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Telehealth During the Covid-19 Pandemic: Did It Increase Access To Care?

by

Annette Allegra

DNP Scholarly Project Committee

Dr. Mary Ellen E. Roberts

Dr. Teresa Conklin

Dr. Barnet Eskin

Submitted in partial fulfillment of the requirements for the degree of

Doctor of Nursing Practice

Seton Hall University

2022

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College of Nursing
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APPROVAL FOR SUCCESSFUL DEFENSE

Annette Allegra has successfully defended and made the required modifications to the text of the DNP Final Scholarly Project for the Doctor of Nursing Practice during this Fall, 2022

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Dedication

This scholarly paper is dedicated to my husband, Donald, and grown children, Kelly and Stephen. Throughout the years, they were great sources of strength, encouragement, and assistance, particularly when my spare time and effort was often spent doing schoolwork and writing. Through their collective personal achievements and strong work ethic, they bolstered my efforts to persevere, remain curious to learn, and continue to work for achievements. Donald was a pillar of strength, a sounding board, and a collaborator who encouraged me to go the extra mile to excel in my endeavors. As an Infectious Disease doctor, Donald inspired me as he shared his ability to remain professional and helpful to all in need, especially, during the Covid-19 pandemic. With exceptional business and writing skills, Kelly supported me by acting as a sounding board and an editor. Kelly's husband, George, graciously taught me to use technology to succeed in my courses. As a new Emergency Medicine doctor, my son Stephen has been an unwavering support and a sounding board both clinically and academically. Stephens' fiancée Makenzie has been a source of support educationally and legally. It was my intent to set an example for others to aim for the stars, to work hard, and reach their goals. My family inspired me, which enabled me to complete my doctoral degree and DNP project to increase access to health care for psychiatric patients with telehealth. This work is also dedicated to my inspiring parents. My exceptional mother, Mary Anne, was always involved, supportive, and interested in my goals and education. She still inspires me to work hard and to reach for my goals. Growing up in a rural setting in Texas, we had a one room schoolroom for a library with a limited selection, and a bookmobile for support. Despite the limit of some resources, my mother instilled a love of reading and learning within me and my three sisters who all supported me through the years. My sister Polly, and her late husband

Duane who was a Marine with 2 Purple Hearts, were sounding boards for legal and veteran related issues. My sister Jeannie was a great resource for many good discussions concerning special education and dealing with challenging students. Jeannies' husband, Kim was supportive with anything related to technology. My sister Frances, a nurse, was a sounding board and both she and her husband, Carl, were always supportive of my educational efforts. My dad Thomas is deceased, and we miss him dearly. I was very fortunate to have had the best dad anyone could want. He was a role model to me as he persevered through challenges, continued to learn, and maintained a strong work ethic while pursuing his dreams. As an older sibling of 11, after being in the Navy, he returned home to help his family. He did not pursue the chance to further his education. He believed had he not stayed to help the family, he may not have met the love of his life, my mother. He was outstanding in his field winning awards for educational achievements and in his work as a mechanic and as a cattle rancher. My husbands' mother, the late Mary "Anna," had a strong influence on my desire to excel academically. As an excellent student, Anna chose to leave school at age 13 with no regrets, to work in the silk mills to support her family. Through her positive attitude and work ethic, she strongly influenced her family to work hard and to excel.

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The fact that this project came to fruition is due to the experience and expert mentoring from so many individuals. Dr. Mary Ellen Roberts, Seton Hall University Graduate Nursing program director, shared her time, effort, invaluable knowledge, and support; and without this commitment, the project surely would not have been feasible. Dr. Barnet Eskin, Emergency Medicine physician and Educator, graciously agreed to be my preceptor in this project. His vast experience academically and clinically, made him invaluable to me in the process to create a viable project. He helped to push me out of my comfort zone and to use critical thinking about the project. I am thankful for the wisdom, experience and perseverance of Dr. Roberts, Dr. Eskin and the faculty, research librarians and staff at Seton Hall University's College of Nursing and their assistance to reach my educational goal of doctoral degree. I appreciate Dr. Teresa Conklin for her time and effort as a reader of my project paper. I am grateful for the cooperation of leaders and staff at Newton Medical Center and Atlantic Health System (AHS). Special thanks to Lori Ann Rizzuto, Executive Director Behavioral Health for AHS, Cristen Mackwell, DNP, and Western Region Nursing Research Council, Yi Zhou, Medical Librarian, Dr. Steven Sarner, and Dr. Sandra Squires for their help as mentors, in support and friendship. Theresa Papagna, APN has been a constant source of friendship and encouragement through each step of the DNP program, as well as at work. Without her support I doubt my success in the program would have been possible. Throughout my nursing career, I have been greatly benefited to work with mentors and colleagues who have kindly shared their knowledge and time with me. The assistance and support by all has been invaluable to help me see this project through from an idea to a finished project.

Abstract

The purpose of this project was to implement an Advance Practice Nurse-led Quality Improvement (QI) initiative to assess telehealth intervention during the Covid-19 pandemic and determine if it increased access to healthcare. This Doctor of Nursing Practice (DNP) project used interventions noted in the literature review to assess effectiveness and acceptance of telehealth use with psychiatric patients to increase access to healthcare in the setting of a medical center. Psychiatric patients often have poor compliance with healthcare visits and treatment due to the challenges of an inability to afford medications, transportation to appointments, poor community support and stigma to receive care.

In this project, retrospective observational data were collected and analyzed in the Acute Partial Hospitalization Program (APHP) for psychiatric patients. Data on show rates for initial evaluations/admission to APHP were gathered and analyzed for one year of in-person encounters before the pandemic and a year during pandemic using the intervention of a temporary pilot of telehealth. Data for this QI project showed a 12% and 27% increase, respectively, in the show rate to APHP using “telehealth” or a “mix” of methods per period 1 or 2 as compared to the pre-pandemic year of “in-person” encounters. The survey data showed that 84% of providers perceived telehealth was satisfactory and effective to use. Data for 30-day readmissions to hospitalization showed a 2.5% increase during the pandemic compared to the prior year, which was not statistically significant. Data showed increased show rates for appointments, with the use of telehealth which has increased access to healthcare.

Keywords: telehealth, telepsychiatry, access to care, acute partial hospitalization program, cost of psychiatric care, 30-day readmissions, adults

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Background

This doctoral-level Quality Improvement (QI) project formulated by the researcher began in the fall of 2021. This QI project was considered important as psychiatric patients face challenges to be compliant with healthcare orders from providers. By increasing access to care, there is an opportunity to improve the lives of many.

Definition of Terms

The terms used throughout the project are listed below.

Acute partial hospitalization program (APHP): daily classes/treatment for a level of illness which is more than outpatient care, for patients who can live at home and come in daily for treatment.

Advance practice nurse (APN): A nurse who has additional education and training in how to diagnose and treat disease. APNs are licensed at the state level and certified by national organizations.

Centers for Medicare and Medicaid (CMS): Government health insurance coverage programs.

Doctor of Nursing Practice (DNP): A terminal degree in the field of nursing.

Emergency room (ER): The department of a hospital that provides immediate treatment for acute illnesses and trauma.

Healthcare Organization (HCO): In this Quality Improvement project HCO stands for “hospital organization,” including outpatient and inpatient services and staff.

Inpatient: A person who is treated in a hospital setting, day program, or emergency room.

In-person healthcare: Treatment which is delivered and received in a face-to-face way.

Intensive Out-patient Program (IOP): 6 - 30 hours of classes weekly / treatment for a level of illness which is more than outpatient care, for patients who can live at home.

Mixed data: A combination of qualitative and quantitative data used in this project.

Northern New Jersey Medical Center (NNJMC): A suburban hospital that is the setting of this project.

No show (NS): Appointments which are not kept; a vacancy in a scheduled appointment.

Outpatient: A person treated medically in an office or clinic, not in a hospital.

30-day readmission to inpatient behavioral health unit metric: An index of admission and readmission within 30 days of first admission; a pair of admissions.

Quality Improvement (QI): A project that has as a goal to increase the standard of care.

Show: Appointments which are used, or scheduled appointments which are kept.

SWOT analysis: Strategic planning and strategic management technique used to help an HCO identify Strengths, Weaknesses, Opportunities and Threats related to business project planning.

Telehealth: Also called telemedicine or telepsychiatry. Refers to a provision of healthcare remotely by means of telecommunications technology, audio and video, or telephone (O'Brien & McNicholas, 2020).

Description of the Project

Covid-19 remains highly contagious and has killed over one million Americans and over eight million people worldwide *Coronavirus Disease 2019 (COVID-19, n.d.)*. During the pandemic, the Centers for Disease Control (CDC) mandated social distancing as a public health measure to protect all stakeholders (i.e., patients and healthcare staff) during the delivery of care. *Coronavirus Disease 2019 (COVID-19, n.d.)* CMS and other third-party payers approved

reimbursement for telehealth to be used temporarily to continue healthcare delivery during the pandemic (Moran, 2020). A new way of delivering healthcare to patients while protecting all stakeholders was the challenge, and telehealth was the innovative and bold solution chosen to meet this need.

The QI project, *Telehealth During Covid-19 Pandemic: Did It Increase Access to Healthcare?*, aimed to study the show rate in the Acute Partial Hospitalization Program (APHP) using telehealth as an intervention to evaluate whether its use will increase access to healthcare compared to traditional in-person healthcare. The QI project used data gathered by the HCO at NNJMC in the APHP, within the Department of Psychiatry. The HCO gathered data on APHP for its own purpose and not specifically for this QI project. The researcher used this data to examine rates of show versus no-show for initial evaluations/admissions of patients to the APHP. Data included one year before the start of telehealth, referred to as the pre-pandemic period (2019), and a year after, called Telehealth Period 1. Data were analyzed following the first year after telehealth was in use (April 2020-March 2021, Period 1).

An extension of six months of data were gathered between January 2022 and June 2022, which is a *mixed* data set including telehealth or in-person encounters for admissions to APHP. The mixed data analysis included information on either in-person or telehealth delivery methods used, with show rates compared to the in-person or pre-pandemic period and *Period 1* telehealth. Data were gathered on 30-day readmissions to the in-patient behavioral health IPBH unit because this is a metric HCOs, CMS, and third- party payers monitor.

A survey of providers of telehealth services (APNs, physicians, and social workers) was created and conducted to assess perceived satisfaction and efficacy. Data were collected and analyzed to use as a basis for a recommendation to request a practice policy change that allows

telehealth to be used permanently following the pandemic as a means of increasing access to healthcare.

