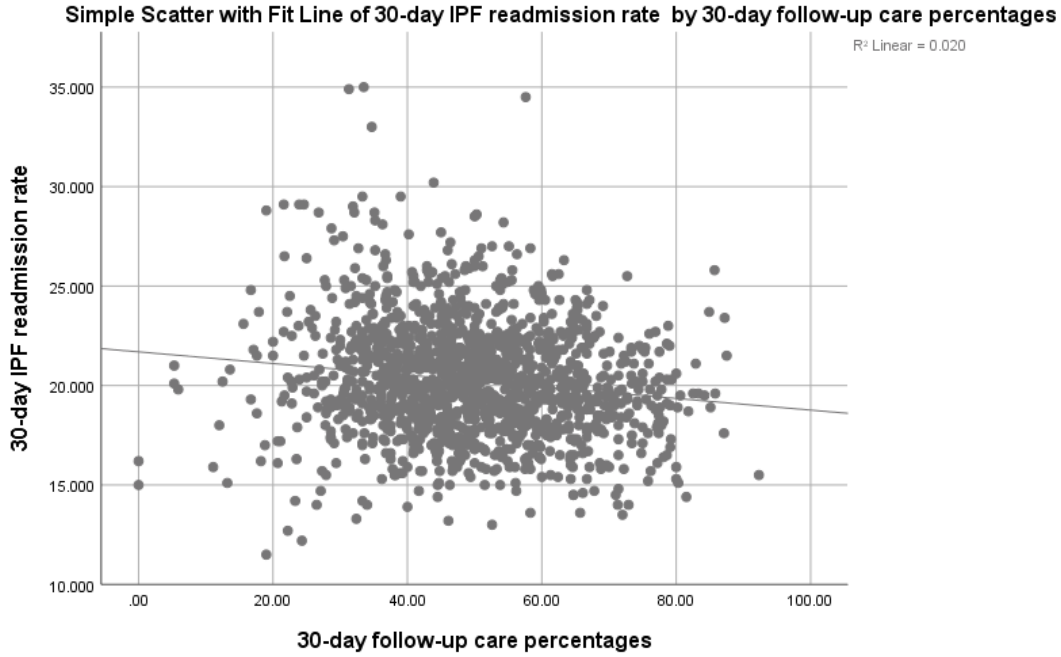
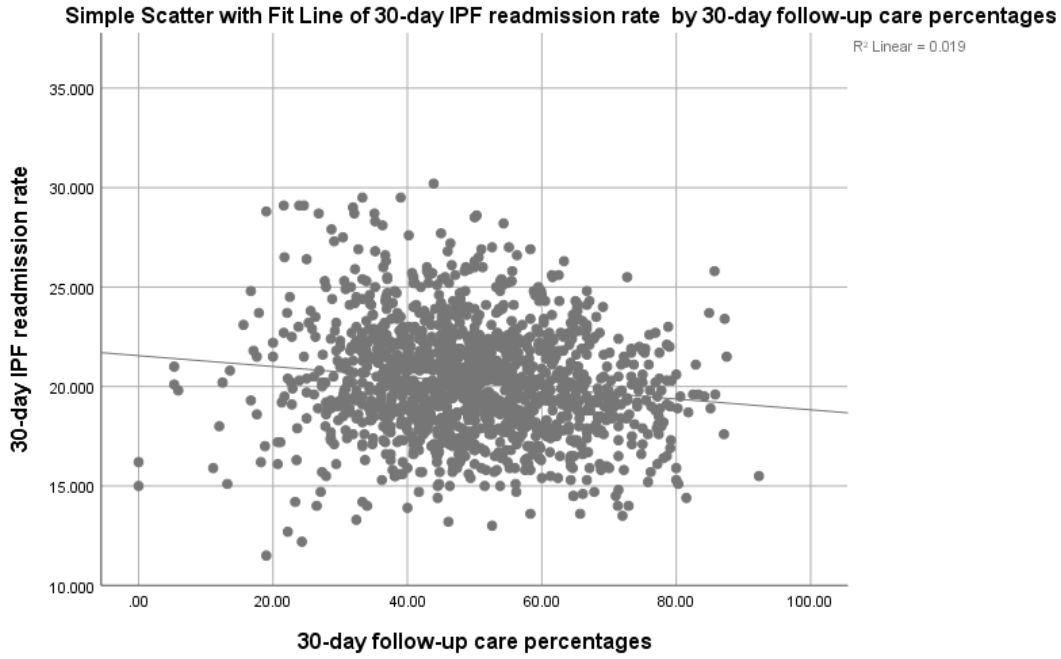