Purpose of the Project

This was a QI project with the goal of determining whether the intervention of a temporary pilot program of telehealth increased access to healthcare compared to in-person healthcare in an APHP at NNJMC. The QI initiator posited that the show rate for APHP would increase after the telehealth intervention was introduced. While developing the project, the needs of the community and patient population were considered and the problem of decreased access to health care was identified.

Psychiatric patients in the APHP had barriers to accessing healthcare. Some of these barriers were:

- Poor resources
- Being uninsured
- Cannot afford medications
- Homelessness
- No transportation to appointments
- Unable to drive
- Non-compliance with medications and treatment
- Low functioning
- Poor support in community
- Social stigma attached to seeking care
- Substance use disorders

Currently, half of patient appointments were no-show or appointments which patients do not keep at the NNJMC HCO. There was a shortage of psychiatric providers, which created a wait-list of up to six months for a first appointment. The goal of implementing this QI project was to gather and analyze data to show telehealth increased show rates in APHP, which in turn increases access to healthcare. This QI project data were used to support a request for a practice policy change to allow using telehealth post-pandemic, to increase access to health care. Thirty-day readmissions to an IPBH required an index admission and a second admission within 30 days. This is considered a pair and is important as patients who have 30-day readmissions use 80% of the budget in psychiatry for hospital admissions (The Moran Company, 2013). According to the National Alliance on Mental Illness (NAMI), in-patient and outpatient care, or “all-care” cost of mental health in the United States was reported to be \$225 billion in 2019 (NAMI, 2021; Open Minds 2020). Roehrig (2016) indicated the cost of mental disorders was \$201 billion, which was in the top five expenses on the Agency for Healthcare Research's (AHRQ) list of 2013 health expenditures. AHRQ (2016) wrote, “The National Health Expenditure Accounts (NHEA), maintained by Medicare and Medicaid Services, provide official estimates of annual health spending in the United States” (p. 1). Data was gathered and analyzed by NHEA and AHRQ for estimated psychiatric health expenditures in 2013 (Roehrig, 2016).

Goals and Objectives

The goal of increasing access to healthcare among psychiatric patients in APHP at NNJMC was addressed using a QI project. The goal was that data analysis from the project would support a request for a practice policy change to allow permanent use of telehealth post-Covid, in the Department of Psychiatry at NNJMC, which would increase access to health care. The objectives included:

- Gathering and analyzing data for rate of patient appointments in the APHP;
- In-person (pre-pandemic) data (March 2019 through February 2020);
- Telehealth (Period 1) data (April 2020 through March 2021);
- Mixed data (telehealth or in-person care (Period 2) data (January-June 2022));
- Compare in-person show rate for encounters in the APHP to those of telehealth;
- Compare ‘mixed’ data to pre-pandemic show rate to APHP;
- Analyze data to identify if an increase in show rate occurred;
- Gather and analyze data on 30-day readmission to IPBH unit as baseline in 2019;
- Compare years after baseline for 30-day readmission to IPBH (i.e., in 2020, 2021 and 2022);
- Create a survey for providers of telehealth about perceived satisfaction;
- Conduct a survey of providers generally (APNs, MDs, and social workers);
- Gather and analyze data on perceived satisfaction and efficacy with use of telehealth by providers;

Significance

A comprehensive literature review was performed. The review identified that most of the research done on telehealth occurred during times of natural disaster or war. During the Covid-19 pandemic, telehealth use increased dramatically, which led to more research. Researchers conducted a few trials by large, integrated health care systems and studied the impact of telehealth use compared to in-person healthcare during the pandemic and highlighted the need for a QI initiative to assess whether telehealth could increase access to health care (Xu et al., 2021).

Recent literature highlighted that using telehealth during Covid-19 was beneficial to patients and increased access to care. The current QI project was a retrospective observational study that used anonymized patient data collected during the pandemic and examined for increased access to health care. The significance of this QI project for nursing was that it added critical research to support the need for telehealth to increase access to healthcare for patients post-pandemic, especially in psychiatry, where non-compliance with treatment is common. The field of nursing needs research such as this QI project because it could support practice policy change to allow use of telehealth permanently post-covid and improve the lives of patients and their community at NNJMC.

If telehealth were used permanently post-pandemic, it could improve the burden of disease for patients and their communities and decrease healthcare costs to HCOs, locally and nationally, as well as third-party payers such as CMS. By decreasing the burden of disease in communities, an improvement in psychiatric care and patients could occur. Another benefit includes reduced stigma experienced by the psychiatric patient. Less stigma could encourage patients and families who fear this to reach out and be cared for by professionals in psychiatry. This QI project can elevate the status of nursing by adding to the body of research on important topics.

Review of the Literature

Telehealth was researched to examine whether its use could increase access to healthcare. It was also researched from the standpoint of satisfaction and efficacy for providers and patients. Other topics considered were a decrease of 30-day readmission rates to psychiatric hospitalization and the application of telehealth to different demographics. This literature review began remotely using the Northern New Jersey University (NNJU) Library to examine the topic.

A thorough examination of the literature produced eight studies: two retrospective cohort studies, one randomized clinical trial, a randomized trial, a randomized controlled equivalence trial, a comparative study, a quantitative study, and an observational study. Collectively, the authors examined telehealth and in-person encounters, their impact on show versus no-show rates, and data before and during the pandemic. A literature search was done using the *Cumulative Index to Nursing and Allied Health Literature (CINAHL)* for 2003-2022 and included the U. S. and other nations. All eight studies concluded telehealth was an effective option to assess and treat patients and could be used in various applications to increase show rates for appointments.

This QI project can increase access to healthcare by using telehealth. Close to a half of scheduled appointments were not used or were a ‘no-show’. With the current shortage of providers, it was apparent that finding a way to help patients comply with healthcare appointments is essential. Telehealth is an innovative method for healthcare delivery which could help bridge the gap between non-compliance and increased access to healthcare.

The literature search and review began in the fall of 2021 and continued into the summer of 2022. Before the pandemic, telehealth had not been used in mainstream medicine except in novel applications. There were also few articles written about telehealth/telepsychiatry/telemedicine (O'Brien & McNicholas, 2020). However, since the start of the pandemic, there has been a dramatic increase in interest in telehealth with a corresponding increase in studies about the pros and cons and potential uses. As O'Brien noted, “Hence, due consideration should be given to a tool that enables us to simultaneously connect and to distance at the same time – telemedicine” (O'Brien & McNicholas, 2020, p. 250).

It is possible that previous limited use of telehealth is due in part to resistance by patients and providers, lack of approval for use by government, lack of infrastructure to support use or reimbursement by CMS and third-party payers, and the inability to fully examine patients (The Moran Company, 2021; O'Brien & McNicholas, 2020). However, early in the pandemic, reimbursement for telehealth services was approved by CMS and third-party payers due to the highly contagious and deadly threat of the virus (*Coronavirus Disease 2019 (COVID-19)*, n.d.).

Government bodies, such as the CDC, CMS, and other agencies did not approve payment for telehealth until social distancing was required as a public health measure to reduce the spread of the disease (*Coronavirus Disease 2019 (COVID-19)*, n.d.; Moran, 2020). Since telehealth use was mandated, the pros and cons and potential for its application in various situations could be studied. Though telehealth was now being used during the pandemic, there was still limited empirical evidence. This QI project was done to add to the growing amount of research, and help create empirical evidence which could support use of telehealth post-pandemic.

With recent interest in telehealth, this researcher recommends that further investigation be done, which will potentially lead to greater support and wider adoption for telehealth. This technology has the potential to become an accepted way to see and treat patients post-Covid. This project can show the benefits of using telehealth permanently, which will likely result in a significant reduction of burden of the disease for individuals and the community. If telehealth could be used going forward, it could also reduce the financial strain and potentially produce cost savings for patients, HCOs, and the nation's healthcare budget.

A literature review provided the most relevant results of quasi-experimental design studies that assess the impact of telehealth used before and during the pandemic with different populations and a variety of applications. The literature review began with a thorough search

using the online libraries of the Northern New Jersey University (NNJU) and NNJMC via research librarian assistance. The literature search took place over several months and continued periodically during the yearlong QI project. A review of the articles from the literature search followed. This search was completed, resulting in recognizing eight relevant studies, including two retrospective cohort studies.

One purpose of the project was to examine the impact of the pandemic on in-person outpatient and telehealth encounters by telephone and video compared to demographic categories and household income in a diverse population (Qian et al., 2021). The other retrospective cohort study considered changes of in-person health care utilization and telehealth visits during Covid-19 and the difference in health care use before Covid-19 and the year 2020 (Xu et al., 2021). A randomized clinical trial compared in-person encounters with telepsychiatry using video conferencing (Cuevas et al., 2006) and examined its effectiveness to reduce stress using two low level interventions for cancer patients and caregivers (Chambers et al., 2014).

A quantitative study compared a combination of telehealth and in-person encounters with data collected before the pandemic (Looi et al., 2021). An observational study was done to determine the impact of telehealth appointment show versus no-show rates in an intensive outpatient program (IOP) (Childs et al., 2021). In a randomized, controlled equivalent trial, several different clinical outcomes were examined for face-to-face versus telepsychiatry in terms of satisfaction, interchangeability, and cost (O'Reilly et al., 2007). Another study examined the differences of satisfaction seen between face-to-face visits and telepsychiatry in a study from Egypt (Sehlo et al., 2021).

According to Schmidt and Brown (2019a), the most valuable studies used a true experimental design which can then be used to build an evidence-based practice. Less rigorous

studies produced information which is valuable when little other research exists. Yet, they are often not controlled, or randomized, allowing for bias and less compelling data and inferences (Schmidt & Brown, 2019a). However, circumstances often do not allow a study design to have all elements such as control or randomization (Schmidt & Brown, 2019a). This was the case during the pandemic, during which a sudden shift to piloting temporary telehealth was the only option for safely delivering and receiving healthcare. This QI project did not use randomization; the data used reflected a convenience sample. The control for this retrospective observational study was data from 2019, in which telehealth was not used. Data from the previous year of in-person encounters were the baseline.

A search of English-language medical-literature was done to assess relevant publications between 2003-2022 about telehealth use in healthcare. Several resources had publication dates before these dates. The researcher used CINHALL and MEDLINE and 30 publications were identified as meeting the search criteria. The key terms used were: *telehealth, telemedicine, telepsychiatry, virtual healthcare, remote healthcare, Covid-19 treatment methods, social distance healthcare, disaster remote healthcare, battlefield healthcare, randomized controlled studies, and retrospective studies.*

Following a review of these 30 articles, this investigator decided that only 10 studies fully met the criteria for the literature review. Criteria for inclusion of studies were: control in the methodology, authors had no conflict of interest, diverse demographics, participants both male and female and were minors or those over age 65, statistically significant outcome, and adequate sample size.