Figure 5

30-day Follow-up Care Percentages Scatterplot Without Outliers



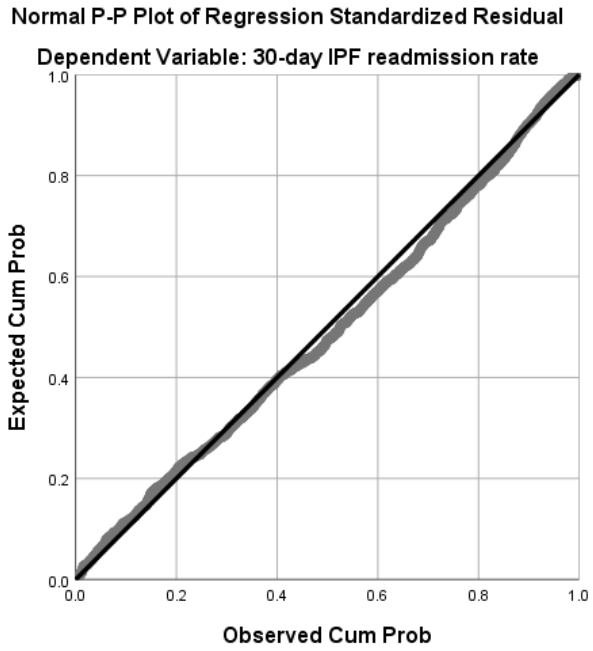
Assumption E, the independence of the variables in the model summary under the Durbin Watson statistic can range from 0 to 4. In addition, residuals were independent, as assessed by a Durbin-Watson statistic of 0.17.

Assumption F, the data points were spread randomly. Hence, the assumption of homoscedasticity is met as assessed by visual inspection of a plot of standardized residuals versus standardized predicted values.

Assumption G, residuals were normally distributed as assessed by visual inspection of a normal probability plot, see Figure 6.

Figure 6

Normal P-Plot for Dependent Variable 30-day IFP Readmission Rate



Results of Statistical Analysis

Research Question 1

In the first linear regression analysis, the outcome variable is, 30-day IPF readmission rate, and the predictor variable is the 7-day follow-up care percentage. The model summary $r^2 = 0.09$, so the fitted model explains 9% of the total variability in the 30-day IPF readmission rate via a linear model with a 7-day follow-up care percentage. The standard error of the estimate = 2.780 means that a typical value of the residual generated from this model fit is 2.780.

The results of the simple linear regression indicated that with the model summary, there is an association because of f-test = 12.610, and p-value = 0.000, which is less than 0.05, so I reject the null hypothesis that there is no association (See table 2).

Research Question 2

In the second linear regression analysis, the outcome variable is, 30-day IPF readmission rate, and the predictor variable is the 30-day follow-up care percentage. The model summary r2 = 0.19, so the fitted model explains 19% of the total variability in the 30-day IPF readmission rate via linear model with 30-day follow-up care percentage. The standard error of the estimate = 2.767 means that a typical value of the residual generated from this model fit is 2.767.

The results of the simple linear regression indicated that with the model summary, there is an association because of f-test = 26.295, and p-value = 0.000, which is less than 0.05, so I reject the null hypothesis that there is no association (See Table 4).