Qian et al. (2021) examined inequalities of patient demographic categories in outpatients and telehealth visits during Covid-19 pandemic. O'Reilly et al. (2007) evaluated telepsychiatry

and face-to-face to face encounters and found they have comparable results. Chambers et al. (2014) compared satisfaction using two low-level psychological interventions for stressed patients with cancer and their caregivers. Sehlo et al. (2021) compared differences of satisfaction among patients using face-to-face visits or telepsychiatry. Cuevas et al. (2006) found equivalent levels of efficacy and diagnosis for videoconferencing and face-to-face psychiatric healthcare in the Canary Islands. Looi et al. (2021) found that psychiatrists continued to use telehealth after the first wave of Covid-19, indicating telehealth compares well to face to face care.

Childs et al. (2021) found that among participants in an IOP, attendance rates for telehealth increased compared to in-person IOP services during the pandemic. Xu et al. (2021) examined the effect Covid-19 had on health care use in-person and telehealth use. In-person encounters sharply decreased and telehealth had a comparable increase. The combined outpatient care via telehealth and in-person encounters equaled pre-pandemic volume.

These eight studies met the following criteria and led this researcher to determine that they are strong study designs: two had large retrospective cohort studies, one sought to examine the impact of the pandemic on in-person outpatient and telehealth encounters by telephone and video, and another examined changes related to in-person health care use and telehealth encounters during the pandemic and differences in health care use between 2019 and 2020 (Xu et al., 2021).

A randomized clinical trial compared in-person encounters with telepsychiatry through video conferencing (Cuevas et al., 2006). A quantitative study compared a combination of telehealth and in-person encounters with pre-Covid and pandemic data (Looi et al., 2021). An observational study examined the impact of telehealth appointment show versus no-show rates in an IOP (Childs et al., 2021). In a randomized trial, researchers analyzed the usefulness of two

low level interventions to treat stress among cancer patients and their caregivers (Chambers et al., 2014). A comparative study used an online survey to compare face-to-face and telepsychiatry from the patients' view (Sehlo et al., 2021). O'Reilly et al. (2007) conducted a randomized, controlled equivalent study to examine various clinical outcomes to assess efficacy and satisfaction of telepsychiatry and face-to-face encounters and found they had equivalent outcomes. A 10% decrease in expense per patient to provide service with telehealth was also found.

Childs et al. (2021) examined show rates for patients in an IOP and found that telehealth increased the show rate versus in-person IOP services during the pandemic. Another study found that scores on standardized tests for assessment and diagnosing patients using encounters with telepsychiatry through video conferencing and face-to-face meetings were equivalent (Cuevas et al., 2006). Qian et al. (2021) studied the use of telehealth by demographic categories and found that Hispanics and the poor had the greatest increase in telehealth use in response to the pandemic.

The use of telehealth care reduced the negative effects of the pandemic on health care use in at-risk populations. Sehlo et al. (2021) used an online survey to compare the differences between face-to-face and telepsychiatry among patients in Egypt. Due to a possible cultural difference, patients preferred face-to-face to telepsychiatry care by a margin of 30%. Yet, after some familiarity with telepsychiatry, an increase in favorable attitude was seen. Chambers et al. (2014) compared low-level stress management education for cancer patients and their caregivers. For patients with less education, only the psychologist's intervention produced a substantial reduction in stress. For all others, stress was reduced over time for both patients and caregivers in a noticeable way.

Looi et al. (2021) found telehealth to be equivalent to in-person visits, produced a satisfactory outcome, and was continued after the first wave of Covid-19. The initial loss of appointments for patients was regained and surpassed with a 14% increase over in-person appointments prior to the pandemic. Xu et al. (2021) compared visits in four settings: inpatient, ER, outpatient, and telehealth. Analysis showed that, compared to the pre-pandemic year, telehealth visits offset the reduction in outpatient visits by June 2020. Despite a dramatic reduction of in-person health care at the start of the pandemic, there was a corresponding increase in telehealth visits. By the end of June 2020, total outpatient and telehealth visits returned to pre-pandemic levels.

Each of the eight studies in this review of literature used telehealth in various ways. Show rates for appointments improved using telehealth and provided access for patients followed during the pandemic are common themes seen in some studies. A novel application of telehealth was using education and psychology for coping with stress for cancer patients and their caregivers. Telehealth also benefited HCOs financially with a cost reduction of 10%, as well as ability to increase the number of patients seen, compared to in-person healthcare.

Childs et al. (2021) examined early use of telehealth increased attendance to Intensive Out-patient Program (IOP), specifically adults and for teens with third-party payer coverage and non-Hispanic white youth. Childs et al. noted that more research is needed for various racial/ethnic groups and Medicaid-insured youth as being at-risk. The authors concluded that telehealth is a positive intervention for increasing access of care for patients with high levels of psychiatric acuity, especially for group-based treatment, during the pandemic.

Cuevas et al. (2006) examined the success of videoconference telepsychiatry to treat patients versus face-to-face visits. Standardized diagnostic criteria were used in evaluating and

diagnosing patients. Test scores were equivalent for both methods. Further validation was given for efficacy using global standardized scales initially and at the end of the study. In this study telepsychiatry was shown to be an effective method of delivering psychiatric treatment to outpatients living in remote places who were poor.

Looi et al. (2021) examined data for total visits by face to face and telehealth visits. Due to satisfaction with the use of the psychiatrist's Medicare benefits schedule for telehealth care, it continues to be used with an increase of 14% in combined telehealth and in-person visits. The schedule became an important part of healthcare for psychiatric patients in the third quarter of 2020.

Xu et al. (2021) analyzed the transition from in-person healthcare to telehealth visits during the pandemic. Examining changes for 2019 (pre-pandemic year) and 2020, the team studied weekly visits in four settings: inpatient, outpatient, ER and telehealth were examined and considered trends during 2019. At the end of June 2020, pre-pandemic levels for encounters for outpatients were reached, with telehealth encounters believed to have mitigated predicted losses.

Qian et al. (2021) examined weekly the impact of the pandemic on encounters in-person and by telehealth on diverse populations. In this study, the interest was in demographic groups using data for age, sex, race/ethnicity, neighborhood, and median household income. Increased rates of show for telehealth during the pandemic varied for all subgroups but decreased show rates for outpatient visits were consistent except by age. Those 65+ had the least increase in telehealth visits.

Chambers et al. (2014) examined two low-level interventions to help cancer patients and their caregivers learn to cope with stress. One nurse-led telephone session was given and a psychologist gave five cognitive behavioral treatments to subjects. Most subjects found relief

from one nurse led session. However, patients and caregivers with less education and lower reading skills were candidates for further, specific support.

The eight studies selected support telehealth use during the pandemic and increased access to healthcare. Using a safe method of delivery of health care benefits patients and provider (O'Brien & McNicholas, 2020).

Project Methodology

The project investigator gathered and analyzed data to assess whether use of telehealth was able to increase show rates to appointments for patients in the APHP. Data were also gathered to assess the status of 30 day-readmissions to the IPBH unit compared this to a pre-pandemic baseline. This researcher created and conducted a survey to gather data on perceived satisfaction and efficacy on using telehealth by APNs, physicians, and social workers. After the data were gathered, they were analyzed and compared to baseline data to find relevant trends.

A QI initiative was implemented using a convenience sample of anonymized data for show rates and no-show rates to APHP and 30-day readmission rates to the IPBH unit. The initiator of the QI project also conducted a survey which gathered data on perceived satisfaction and efficacy of use by providers of telehealth. This initiative was conducted between the fall of 2021 to December 2022. The original plan was for it to conclude in May 2022. However, due to an extension of data collection from January through June 2022, conclusions from the data were not made until July 2022. The QI initiator became aware of a change in one data set, which was a mix of telehealth and in-person encounters for the APHP. The project initiator discussed this option with DNP Program Director, and a decision was made to take this opportunity to gather and use this *mixed* data.

Theoretical Framework

Peplau's (1997) theory of interpersonal relations is the theoretical framework for this QI project. This theory is an important combination of caring and compassionate communication via the relationship nurses create with patients. In the field of psychiatry, staff must make an extra effort to create a good rapport and comfortable connection with patients when telehealth is used to deliver health care. As the patient is seen via video and or telephone, mental health professionals must work to approximate the feeling of an in-person encounter. Using telehealth, staff must ask specific questions about, and observe, extrapyramidal side effects (e.g., tremors, muscle tone, station and gait), eye contact, and grooming (Peplau, 1997).

Interpersonal relations depend on the skills of the nurse who creates the connection to allow the work of caring for patients to occur through the therapeutic use of self. Especially since the use of technology uses less in-person and more virtual or telehealth opportunities the therapeutic use of self is even more important. Peplau noted that as patients often enter the healthcare arena in a state of vulnerability, lack of health literacy, fear of unknown and of pain, they are very dependent upon the empathy, communication, and skills of nurses (Peplau, 1997).

A framework for budgeting, detailed by Ramsey (2021) and others, states that setting a budget for success is an essential aspect of a plan for expenses in an HCO. Nursing has a special opportunity to influence budget planning because it is in a unique place to use professional judgement to identify needs based on acuity and census (Bryans, 2018; Kolakowski, 2016; Ramsey, 2021). As an influence on the theoretical framework, Rogers (2003) described the diffusion of innovation as “an information-seeking and information-processing activity, where an individual is motivated to reduce uncertainty about the advantages and disadvantages of an innovation” (p. 172).

This QI project was an initiative to gather data concerning telehealth during Covid-19, and whether it increased access to health care. Data were collected to examine rates of show and no-show for initial admission of patients to the APHP in the psychiatric department at NNJMC. The goal was to assess if the intervention of telehealth increased access to healthcare as measured by increased show rates compared to in-person encounters before the start of the pandemic. A goal of the QI project was to gather data that can support a recommendation to change practice policy for approval to permit permanent use of telehealth post-pandemic in the Department of Psychiatry at NNJMC.

Currently, the challenge all stakeholders encounter has been the safe delivery of healthcare during the pandemic. The demographics of patients in the HCO's service area include those having a low socioeconomic status, poor resources, inadequate broadband service and Wi-Fi accessibility, and computer illiteracy. Many participants in APHP are also challenged with impaired daily functioning, increased illness acuity, and comorbidity of psychiatric and substance use disorders. Characteristic challenges of APHP patients include those who cannot drive, being elderly, being impaired, and/or unable to afford to drive to appointments. These all contribute to noncompliance with treatments and healthcare. A challenge was to continue to deliver healthcare safely for all stakeholders during the pandemic, and a temporary pilot of telehealth was the solution initiated to solve this problem.

Risk Analysis

This QI initiative includes a four-step SWOT analysis to identify the strengths, weaknesses, opportunities, and threats to the QI project. A goal of the project is to support a practice policy change by the HCO to allow permanent use of telehealth following Covid-19 to increase access to healthcare.

Setting

The QI project setting was the APHP in the psychiatry department at NNJMC, a medium-sized suburban hospital within a larger HCO. The setting provided a diverse patient population, a positive reputation, and affiliations with hospitals which are teaching institutions. The department is relatively large and serves a tri-state area treating primarily adult general psychiatry patients on a long-term basis. It also has a substance abuse program. The IPBH unit has six adult committed beds and 10 voluntary beds. The psychiatric service also treats and manages daily about 15 psychiatric patients who are in regular beds, called ‘scatter beds’ in the Emergency Room (ER) and on the medical floors of the hospital. The large patient volume, diverse geographic and socioeconomic backgrounds, and robust psychiatry service offered a suitable population for the project intervention (The Moran Company, 2013).

Strengths

Strengths included support for and implementation of QI projects within the psychiatry department and HCO and its leaders. The mission and culture of this HCO supported continuing education, and promoted this type of project. The HCO’s mission and vision statement showed a commitment to delivering high quality, safe, and affordable patient care within a healing culture that educates and engages all human resources through innovative leadership. Childs et al. (2021) noted the use of a pilot of temporary telehealth potentially has fueled an increase in appointment adherence observed in some areas of healthcare.

Data collected as part of this project confirmed an increase in show rates to appointments to the APHP occurred. The HCO has an opportunity to increase revenue due to a higher percentage of completed, billable appointments instead of lost revenue due to no-shows which

can cause decreased access to healthcare for patients who may have higher 30- day readmissions to IPBH unit (HRRP, 2012).

Weaknesses

The pre-pandemic, in-person encounter process had many no-shows. Von Kodolitsch et al. (2015) revealed the need for improvement in adhering to appointments, access to healthcare, and targeted areas with perceived or real threats to psychiatry departments, hospitals, and the mental health system. A weakness was that the QI project was available only via telehealth (except for six months in 2022) due to the CDC mandate during the pandemic, and some patients had difficulty using a telehealth encounter or preferred in-person care. Some patients were not able to communicate well virtually or could not function adequately to attend appointments or take medication (The Moran Company, 2021). Also, more patients seen creates greater workload for providers and staff, which could lead to stress and burnout, and decreased the time that providers had to attend to attend to other duties.

Other weaknesses were that phone or video connections may fail, or not allow an appointment due to call screening, or other technical issues. Staff and patients complained of problems with poor Wi-Fi or infrastructure to support internet use and/or technology malfunctions. Other shortcomings included the cost of needed additional resources (e.g., IT), use of video platforms such as Zoom, training of all staff who register patients, obtaining HIPAA consent, informing patients of the format to be used, describing privacy guidelines, coding, and documentation and billing applied to telehealth (*Your Rights Under HIPAA*, 2008).

Opportunities

These included learning and teaching about using telehealth with tip sheets to show step-wise procedures of how to use new technology such as Zoom, discussion sessions for staff about

the benefits and drawbacks of telehealth, and how to improve its use. It is imperative to have training for all staff on guidelines for telehealth use, HIPAA consent, having proper documentation, and coding and billing procedures (*Your Rights Under HIPAA*, 2008) (see Appendix E).

There is potential for the HCO to increase revenue due to more completed appointments which are billable, as opposed to lost opportunities due to no-shows which can cause decreased access to healthcare for patients who may have higher 30-day readmissions to the IPBH unit (HRRP, 2012). There is currently up to a six-month wait for new appointments in outpatient departments due to a shortage of providers at the QI project site. According to Childs et al. (2021), using telehealth can improve attendance, and thus reduce wait time for patients.

There is an opportunity to promote a good outcome for the QI project and it is recommended to use clear and open communication with HCO leadership, a nurse educator, and staff. To gain buy-in, providing flexible telehealth training, updating staff, and use of feedback would help support a positive outcome. This APN initiator maintained a positive attitude to engage staff, and participated in providing updates on telehealth documentation, billing, coding, and use of HIPAA protections for patients. These aspects are all very important for compliance by all stakeholders and the HCO (*Your Rights Under HIPAA*, 2008).

The opportunity to increase access to health care can decrease the burden of disease in the community for patients and their families. A higher level of wellness can help patients function better, perhaps have improved relationships, attend school or work, and not remain as challenged. Therefore, less support with housing, disability assistance, and social services would be needed. The prospect to decrease the stigma associated with using mental health services and

improve social status through positive outcomes from the QI are valuable and advertise that telehealth has improved their health care and made wellness more accessible to the community.

Threats

The risks identified from the SWOT analysis were prioritized using the risk management matrix (von Kodolitsch et al., 2015). External threats that are unavoidable scored as having the highest risk and impact. The first threat is infrastructure. After the pandemic, the federal (and state) governments may no longer allow a pilot of temporary telehealth to be used, possibly due to a withdrawal of approval and reimbursement from CMS and third-party insurance payers.

An unavoidable external threat is that participants are mandated to use telehealth due to public health concerns of spreading the Covid-19 virus. Patients who wanted to be seen in person or wanted a choice of in-person visits could potentially be dissatisfied with telehealth care. Patient satisfaction, motivation, and adherence to treatment and plan of care could be negatively impacted.

The threat of staff resistance and technology problems pose a challenge. Unwillingness of staff to change can be an inevitable threat. Human nature and habits are hard to change and cannot be controlled. A lack of staff proficiency with technology or preference to see patients in person may be challenges faced. Other risks of technical problems are: Video or computer system problems, including those related to electronic medical records. In such instances, all providers must be able to use paper documentation and be well-versed in what questions to ask patients to conduct an evaluation by phone. Review of chart and other documentation in preparation for a future meeting, and prescriptions, can be completed afterwards. A call to a pharmacy can be used to order and check on medications for patients.

A threat is a risk from ineffective communication. Using technology can create distance between patient and provider producing a less-than-therapeutic encounter. Telehealth not used well can allow competing tasks to separate the staff and patients. To augment technology use, staff must ask patients if they are having tremors, side effects, abnormal body movements, other co-morbidities, and health problems. Staff must keep in mind that due to aging, poor dexterity, technology skill, culture, socioeconomic group, and diagnoses some patients may have less therapeutic telehealth encounters. Hearing and vision problems are examples of some challenges faced by some patients (see Appendix E).

A final threat may be the time needed to implement the proposed QI project, as it can be delayed due to constraints from other needs and finite resources within an HCO. Obstacles such as budget, low staffing, and other competing needs identified by HCO management are real. A risk exists that not all projects are able to be implemented.

Implementation Timeline

The need for greater access to health care was identified by the APN QI project initiator. Through discussion with coworkers at the psychiatry department at HCO, NNJMC and the Director of the DNP program at NNJU, it was decided that this problem was a valid topic to pursue using a QI project. Following conversations with stakeholders such as the NNJMC Clinical Preceptor, Executive Director of Behavioral Health Services, Director of the Department of Psychiatry, the Coordinator of APHP, social workers for the APHP, APNs, and MDs, administrative staff and all support staff agreed with the importance of the QI project and provided support throughout it. Research was done using literature searches and reviews, a plan for the project was finalized. Approval was given by the director of DNP program at NNJU,

leaders of the HCO, NNJMC, the research council and IRB committees, clinical preceptor, and department leaders before beginning.

The implementation team was composed of the Director of the DNP program at NNJU, the NNJMC Clinical Preceptor, Executive Director of Behavioral Health Services for NNJMC, Director of the Department of Psychiatry at NNJMC, the Coordinator of APHP, manager of APHP, clinicians and social workers for the APHP, the QI project initiator, APNs, MDs, administrative and support staff.

The QI project was further refined over the course of the next year (fall 2021-fall 2022) having a timeline starting in January 2022 and ending in July 2022, after all data were gathered and analyzed. Approval was requested and received to conduct the QI project by: NNJU's DNP program director, clinical preceptor, NNJCMC Western Research Council, and the IRB committee. In this QI project, the initiator requested and was approved to use anonymized data gathered retroactively during the pandemic to examine the effects of telehealth on access to healthcare in APHP show rates versus the baseline year of 2019 for in-person care. The QI investigator asked for and was given permission to gather data on yearly IPBH unit 30 day-readmission rates compared to pre-pandemic year. Approval was also requested and given for the initiator of the QI project to conduct a survey of satisfaction and efficacy of providers of telehealth in the Department of Psychiatry.

Data were gathered and analyzed for an APHP program to compare show and no-show rates using the pre-pandemic baseline year in-person (2019) to the use of telehealth (2020) and mixed use (telehealth or in-person visits for six months of 2022). IPBH unit 30-day readmissions rates per year for 2019, compared to 2020-2022 (pandemic years). The investigator created and conducted a survey using a five-point Likert scale with two groups of providers for perceived

satisfaction about use of telehealth during Covid-19. The provider group consisted of five APNs, three physicians, and 16 social workers (N=24).

The APHP data comparison was of previous in-person visits during 2019 and telehealth visits during 2020 using show and no-show rates for initial admissions. A later adjustment of the project was an extension of six months (January-June 2022) of ‘mixed’ data’ (i.e., telehealth or in-person appointments) were added to the project. Seen as an opportunity by the initiator to extend data collection so as to compare mixed data because it added new information to the project.

The goals for the QI project were:

- Determine if telehealth led to increased access to health care during the pandemic.
- Assess the effect on yearly rate of 30-day readmissions to IPBH unit during the pandemic.
- Assess perceived satisfaction and efficacy of providers of telehealth using a survey.

Throughout the project, adjustments were made to improve the project when faced with opportunities or when restrictions were encountered. All potential changes were discussed with the director of the DNP program at NNJU, the clinical preceptor, NNJMC, leaders, coworkers, and office staff (see Appendices A and E).

This QI project also was an occasion to share information with staff and providers during video meetings, in emails, by phone, and in print. Feedback was given using virtual ‘Q and A’ sessions. Printed tip sheets were used so providers could learn and refine their telehealth visits. Tip Sheets on best practices for conducting telehealth encounters were discussed and shared as handouts for reference. Tips on compliance were given on obtaining consent for HIPAA, privacy for patient visits (and providers), proper documentation, coding and billing procedures (*Your*

Rights Under HIPAA, 2008) (See Appendix E). In the fall of 2022, the investigator concluded the project and informed the IRB committee when the QI project will be completed.