Table 2

Model Summary for 7-day Follow-up Care Percentage

				Std. Error of	Change Statistics					
Model	R	R Square	Adjusted R Square	the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.095[a]	.009	.008	2.780652	.009	12.610	1	1382	.000	.017

[a.] Predictors: (Constant), 7-day follow-up care percentages

[b.] Dependent Variable: 30-day IPF readmission rate

Table 3

Coefficients Table for 7-day Follow-up Care Percentage

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		b	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound
1	(Constant)	20.784	.181		115.071	.000	20.429	21.138
	7-day follow-up care percentages	-.021	.006	-.095	-3.551	.000	-.033	-.010

a. Dependent Variable: 30-day IPF readmission rate

For Research Question 1, 7-day follow-up care percentage, the beta -.095 means a weak negative association of magnitude 0.095 exist between the 30-day IPF readmission rate and 7-day follow-up care percentage. The standardization of both 7-day follow-up care percentage and 30-day IPF readmission rate, to have 0 mean and unit standard deviation indicates that for every 1 unit increase in the 7-day follow-up care percentage above its mean is associated with a decrease in the IPF readmission rate by 0.095 standard deviations below the mean IPF readmission rate. The corresponding T-test statistics equal -3.551, p-value=0.000 is less than 0.05, so I reject the null hypothesis and conclude there is sufficient evidence that the 7-day follow-up care percentage is a significant predictor of the 30-day IPF readmission rate.

Table 4

Model Summary for 30-day Follow-up Care Percentage

Model	r	r Square	Adjusted r Square	Std. Error of the Estimate	r Square Change	f Change	df1	df2	Sig. f Change	Durbin-Watson
1	.137[a]	.019	.018	2.767109	.019	26.295	1	1382	.000	.034

[a.] Predictors: (Constant), 30-day follow-up care percentages

[b.] Dependent Variable: 30-day IPF readmission rate

Table 5

Coefficient Table for 30-day follow-up care percentage

Model		Unstandardized Coefficients b	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.	95.0% Confidence Interval for b Lower Bound	95.0% Confidence Interval for b Upper Bound
1	(Constant)	21.551	.274		78.700	.000	21.014	22.088
	30-day follow-up care percentages	-.027	.005	-.137	-5.128	.000	-.038	-.017

a. Dependent Variable: 30-day IPF readmission rate

For Research Question 2, 30-day follow-up care percentage, the beta -0.137 means a weak negative association of magnitude 0.137 exist between the 30-day IPF readmission rate and 30-day follow-up care percentage. Hence, every 1 percent increase in the 30-day follow-up care percentage above its mean is associated with a decrease in the 30-day IPF readmission rate below its mean by 0.137. The corresponding T-test statistics equal -5.128, p-value=0.000 is less than 0.05, so I reject the null hypothesis at a 5% significance level and infer that there is sufficient evidence that the 30-day follow-up care percentage is a significant predictor of the 30-day IPF readmission rate.

Summary

This quantitative research study has two research questions about 7-day follow-up care percentages, 30-day follow-up care percentages, and 30-day IPF readmission rate. The P-value = 0.000 and F-test = 12.610 for Research Question 1, indicated a statistically significant but weak relationship between the dependent and independent variables. This implied that at 5% level of significance there is sufficient evidence that there is a negative weak association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge. Thus, I rejected the null hypothesis and concluded that there is no association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge.

The results of Research Question 2 indicated a f-test = 26.295, and p-value = 0.000, which is less than 0.05, which implied 5% level of significance there is sufficient evidence that there is a positive association between 30-day follow-up care percentage

and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge. Thus, I rejected the null hypothesis and concluded that there is no association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge. In the next section, the results of the two research questions are discussed in the context of the theoretical framework and the research discussed in Section 2.