Budget

According to Kolakowski (2016), a budget is very important for a healthcare organization's ability to plan and use resources to succeed as well as adjust to variable factors such as census and patient acuity" (Kolakowski, 2016, p. 14). Ramsey (2021) also remarked that setting a budget for success is paramount, as nursing is in a strong position to lead, given its influence over the largest percentage of HCO budgets. Part of a formula to plan for expenses is using professional judgement of needs based on acuity and census (Ramsey, 2021; Bryans, 2018). The investigator is a psychiatric APN employed in a hospital mental health department and earns \$70.00/hr. in her primary position with patients in the outpatient department at NNJMC. This researcher also works as needed in all venues of the psychiatry department including APHP, Outpatient, IPBH unit, and on-call coverage for the ER and Psychiatric Consult Liaison Services in the medical hospital of NNJMC.

This APN initiated and coordinated the QI project, which was done voluntarily without financial interest. This researcher oversaw all aspects of the project. Data were gathered by the lead clinician for the APHP, which required four hours to complete (@ \$50.00/hr.). The APHP coordinator assisted in organizing data gathering, which took two hours (@ \$70.00/hr.). The psychiatry department director for NNJMC approved the QI project, which took two hours (@\$250.00/hr). The Executive Director of Behavioral Health for NNJMC (DBH NNJMC) assisted in organizing approval and support of QI project. This needed six hours (@\$150.00/hr.).

Due to the pandemic mandate requiring social distancing, marketing was conducted by word of mouth, emails, and video meetings, with interdisciplinary departments within the

hospital. Technology was the primary way to inform all stakeholders about telehealth, instead of in-person sessions to maintain safety.

The initiator presented the QI project by phone, email, and video meetings to HCO administrators, and executives, as well to the psychiatry department for approval. NNJMC marketing staff and IT set up Zoom sessions that required 30 hrs. (@ \$40.00/hr.).

The 10 hours needed to set up telehealth services was facilitated by a number of executives and administrators (@\$150.00/hr.). Other costs included the following:

IT and Marketing NNJMC \$40.00/hr. x 30/hrs. =	\$1200.00
IT staff \$40.00/hr. x 10 hrs. =	\$400.00
IT equipment (one time cost)	\$5000.00
Wi-Fi cost	\$100.00
Data analyst \$40.00/hr x 8hrs. =	\$320.00
APNs \$70.00/hr. x 250 hrs. =	\$17,500.00
Educational material	\$500.00
APN travel fuel cost	\$202.00
Psychiatrists \$250.00/hr. x 2 hrs.=	\$500.00
MD Preceptor \$250.00/hr. x 10 hrs.=	\$2,500.00
Additional staff \$20.00/hr. x 10 hrs. =	\$200.00
Billing, coding staff \$40.00/hr. x 10 hrs.=	\$400.00

Staff benefits add another 25% to salaries. Much of these costs may can be accounted for due to staff at work doing their regular duties. That is, not all hours are related to telehealth. For IT support, education on equipment use such as using video with Zoom and Teams, and equipment and software already in use but was needed, a one-time estimated cost of \$5000.00

was made. The billing and coding departments facilitated procedures specific to telehealth and had been accounted for earlier for use by the HCO. The time estimated as it related to the QI project was 10 hours (@\$40.00/hr.). According to the budget table (see Appendix B), the estimated total expense was \$31,762.00. The total actual project expense was \$402.00.

According to Koonin et al. (2020), the return on investment (ROI) to implement telehealth after the start of the Covid-19 pandemic, was a dramatic increase in volume of telehealth use (Koonin et al., 2020). During the pandemic, the number of telehealth encounters increased by 50% in the beginning of 2020 as compared to in-person encounters in 2019 pre-pandemic (Koonin et al., 2020).

Increasing patient and staff satisfaction using improved and more accessible health care via telehealth, can reduce burnout and improve staff retention. The cost of recruiting and hiring new staff to replace those who leave is significant and worth the investment to retain staff (Boushey & Glynn, 2012) (see Appendix B).

Marketing Plan

An opportunity for positive change occurred during the upheaval of the pandemic. As a result of this disaster, an immense marketing campaign occurred worldwide: use telehealth to care for patients and keep everyone safe. S. Hawking summed up this sentiment: “Change is.” Chaos, complexity, and change are not things but forms of dynamic activity (Albert et al., 2020, p. 38). According to Hawking and Mlodinow (2008), they are the only constants in the universe. The deadly Covid-19 pandemic produced a need for dramatic change in how healthcare was delivered. The pandemic caused chaos and complexity, but created an opportunity for change. The method chosen was a pilot of telehealth. According to Albert et al. (2020):

Good leaders live in the edge land between now and the next thing on the horizon. As quantum innovative leaders we have the opportunity to be able to lead and engage others to take the challenge to embrace change, keep learning and accept virtual and ever-increasing knowledge (p. 40).

The CDC took an innovative step at the beginning of the Covid-19 pandemic by recommending social distancing. CMS did the same by approving third-party payment for using telehealth to deliver healthcare safely (*COVID-19*, n.d.; The Moran Company, 2020).

The QI project provided marketing of an innovative method to deliver healthcare safely during the pandemic. The healthcare delivered using telehealth was a way to “self-market” by its use. Hopefully, if patients are satisfied with telehealth this serves as the best form of marketing. Telehealth was used routinely in place of in-person care in the APHP setting. This QI project conforms to the HCO mission and culture for delivery of high quality, safe, affordable patient care within a healing culture and educates and engages all our human resources through innovative leadership.

The QI setting was in the psychiatry department at NNJMC. The participants included psychiatric patients admitted to the APHP, which is a higher level of acuity than outpatient. Some challenges the staff faced while treating these patients are social stigma, noncompliance with treatment, comorbidities, severe, chronic and persistent mental illness, limited resources, and a shortage of providers. This population is at risk for decompensation leading to rehospitalization in less than 30-days to the IPBH unit. The 30-day readmission metric needs continued monitoring (Sfetcu et al., 2017).

Rogers (2003) described the diffusion of innovation process as “an information-seeking and information-processing activity, where an individual is motivated to reduce uncertainty

about the advantages and disadvantages of an innovation (p. 172). According to Chism (2019), Landrum's four P's for projects were: product, price, place, and promotion. Product in this case was the service of telehealth care. Price was dictated by CMS, third-party payers and HCOs, which have been the same for telehealth as in-person encounters. Price also included the QI project that was detailed in the budget plan, the salary for the DNP candidate, support staff, office, and equipment.

The place was the APHP at NNJMC. Promotion had been through governmental agencies (CMS, CDC) and HCO mandates to use a pilot of temporary telehealth due to CDC guidelines for social distancing. Promotion of the QI project used advertising in the form of word of mouth, educational sessions, email, video group meetings, video meetings on billing, coding, documenting, obtaining consent about HIPAA, and assuring patient privacy.

This QI project advertised telehealth service using emails, educational sessions as needed, weekly interdisciplinary meetings, and in general email announcements to HCO staff, and sharing between interdisciplinary staff to help promote the continued availability for patients of telehealth services. Community promotion using word of mouth and emails with community partners announced that telehealth service was available.

Using Beals' rules (as cited in Chism, 2019) was extremely helpful to ensure this researcher's success. Positive thinking can go a long way to help other staff to buy in. The APN must keep honing skills to attain expertise. The road to success starts with preparation for projects. Maintaining an appropriate attitude and accounting for all will enable the APN to work well with all staff members. It is crucial to treat everyone well and to act as though one is always being watched. To embody the mentioned rules will help the DNP graduate to embrace

professionalism with all and to communicate clearly which is valuable in making the project a success.

CMS and third-party payers must approve permanent use of telehealth following the pandemic before HCOs can approve a practice policy change. Once telehealth use is approved by the HCO with a practice policy change for its permanent use, a full advertising campaign will be launched. The advertising plan would include announcing a full medical staff meeting at NNJMC, a system intranet front page news story with follow-up informational articles, flyers distributed within the area, printed ads, communication with interdisciplinary teams, community partners, and referral agencies that telehealth is now always available.

Once the data were gathered and analyzed and the final draft of the QI project written, the project initiator pursued publication in local psychiatric publications and academic journals. A presentation on the QI was requested by the Western Region Research Council Nurses of NNJMC and the HCO's research committee after completion.

The QI project may have the ability to increase profit as increased numbers of appointments are kept. The data from the QI project show that 12%, 15%, and 27% increases in show rate occurred using telehealth or a combination of 'mixed' in-person or telehealth options. Childs et al. (2021) concluded that increased adherence to show rates for appointments occurred in an IOP. The cost to use telehealth is equal to or less than in-person healthcare, making this a way to provide health care that is both beneficial and profitable (O'Reilly et al., 2007). For these reasons, this researcher believes that telehealth is marketable and sustainable.

Project Outcomes

Evaluation

Data were gathered and analyzed to compare to the telehealth intervention for APHP show rate using in-person encounters year 2019 baseline compared to 2020 telehealth and in 2022 (a ‘mix’ of telehealth or in-person encounters). Baseline data for IPBH unit readmission rate year 2019 was gathered and analyzed to compare to 2020-2022 with the intervention of telehealth used in APHP. Baseline and comparison data for the survey on providers’ perceived satisfaction and efficacy of telehealth used two groups: APNs and physicians compared to social workers. The survey based on a five-point Likert scale. Data for all groups were collected, analyzed and compared with group data for the survey (see Appendix D).

Results

This retrospective observational study used anonymized data for the QI project. Participants consisted of psychiatric patients admitted to the APHP at NNJMC. Data collected for the QI initiative was not done only for this project but for use by the HCO. The QI project initiator was approved to conduct this project from the NNJMC Western Region Research Council, NNJMC IRB committee, and the Director of NNJU’s DNP Program.

Retrospective deidentified data of show and no-show rates baseline (March 2019-February 2020) for in-person initial admission to APHP was gathered, analyzed, and compared to telehealth visits (Period I: April 2020-March 2021). March 2020 was not included as it consisted of mixed data at the start of telehealth, giving it the potential to create bias in the results. In response, the APN project initiator decided to collect mixed data for another six months (Period 2: January-June 2022), which consist of either telehealth or in-person encounters.

APHP Data

The difference from pandemic periods 1 and 2 and the pre-pandemic period were determined, using a 95% confidence interval (*CI*). For the pre-pandemic period, 486 out of 854

(57%) ‘shows’ were reported. In period 1 (telehealth), the show rate was 339 out of 493 (69%), and in period 2 (mixed), the rate was 145 out of 173 (84%). Statistically significant differences in show rates during telehealth period 1 compared to the pre-pandemic (12%, 95% *CI*: 7% to 17%) and mixed telehealth period 2 to pre-pandemic: 27% (95% *CI*: 20% to 33%).

The intervention of telehealth produced a 12% increase in show rate for period 1 in 2020, compared to the pre-pandemic baseline year. The increase occurred despite a reduction of nearly half in the number of the patients seen in 2019 (854) and 2020 (491). The total number of possible appointments per year consisted of a combination of show and no-show data.

The results of mixed data had a 27% increase in show rate in the APHP compared to pre-pandemic in-person data, and a 15% increase in show rate compared to telehealth used alone in period 1. Both results, 27% and 15%, are statistically significant. Telehealth intervention alone (period 1) had a 12% increase in show rate compared to the in-person pre-pandemic. It is possible that further improvement in show versus no-show data for initial evaluations may be realized in the future.

30-day Readmissions to the IPBH Unit

Thirty-day readmission to the IPBH unit is an important metric monitored by hospitals, managed care facilities, CMS, and third-party payers (The Moran Company, 2013). Currently, 30-day readmissions trigger penalties by CMS for some diagnoses such as acute myocardial infarction, heart failure, and chronic obstructive pulmonary disease, with others potentially being added to the group (HRRP, 2022). According to HRRP, the initiative and 3% penalty for this metric is designed to motivate HCOs to work toward a higher standard of care for patients and to prevent unnecessary re-admissions to hospitals.

At this time, 30-day readmissions to hospitals are not penalized for psychiatric diagnoses (The Moran Company, 2013). If a psychiatric patient is readmitted to a hospital within 30 days for a medical diagnosis, this can be penalized. However, the 30-day metric is closely monitored by psychiatric care facilities and HCOs to find ways to identify patients who are at-risk for readmission, and to predict and prevent unnecessary readmissions (The Moran Company, 2013). The reported estimate of yearly costs for psychiatric care was \$225 billion dollars in the U. S. (NAMI, 2021; Open Minds, 2020). The estimated costs of mental health disorders, including inpatient and outpatient care, is \$201 billion per year (Roehrig, 2016). According to The Moran Company (2013), CMS expected the savings from reduced readmissions using a variety of outreach intervention programs was estimated to be \$280 million in the first year.

Before the pandemic, there had been little research on telehealth. In the future, further study and publication on this topic and 30-day readmissions to IPBH units may show ways to decrease the burden of disease for patients and financial burden on healthcare budgets. For NNJMC, per year cost for 30 day-readmissions is estimated at \$558,000.00 using a \$15,500.00 estimated cost for each re-admission (pair of admissions) to the unit (The Moran Company, 2013).

The project initiator gathered and analyzed data on 30-day readmissions to the IPBH to examine whether any significant change occurred during the pandemic, and to have a baseline with which to compare future changes. NNJMC had a 2.5% increase in readmissions when comparing baseline to pandemic years, which was found to not be statistically significant. In 2019, there was a 7.5% readmission rate to the IPBH unit. Yet, between 2020-YTD 2022, the annual rate was 10% or lower each year.

Several factors may have negatively impacted the readmission rates. One element may be the high levels of stress in the community (also seen worldwide) during the pandemic. There was also an increase in substance use during the pandemic, as well as higher numbers of patients treated in non-psychiatric beds in NNJMC. This increased volume of psychiatric patients treated in the ER and on the hospital medical floors (scatter beds) are factors that could have influenced the 30-day readmission rate to the IPBH unit (The Moran Company, 2013). Considering these factors, it is surprising that the 30-day readmission rate was no higher than 10%.

Scatter bed census is not always part of the 30-day readmission rate because these patients are not uniformly admitted with psychiatric diagnoses; medical diagnoses are often used (The Moran Company). The percent of patients readmitted by year were compared and tested for statistical significance using chi square. Thirty-day readmissions to IPBH unit for 2019-YTD 2022 were analyzed. Readmission rates were similar for all periods, averaging 9%. There were no statistically significant differences ($p = .61$).

The QI project manager surveyed providers to assess perceived satisfaction and efficacy using telehealth. The survey data were gathered and analyzed for the telehealth intervention. Two groups of providers participated. The first group included five APNs and three physicians. The second group included 16 social workers. The total sample size was 24. 100% of providers participated. The survey used a five-point Likert scale to gather data on telehealth's perceived ease of use, satisfaction, and its efficacy to assess and treat patients. The survey also asked participants to comment on the questions. For example, they were asked if they would use telehealth after the pandemic, if available. The majority responded that they would do so. The survey questions showed an overall positive perception of efficacy and satisfaction with

telehealth for all stakeholders. All surveys were completed and the 84% of providers favored telehealth's use, efficacy and satisfaction.

Comments about telehealth from the survey were that it could be improved in these ways: increase availability of computers, improve Wi-Fi connection and staff knowledge to be able to set up video calls. The comments also focused on telehealth issues for patients, such as: difficulty to use with high illness acuity, computer illiteracy, and patient not having access to a phone or computer, poor dexterity, and poor hearing or vision.

Survey Data Analysis

The results were similar between the groups: 84% of the scores were a four and five on the five-point Likert scale, with a 95% (CI: 78%-89%) and showed a strong overall positive response about telehealth and its perceived efficacy. Comments from the survey highlight the limitations in its use noted above. It is also reasonable to assume that patients diagnosed with paranoia, psychosis, or fears of thought broadcasting or insertion would not be good candidates to use telehealth.

Summary, Conclusions, and Recommendations

A review of the literature provides understanding of the clinical benefits of using telehealth to increase access to healthcare. Telehealth has been shown to be satisfactory and efficacious to assess and treat psychiatric patients, as well as useful to treat a variety of disorders such as anxiety among cancer survivors and caregivers from a variety of backgrounds. Show rate adherence increased using telehealth (Childs et al., 2021). The cost to providers of telehealth appointments is reduced by 10%, according to O'Reilly (2007).

Data for the IPBH unit at NNJMC for 30-day readmissions was not statistically significant during the pandemic compared to the pre-pandemic rate, despite an increase of 2.5%

from the 2019 baseline. Survey results demonstrated satisfaction and efficacy for providers using telehealth. However, further refinements are needed to optimize telehealth use, especially with aging patients and those with psychoses. The data confirmed increases in show rates of 12%, 15%, and 27% for the APHP compared to 2019 in-person visits. This QI project collected data which showed an increase in access to health care took place with telehealth. Telehealth providers in this project agreed that if it were available to use after the pandemic, they would do so.

The IPBH unit 30-day readmission rate by year during the pandemic compared to 2019, despite a 2.5% increase over baseline. The use of scatter beds to treat co-morbid psychiatric patients in the ER and on medical floors in the hospital have medical diagnoses attributed to them, and therefore are not usually part of the psychiatric 30-day readmission data. According to the data, there is no correlation between telehealth use and 30-day readmissions to the IPBH unit. However, the latter represents a significant cost to NNJMC (\$558,000.00/yr.) with an estimated \$15,500.00 per index and readmission pair cost (The Moran Company, 2013).

There is not a current 30-day readmission financial penalty for psychiatric patients from CMS. However, the 30-day metric warrants monitoring for trends and ways to predict which patients may be at-risk of being readmitted. It would also be beneficial to research which interventions could help prevent non-compliance and decompensation, which may be among the reasons for 30-day readmissions (The Moran Company, 2013). Some at-risk patients have been diagnosed with schizophrenia, mood disorders, and depression. Other risk factors for this metric are being young, male, disabled, housing insecure, with poor support by family or friends.

Sustainability

During this QI project, there was an increase in show rate for the APHP. O'Reilly et al. (2007) reported a 10% reduced cost to deliver care via telehealth. The survey data showed that 84% of providers who used telehealth perceived it to be satisfactory and efficacious for assessing and treating patients and would use it after the pandemic. This intervention also increased profitability because more appointments were kept. Data from this project revealed that 12%, 15%, and 27% increases in APHP show rate occurred using telehealth or a combination of 'mixed' in-person or telehealth options. Childs et al, (2021) confirmed that increased adherence to show rates for appointments occurred in an IOP. The cost to provide telehealth is equal to or less than in-person healthcare, which makes it a viable and profitable way to conduct healthcare (O'Reilly et al., 2007). This project has shown telehealth to be sustainable and that it has potential to be marketed for other uses.

To support the sustainability of telehealth, the initiator of this QI project should serve as an educator so more providers can adopt it and be able to work through any challenges with technology, coding, billing, documentation and use of HIPAA privacy protection for patients. Engaging other staff with telehealth is a valuable way to support others as needed, which can promote more widespread acceptance of telehealth. As society continues to become more adept with technology and reliant on its convenience and ease of use, providers can confidently adopt this mode of meeting with patients, which also makes it both viable and sustainable.

Recommendations

The QI project gathered and analyzed data on show rates for the APHP at NNJMC. telehealth was used as an intervention to increase access to healthcare. The importance of increasing access to psychiatric healthcare using telehealth is that it may contribute to a decrease

in 30-readmissions to IPBH units. Data from this project support a request for a practice policy change to allow telehealth to be used permanently and increase access to healthcare.

As telehealth has only recently been used during the Covid-19 pandemic, there has been limited empirical evidence. With recent increased interest in telehealth, the researcher recommends further research be done to increase the literature on telehealth. Further research can also lead to greater support and wider adoption. Telehealth has the potential to become an accepted method to see and treat patients permanently post-Covid and increase access to healthcare if it becomes permanent. This change can result in significant improvement in the burden of psychiatric illness for individuals and communities.

Additionally, if telehealth is used permanently, it could also reduce result in savings for patients, HCOs, and the national healthcare budget. A SWOT analysis was used in this QI project as part of a proposal to the management of NNJMC to allow permanent use of telehealth. Due to the pandemic, and before the project, telehealth was being used by NNJMC staff. However, continuing its use would require approval and support by the HCO, which would then permit marketing of the service.

This investigator recommended that the HCO use telehealth permanently. However, approval must first be granted by government authorities, CMS, and third-party payers. Only then can HCOs do the same. After approval by the HCO, a comprehensive marketing campaign would begin and share information with the community, referring providers, partners in community, the HCO system using full-page advertising on its intranet, and with interdisciplinary teams.

Advertising on social media, radio, television, internet, and billboards would also be part of a marketing plan. Printed flyers, posters placed in lobbies of the HCO and reception areas

would promote telehealth. Given the supporting data and conclusions from this QI project, the project initiator recommends the HCO adopt telehealth post-pandemic to increase access to healthcare generally, and particularly psychiatric care.

Conclusion

The widespread potential use of telehealth was made clear in this project. Future research could include consultations with psychiatric patients in the medical hospital and ER. Telehealth could be used to decrease the time needed to complete a consultation on medical floors of hospitals and the ER. HCOs monitor the time needed for consultations, beginning when first ordered. There is an identified lag from when a consult is ordered to when it is completed at NNJMC. Use of telehealth could improve the ‘time to consult,’ especially in the ER where an effort to discharge or admit patients to the hospital is an important metric and monitored closely.