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

The purpose of this quantitative research study was to determine if there is an association between 7- and 30-day follow-up care percentages and readmission rates to IPFs. The associations between the predictor and outcome variables for the two quantitative research questions were significant; therefore, the appropriate statistical test used in this research study was a simple linear regression. I conducted a simple linear regression to assess the linear relationship between two continuous variables to predict the value of a DV based on the value of an IV (see G*Power Guide, 2021). The seven linear regression statistical assumptions were each met following the analysis for each research question. Data on the three variables used for this study were derived from a CMS (2019a) data set collected in 2019. The outcomes from the IVs of 7-day follow-up care percentage for Research Question 1, 30-day follow-up care percentage for Research Question 2, and the DV of 30-day IPF readmission rate indicated a negative correlation coefficient < 0.05 alpha. The overall findings support a statistical relationship that led to a rejection of both the null hypotheses and a conclusion that an increase in the predictor variable causes a decrease in the outcome variable for each research question.

In this section, I interpret the study findings through the theoretical framework and the relevant literature discussed in previous sections. The limitations are also discussed, specifically focused on issues that limit generalizability, validity, and reliability. Finally, this section concludes with recommendations for future research and suggestions for future practice.

Interpretation and Scope of the Findings

The first research question was: Is there an association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge? The results indicated an association between 7-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge. The *p* value for x was 0.000, which is less than 0.05, so I rejected the null hypothesis and concluded that there is an association between x = 7-day follow-up care percentage and y = 30-day IPF readmission rate. The second research question was: Is there an association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge? The results indicated an association between 30-day follow-up care percentage and the readmission rate to any hospital with a psychiatric inpatient unit postpsychiatric discharge. The null hypothesis related to this research question was rejected, and I concluded that there was an association between 30-day follow-up care percentages and 30-day IPF readmission rates.

Readmission rates are frequently used as a quality indicator for health care; yet, their validity for evaluating quality is unclear (Eva, 2021). Therefore, I developed this study to determine if there is an association between 7- and 30-day follow-up care and 30-day IPF readmission rates. The outcome of this study supports further exploration because I found that an association exists between 7- and 30-day follow-up care and 30-day IPF readmission rates. Additionally, Sfetcu et al. (2017) provided information on postdischarge predictors that contribute to hospital readmissions, and they agreed that,

amongst various predictors, 7- and 30-day interval aftercare factors affect hospital readmissions.

Lam et al. (2020) and Rentas et al. (2019) offered information on the patterns of rehospitalization for psychiatric patients, finding that a focus on outpatient outcomes and outpatient services might be more cost effective and reduce patient recidivism. Griffith (2018) addressed aftercare services for mental health patients and when aftercare services should begin, providing a systemic review that defined aftercare and the preparation for aftercare services during hospitalization instead of happening on the day of discharge.

Zisman et al. (2018) and Smith et al. (2017) focused on effective communication and shared decision making amongst patients and providers. Additionally, the authors addressed how collaborative patient and provider efforts coincide with preparing discharge plans for patients before discharge, supporting the theoretical framework for this study. Adnanes et al. (2019) shared strategies to prevent rehospitalizations and reducing patient dependency toward inpatient hospitalization as patient self-managing their care. Finally, Gia and Pachamanova (2019) and Benjenk and Chen (2019) provided reviews that tailored specific outcomes for inpatient hospitalization and follow-up aftercare for patients. These studies provided insight into improving quality measures for psychiatric hospitals and offering more enhanced services to reduce rehospitalization.

Limitations of Study

The scope of this study was to determine if there is an association between 7- and 30-day follow-up care and 30-day psychiatric hospital readmissions rate. Therefore, I delimited the literature and secondary data to explicitly represent this study's variables

(see Creswell, 2018). These delimitations included 7- and 30-day follow-up care percentages and 30-day IPF readmission rate; therefore, this study is generalizable and can be used to assess other components of psychiatric patients discharged from IPFs, psychiatric readmissions, and overall monitoring of IPFs by CMS.