The successful completion of this QI project suggests the potential of telehealth use in other fields of healthcare, which would increase access to medical care for a much broader spectrum of patients and involve a broader range of staff and stakeholders. There is a potential for telehealth to affect traditional healthcare in a strongly positive way and truly become a revolution that increases access to healthcare and reduce healthcare costs to society.

Furthermore, application of telehealth is possible on a national and global scale to reach many patients in remote areas with high-quality, specialty care. Continuing research on telehealth should be conducted with publication in mind to augment existing studies.

References

- Agency for Healthcare Research and Quality. *Medical Expenditure Panel Survey: table 3: total expenses and percent distribution for selected conditions by type of service: United States, 2013* [Internet]. Rockville (MD): AHRQ; 2016 Apr 21 [cited 2016 Apr 21]. http://meps.ahrq.gov/mepsweb/data_stats/tables_compendia_hh_interactive.jsp?_SERVICE=MEPSSocket0&_PROGRAM=MEPSPGM.TC.SAS&File=HCFY2013&Table=HCFY2013_CNDXP_C&_Debug=
- Albert, N. M., Pappas, S. H., Porter-O'Grady, T., & Malloch, K. (2020). *Quantum leadership creating sustainable value in health care* (6th. ed.). Jones & Bartlett Learning.
- American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). <https://doi.org/10.1037/0000165-000>
- Boushey, H., & Glynn, S. (2012). *There are significant business costs to replacing employees.* <https://www.americanprogress.org/wp-content/uploads/2012/11/CostofTurnover.pdf>
- Bryans, W. (2018). What is a budget? In *Practical budget management in health and social care* (pp. 31–39). Routledge. <https://doi.org/10.4324/9781315377926-5>
- Chambers, S., Girgis, A., Occhipinti, S., Hutchinson, S., Turner, J., McDowell, M., Mihalopoulos, C., Carter, R., & Dunn, J. (2014). A randomized trial comparing two low-intensity psychological interventions for distressed patients with cancer and their caregivers. *Oncology Nursing Forum*, *41*(4), E256-E266. <https://doi.org/10.118/14.onf.e256-E266>
- Childs, A. W., Bacon, S. M., Klingensmith, K., Li, L., Unger, A., Wing, A. M., & Fortunati, F. (2021). Showing up is half the battle: The impact of telehealth on psychiatric appointment attendance for hospital-based intensive outpatient services during covid-19.

- Telemedicine and e-Health*, 27(8), 835–842. <https://doi.org/10.1089/tmj.2021.0028>
- Chism, L. A. (2019). *The Doctor of Nursing Practice, a guidebook for role development and professional issues* (4th ed.). Jones & Bartlett Learning.
- Coronavirus Disease 2019 (COVID-19)*. (n.d.). <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>
- Cuevas, C., Arredondo, M., Cabrera, M., Sulzenbacher, H., & Meise, U. (2006). Randomized clinical trial of telepsychiatry through videoconference versus face-to-face conventional psychiatric treatment. *Telemedicine and e-Health*, 12(3), 341–350.
<https://doi.org/10.1089/tmj.2006.12.341>
- Haim, A. (2005). *Marketing kit for dummies* (2nd ed.). Wiley.
- Hawking, S., & Mlodinow, L. (2008). *A briefer history of time by Hawking, Stephen, Mlodinow, Leonard* (17th ed.). Bantam Press.
- Hospital Readmissions Reduction Program (HRRP)*. (2012). <https://www.cms.gov/medicare/qualit-initiatives-patient-assessment-instruments/value-based-programs/hrrp/hospital-readmission-reduction-program>
- Kolakowski, D. (2016). Constructing a nursing budget using a patient classification system. *Nursing Management*, 47(2), 14–16.
<https://doi.org/10.1097/01.numa.0000479449.43157.b5>
- Koonin, L. M., Hoots, B., & Tsang, C. A. (2020). *Trends in the use of telehealth during the emergence of the covid-19 pandemic: United States, January-March 2020*.
<https://www.cdc.gov/mmwr>
- Looi, J., Allison, S., Bastiampillai, T., Pring, W., Reay, R., & Kisely, S. R. (2021). Increased Australian outpatient private practice psychiatric care during the covid-19 pandemic:

- Usage of new mbs-telehealth item and face-to-face psychiatrist office-based services in quarter 3, 2020. *Australasian Psychiatry*, 29(2), 194–199.
<https://doi.org/10.1177/1039856221992634>
- Moran, M. (2020). CMS lifts restrictions on telehealth for psychiatry, other services to meet covid-19 challenge. *Psychiatric News*, 55(7). <https://doi.org/10.1176/appi.pn.2020.4a8>
- Moran, M. (2021). CMS proposes permanent payment for telehealth services allowed during pandemic. *Psychiatric News*, 56(10). <https://doi.org/10.1176/appi.pn.2021.11.18>
- National Alliance on Mental Illness (NAMI). (2021, May 10). National Alliance on Mental Illness. [nami.org/Press-Media/In-The-News/2021/What-you-need-to-know-about-the-cost-and-accessibility-of-mental-health-care-in-America](https://www.nami.org/Press-Media/In-The-News/2021/What-you-need-to-know-about-the-cost-and-accessibility-of-mental-health-care-in-America). <https://www.nami.org>
- O'Brien, M., & McNicholas, F. (2020). The use of telepsychiatry during covid-19 and beyond. *Irish Journal of Psychological Medicine*, 37(4), 250–255.
<https://doi.org/10.1017/ipm.2020.54>
- Open Minds. (2020) The U.S. Mental Health Market, Market Intelligence Report. Available at: <https://openminds.com/intelligence-report/the-u-s-mental-health-market-225-1-billion-in-spending-in-2019-an-open-minds-market-intelligence-report/>
- O'Reilly, R., Bishop, J., Maddox, K., Hutchinson, L., Fisman, M., & Takhar, J. (2007). Is telepsychiatry equivalent to face-to-face psychiatry? results from a randomized controlled equivalence trial. *Psychiatric Services*, 58(6), 836-843.
<https://doi.org/10.1176/ps.2007.58.6.836>
- Peplau, H. E. (1997). Peplau's theory of interpersonal relations. *Nursing Science Quarterly*, 10(4), 162–167. <https://doi.org/10.1177/089431849701000407>

- Qian, L., Sy, L. S., Hong, V., Glenn, S. C., Ryan, D. S., Morrissette, K., Jacobsen, S. J., & Xu, S. (2021). Disparities in outpatient and telehealth visits during the covid-19 pandemic in a large integrated health care organization: Retrospective cohort study. *Journal of Medical Internet Research*, 23(9), e29959. <https://doi.org/10.2196/29959>
- Ramsey, D. (2021, December 29). *How to budget*. Ramsey Solutions. <https://www.daveramsey.com/blog/what-is-a-budget>
- Roehrig, C., Miller, G., Lake, C., & Bryant, J. (2009). National health spending by medical condition, 1996–2005. *Health Affairs*, 28(2), w358–67. doi:10.1377/hlthaff.28.2.w358
- Roehrig, C. (2016). Mental disorders top the list of the most costly conditions in the United States: \$201 billion. *Health Affairs*, 35(6), 1130–1135. <https://doi.org/10.1377/hlthaff.2015.1659>
- Rogers, E. M. (2003). *Diffusion of innovation* (5th ed.). Free Press.
- Schmidt, N. A., & Brown, J. M. (2019a). *Evidence-based practice for nurses: Appraisal and application of research* (4th ed.). Jones & Bartlett Learning.
- Schmidt, N. A., & Brown, J. M. (2019b). *Evidence-based practice for nurses: Appraisal and application of research* (4th ed.). Jones & Bartlett Learning.
- Sehlo, M., Youssef, U., Elshami, M., Elrafey, D., & Elgohari, H. (2021). Telepsychiatry versus face to face consultation in covid-19 era from the patient’s perspective. *Asian Journal of Psychiatry*, 59, 102641. <https://doi.org/10.1016/j.ajp.2021.102641>
- Sfetcu, R., Musat, S., Haaramo, P., Ciutan, M., Scintee, G., Vladescu, C., Wahlbeck, K., & Katschnig, H. (2017). Overview of post-discharge predictors for psychiatric re hospitalisations: A systematic review of the literature. *BMC Psychiatry*, 17(1). <https://doi.org/10.1186/s12888-017-1386-z>

The Moran Company. (May 2013). Medicare psychiatric patients & readmissions in the inpatient psychiatric facility prospective [report]. National Association of Psychiatric Health Systems. <https://www.themorancompany.com>

von Kodolitsch, Y., Bernhardt, A., Robinson, P., Kölbl, T., Reichenspurner, H., Debus, S., & Detter, C. (2015). Analysis of strengths, weaknesses, opportunities, and threats as a tool for translating evidence into individualized medical strategies (i-swot). *AORTA*, 3(03), 98–107. <https://doi.org/10.12945/j.aorta.2015.14.064>

Xu, S., Glenn, S., Sy, L., Qian, L., Hong, V., Ryan, D. S., & Jacobsen, S. (2021). Impact of the covid-19 pandemic on health care utilization in a large integrated health care system: Retrospective cohort study. *Journal of Medical Internet Research*, 23(4), e26558. <https://doi.org/10.2196/26558>

Your rights under HIPAA. (2008, May 7). HHS.gov/hipaa. <https://www.hhs.gov/hipaa/for-individuals/guidance-materials-for-consumers/index.html>

Appendices

Appendix A

Implementation Plan Logic Model

Inputs	Outputs		Outcomes -- Impact		
	Activities	Participation	Short	Medium	Long
<p>Inputs</p> <p>Abided by National and local health recommendations for safety due to covid 19 danger of in person healthcare</p> <p>Have used remote care or telehealth via temporary pilot during pandemic</p> <p>Analyzed financial resources</p> <p>Used social distancing for safety</p> <p>Worked with leadership and administrative, and financial support</p> <p>Created a Literature Review, approval by: Dir. DNP Program, Preceptor, IRB, NNJMC Research Council,</p>	<p>Activities</p> <p>Used: temporary pilot of telehealth, social distancing, PPE, due to covid 19 spread of virus, CDC safety guidelines</p> <p>Video or telephone encounters, meetings and used emails</p> <p>Budget /marketing were planned</p> <p>Used office space, remote workspace, telephone or video formats, IT PCs, billing and coding support</p> <p>Worked with leaders to gain approval for project, to gather data APHP; IRB waiver, discussed with Dir. of DNP program and Preceptor</p>	<p>Participation</p> <p>Worked to request HCO approval of policy change to use telehealth permanently post covid 19 pandemic</p> <p>Acceptance by HCO, CMS, and 3rd party payors for: providers, staff and patients and participated in telehealth care services</p> <p>Have improved health of patients due to increased access to healthcare, improved compliance of healthcare visits, medication treatment, lab monitoring,</p> <p>Participants include: All stakeholders (i.e.. leaders, APNs, MDs, clinicians, staff, patients and outside agencies)</p>	<p>Short</p> <p>Have improved Show rate for initial appointments in APHP with use of telehealth</p> <p>Have improved patient understanding and acceptance for need of compliance with follow up care and taking medication as prescribed, lab monitoring,</p> <p>Have improved compliance for treatment provides for better mental health</p> <p>Work towards improved rate of decompensation and 30-day rehospitalization to In Patient Psychiatric Unit.</p>	<p>Medium</p> <p>Have continued to improve HCO financial income and healthcare due to fewer missed appointments in APHP</p> <p>Have seen greater numbers of patients served in community for mental health with less decompensation due to greater access to healthcare using telehealth</p> <p>Goal to expand use of telehealth across other areas within psychiatry due to acceptance as it is used currently</p> <p>Have seen improved financial income which allows for budget to be used for other needs of healthcare organization (HCO)</p>	<p>Long</p> <p>Have optimized financial income due to higher percentage of initial appointments realized in APHP</p> <p>Have improved status in healthcare grades for Show rates vs loss of income for missed appointments</p> <p>Have improved overall community mental health with less decompensation due to greater access to healthcare using telehealth</p> <p>Look to expand use of telehealth across other fields of medicine as it gains acceptance and approval by CMS and 3rd party payers</p>
<p>Assumptions</p> <p>Patients are accepting of telehealth and are adequately cared for, CMS and 3rd party payers and NNJMC yet to approve policy to continue use of telehealth permanently after covid 19 pandemic is no longer a danger to all stakeholders.</p> <p>Direct cost of Mental illness is continuing to increase with less-than-optimal management of patients, decreased access to healthcare due to shortage of providers, challenge of patients to travel to appointments due to cost, not able to drive or manage a ride, agoraphobia, fear of covid 19,</p> <p>The QI project used same providers (APNs and MDs) as pilot of telehealth, which provided telehealth adequately using video or telephone encounters, which increased access to mental health care. A decrease in burden of illness in community with reduced</p>			<p>External Factors</p> <p>Due to the Covid 19 virus worldwide health disaster, CDC mandated all stakeholders to be socially distant for safety, CMS (Medicare /Medicaid) and other 3rd party payers relied on approval of payment for healthcare encounters using a pilot of temporary telehealth. Risk of this temporary approval by CMS and government agencies to not be approved for permanent use post Covid 19 pandemic.</p> <p>Request support of administration staff for telehealth billing, coding, documentation of HIPAA, patient acceptance of session, privacy of method.</p> <p>Budget competes for limited funding.</p>		

financial burden, shared short, medium and long term to 3rd party payers and the HCO and patients.

Noncompliance improved due to increased access to mental health care via telehealth.

Telehealth improved access to initial appointments and, lab monitoring including higher rate of show for initial evaluations.

Decreased recidivism 30 days to in-patient psychiatric unit due to improved mental health and decreased decompensation to occur after pandemic.

Telehealth used and has been accepted by stakeholders and will be accepted for other fields of medicine which will improve access to health care and decrease burden of illness to society along with financial burden.

All healthcare team members work toward a common goal of improved access and healthcare for patients.

Continue to adjust to changes from administration of local hospital, government and laws and regulations for telehealth use, CDC and CMS.

Agendas of others to compete with telehealth (resistance and nonacceptance)

Continued staff shortage of APNs and MDs.

Continued to not be able to meet growing needs of mental health community

Continued to face Covid 19 spread and burnout which causes further staffing shortage.

Appendix B

Project Budget

Resources	Estimated expense	Actual expense
APN Project Coordinator: estimated hours at \$70/hr x 250 hrs	\$17,500.00	\$0
Administrators/executives work to set up telehealth \$150/hr x 10hr =	\$1500.00	\$0
Data Analyst: estimated 8 hrs at \$40/hr =	\$320.00	\$0
Educational material: handouts	\$500.00	\$0
Internet (Wi-Fi) cost (used hospital Wi-Fi)	\$100.00	\$0
APN Project Coordinator: fuel cost for travel = 23 miles one way (x 2) for 12 weeks 2x week at @23 miles/gallon (1 gallon = \$4.20)	\$202.00	\$202
Office supplies, paper products	\$200.00	\$200
APHP Coordinator assistance	2 hr x \$70.00 = \$140.00	\$0
APHP Lead clinician data gathering	4 hr x \$50.00 = \$200.00	\$0
AHS Behavior Health Exec. Dir.	6hr x \$150.00 = \$900.00	\$0
HCO Psychiatry Dir.	2hr x \$250.00 = \$500.00	\$0
MD. Preceptor	10hr x \$250.00 = \$2500.00	\$0
IT staff support/training	10hr x \$40.00 = \$400.00	\$0
IT equipment one time cost	\$5000.00	\$0
IT and Marketing support	30hr x \$40.00 = \$1200.00	\$0
Additional staff support	10hr x \$20.00 = \$200.00	\$0
Billing and coding staff	10hr x \$40.00 = \$400.00	\$0
Total	\$31,762.00	\$402.00

Appendix C

IRB Waiver

IRB Waiver Determination

-----Original Message-----

To: Allegra, Annette <Annette.Allegra@atlantichhealth.org>

Sent: Mon, Dec 6, 2021 5:47 pm

Subject: Fwd: HRP-216 Non Human Subjects Research-Exemption Self-certification 5-6-20 (003).pdf

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From: IRB.exemptions <IRB.exemptions@atlantichhealth.org>

Sent: Monday, December 6, 2021 8:24 AM

To: Allegra, Annette; IRB.exemptions

Subject: RE: HRP-216 Non Human Subjects Research-Exemption Self-certification 5-6-20 (003).pdf

This serves as an acknowledgement that your submission was received and that based on your determination, IRB approval is not required.

Should you require IRB review and approval, please submit a full application to the IRB. For more information about the IRB review and submission process, please contact Anita Richards, MAS, CIP at (973) 660-3128.

Atlantic Health System is at the forefront of medicine, setting standards for quality health care in New Jersey, Pennsylvania and the New York metropolitan area. Powered by a workforce of 18,000 team members and 4,800 affiliated physicians dedicated to building healthier communities, Atlantic Health System serves more than half of the state of New Jersey including 11 counties and 4.9 million people. The not-for-profit system offers more than 400 sites of care, including seven hospitals: Morristown Medical Center in Morristown, NJ, Overlook Medical Center in Summit, NJ, Newton Medical Center in Newton NJ, Chilton Medical Center in Pompton Plains, NJ, Hackettstown Medical Center in Hackettstown, NJ, Goryeb Children's Hospital in Morristown, NJ, and Atlantic Rehabilitation Institute in Madison, NJ.

Atlantic Medical Group, comprised of 1,000 physicians and advanced practice providers, represents one of the largest multi-specialty practices in New Jersey and joins Atlantic Accountable Care Organization and Optimus Healthcare Partners as part of Atlantic Alliance, a Clinically Integrated Network of more than 2,500 health care providers throughout northern and central NJ. Atlantic Health System provides care for the full continuum of health care needs through 16 urgent care centers, Atlantic Visiting Nurse and Atlantic Anywhere's Virtual Visits. Facilitating the connection between these services on both land and air is the transportation fleet of Atlantic Mobile Health. Atlantic Health System leads the Healthcare Transformation Consortium, a partnership of six regional hospitals and health systems dedicated to improving access and affordability and is a founding member of the PIER Consortium – Partners in Innovation, Education, and Research – a streamlined clinical trial system that will expand access to groundbreaking research across seven health systems in New Jersey. Atlantic Health System has a

medical school affiliation with Thomas Jefferson University and is home to the regional campus of the Sidney Kimmel Medical College at Morristown and Overlook Medical Centers and is the official health care partner of the New York Jets.

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Appendix D

Providers Telehealth Survey

<u>Providers Survey combined</u>	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
<u>Survey Telehealth Social workers =green</u>					
<u>Survey APNs & MDs = gold</u>					
1). I think Telehealth increases access for patients.	0	0	1 1	3 2	12 6
2). I think Telehealth is satisfactory to use to assess and treat patients. Comments:	1 1	0 2	2 2	9 3	4 3
3). If Telehealth is available to use after Covid 19 pandemic I would use it.	1 1	0	1 1	4 1	10 6
4.) I think Telehealth is accepted by the patients I treat.	1 1	0	1 1	9 5	5 2
5.) I think the patients I see find Telehealth is satisfactory. Comments:	0	1 1	5 1	6 4	4 3
6.) The No Show rate for appointments has decreased during use of Telehealth.	1 1	1 1	0 1	8 3	6 4
7.) The process to use Telehealth has areas which need to be improved. Comments:	0	2 2	2 1	8 5	4 2
<u>Social workers -Total number of responses</u>	4 0	4 2	12 5	47 23	45 26
<u>APNs & MDs - Total number of responses</u>					
<u>Combined # responses for all Providers</u>				70	71
APNs & MDs - Total Scores	0	4	15	92	130
Social workers Total Scores	4	8	36	188	225

Appendix E

Tip Sheet for Telehealth Encounters

Tip Sheet for Telehealth Encounters: Use Healthcare organization accepted method and documentation for telehealth encounters.

Prior to virtual encounter: Verbal consent obtained from patient or guardian. The patient's identity must be confirmed. Identify yourself and where you are calling from (i.e. hospital) and what purpose- initial or follow up appointment.

HIPAA consent to use telehealth for appointment: ask patient their name, date of birth and if they are in a secure and private place to speak freely. Registration for encounter: Patient should have been asked for consent to participate in a telehealth encounter and told that this will be billed as if it were in-person. (*Your rights under HIPAA, 2008*).

Documentation: use appropriate notation for: billing, coding, private place for appointment, consent of HIPAA, Zoom video or telephone and how much time (i.e. 30 - 60 minutes), patient is in a private place for encounter, what state patient and provider are each in (i.e. New Jersey), any additional participants attending either patient or provider.

Tips for conducting telehealth encounter: Use approved means of video. (Document) Assessment visually and or ask questions about patient's dress, eye contact, muscle tone, station and gait (ask if they use a cane, walker or wheelchair). Assess extrapyramidal side effects (EPS) abnormal body movements, shaking, tremors or pacing cannot sit still. Ask what is the baseline for patient. Do they look sad or anxious, guarded or evasive. Ask if they have rash or fever (especially if taking Lamictal).

Healthcare Providers should: give good eye contact, build rapport to help patient feel at ease (therapeutic use of self); do not multitask.