Recommendations

My first recommendation is to reassess mental health patients' health literacy post-COVID 19 pandemic. The mental health population is one of the most vulnerable populations. Health care leaders and professionals should consider the effects of the COVID pandemic as it relates to processes to provide health care and how patients are accessing their health care information, particularly new patients who have been recently diagnosed with a mental illness. According to Lewin (2021), health literacy should be accessible and adequate for psychiatric patients to navigate the health care system successfully. My second recommendation pertains to the CMS data collection from IPFs. It would be beneficial for the data set to also include an indicator of patients discharged from an IPF with a 7- or 30-day follow up and whether they received the follow up and the follow-up type. Although the information used from the data set was not from the patient level, it would benefit future researchers if the percentages of patients who did follow through or did not follow through with follow-up postpsychiatric discharge were indicated.

Implications for Professional Practice and Social Change

The findings of this study will have implications on professional health care practices and contribute to positive social change in the health care network amongst

health care leaders and providers. Furthermore, the recommendations outlined in this section for professional practice will contribute to ensuring positive social change at the appropriate levels. Lastly, the methodological and theoretical implications will also support positive social change.

Professional Practice

There was no patient-level data offered in the data set; however, health care professionals and leaders must consider patients who may refuse 7- or 30-day follow-up care postpsychiatric discharge. As a part of positive social change, patient choice should not be neglected. Health care leaders should support patients' rights to avoid noncompliance or lack of interest in sustaining the best quality of life. In these types of cases, it should also be noted or indicated what stage a patient is at in their journey to recovery, as stated in the phases of patients in the TTM.

Methodological and Theoretical Implications

The TTM outlined decision making and the ways individuals process change based on changing their behaviors and reaching the desired goal (Prochaslka & DiClemente, 1982). This framework is commonly used in therapeutic and clinical aspects to describe self-efficacy based on individuals' desire to change (Prochaslka & DiClemente, 1982). Therefore, the methodological implications for this study, if and when replicated, should consist of more information in follow-up care decision making.

Positive Social Change

CMS (2019a) is financially penalizing hospitals for hospital readmissions above the national average. Although, both 7- and 30-day intervals aftercare collectively, the

practical implication of this study is to provide a different perspective about the data generated by CMS and how to lower costs related to psychiatric readmissions. The findings of this study will guide behavioral health care specialists and policymakers to assess the follow-up aftercare quality measure and the effectiveness of exclusively using 7- and 30-day intervals to decrease hospital readmissions. The results of this study can guide leaders in healthcare, mainly mental behavioral health leaders, to consider more enhanced aftercare services that empower patients and make them eager to follow up postdischarge rather than having national organizations, such as CMS, decreasing hospital reimbursements for high readmission rates. Additionally, incentivizing outpatient providers that render aftercare services to patients postpsychiatric discharge would be more ideal. Weingart's (2021) outcomes suggested that disincentives contribute to the lack of essential care for psychiatric patients and show evidence of readmissions.

Furthermore, under the Hospital Readmissions Reduction Program, policies implicate a negative impact on vulnerable populations post-psychiatric discharge (Gai & Pachamanova, 2019). Providing financial incentives to outpatient providers on postpsychiatric discharge would help boost quality. They could be utilized to offer more enhanced services to vulnerable patients seeking aftercare and prevent patient recidivism.

Conclusion

A specific component of the follow-up aftercare measure is to improve hospitals' care transition amongst patients discharged from psychiatric hospitals to then receive follow-up aftercare within 7 days and 30 days (Benjenk & Chen, 2019). Although the intervals of 7 days and 30 days are exclusive for CMS quality measures, it was clear how

the choice of intervals contributes to reducing hospital readmission rates in this study. The linear regression statistical test revealed a weak negative slope for both research questions; hence, the higher the number of patients who receive 7- or 30-day follow-up care, the more readmission rates into an IPF postdischarge decrease. Further research could provide more information on the type of follow-up contacts at the individual level, or if patients' severity is not satisfactorily controlled for, comparison of data among care systems with different levels of follow-up contacts and the effects of aftercare on readmission.

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