

USING A PATIENT-CENTERED, EDUCATIONAL APPROACH TO SUPPORT
PATIENTS WITH MENTAL HEALTH CONDITIONS IN ADHERENCE TO
PRESCRIBED INTERVENTIONS

by

Magda Lina Villegas

Copyright © Magda Lina Villegas 2023

A DNP Project Submitted to the Faculty of the

COLLEGE OF NURSING

In Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF NURSING PRACTICE

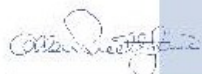
In the Graduate College

THE UNIVERSITY OF ARIZONA

2023

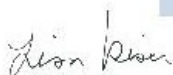
THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the DNP Project Committee, we certify that we have read the DNP project prepared by Magda Lina Villegas, titled Using a Patient-Centered, Educational Approach to Support Patients with Mental Health Conditions in Adherence to Prescribed Interventions, and recommend that it be accepted as fulfilling the DNP project requirement for the Degree of Doctor of Nursing Practice.



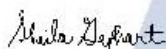
Allen Prettyman, PhD, FNP-BC, FAANP, FNAP

Date: Dec 5, 2022



Lisa H. Kiser, DNP, CNM, WHNP

Date: Dec 5, 2022



Sheila M. Gephart, PhD, RN, FAAN

Date: Dec 5, 2022

Final approval and acceptance of this DNP project are contingent upon the candidate's submission of the final copies of the DNP project to the Graduate College.

I hereby certify that I have read this DNP project prepared under my direction and recommend that it be accepted as fulfilling the DNP project requirement.



Allen Prettyman, PhD, FNP-BC, FAANP, FNAP
DNP Project Committee Chair
College of Nursing

Date: Dec 5, 2022



ARIZONA

ACKNOWLEDGMENTS

I would like to express special thanks and my gratitude to all patients and staff participants, who have given me the opportunity to perform this wonderful Quality Improvement project. I would especially like to give thanks to my wonderful husband and children for all their love and support during this process. Their display of strength through the challenges faced, truly kept me moving forward.

DEDICATION

This project is dedicated to all currently suffering with or have suffered from mental health illnesses.

Asking for help is a sign of strength, not weakness.

TABLE OF CONTENTS

LIST OF FIGURES	8
LIST OF TABLES.....	9
ABSTRACT.....	10
INTRODUCTION.....	12
Background Knowledge and Significance	12
Level Problem.....	14
National.....	14
State.....	14
County.....	15
Practice.....	15
Intended Improvement.....	15
Project Purpose	15
Project Question.....	16
Project Objectives	16
Theoretical Framework.....	16
Health Belief Model	16
Literature Synthesis.....	20
Evidence Search	20
<i>Effectiveness of Patient Education and Follow-up</i>	<i>22</i>
Comprehensive Appraisal of Evidence.....	23
<i>Existing Treatment Options.....</i>	<i>23</i>
Strengths and Weaknesses of the Evidence	24
Gaps and Limitations	24
METHODS	25
Project Design.....	25
Model for Implementation	25
Plan-Do-Study-Act (PDSA) Model.....	26
<i>Plan.....</i>	<i>26</i>

TABLE OF CONTENTS – Continued

<i>Do</i>	27
<i>Study</i>	28
<i>Act</i>	28
Setting and Stakeholders	28
Participants and Recruitment	29
Consent and Ethical Considerations	30
Data Collection	31
Data Analysis	32
RESULTS	33
Outcomes	33
DISCUSSION	39
Summary	39
Limitations	40
DNP Essentials Addressed	40
Conclusions	41
Plan for Sustainability	42
Plan for Dissemination	42
Funding	42
APPENDIX A: SITE APPROVAL LETTER.....	43
APPENDIX B: CONSENT DOCUMENT (KWC STAFF DISCLOSURE AND CONSENT FORM; PATIENT DISCLOSURE AND CONSENT FORM).....	45
APPENDIX C: RECRUITMENT MATERIAL (AGENDA FOR 60-MINUTE IN-SERVICE MEETING; KWC FOLLOW-UP PROTOCOL – STAFF; STAFF ATTENDANCE ROSTER).....	48
APPENDIX D: EVALUATION INSTRUMENTS (POST IN-SERVICE SURVEY – STAFF; POINTS TO ADDRESS WITH KWC PATIENT PARTICIPANTS DURING FOLLOW-UP).....	52

TABLE OF CONTENTS – Continued

APPENDIX E:	PARTICIPANT MATERIAL (PATIENT POST FOLLOW-UP INTERACTION SURVEY – PATIENT PARTICIPANTS; PATIENT POST FOLLOW-UP INTERACTION COMMENTS; OA VERBIAGE FOR PATIENT PARTICIPANTS)	55
APPENDIX F:	LITERATURE REVIEW GRID.....	59
APPENDIX G:	OTHER DOCUMENTS AS APPLICABLE TO THE PROJECT (SUPPORT RESOURCES AND CRISIS HOTLINES; BUDGET FOR QI PROJECT) ...	68
REFERENCES	71

LIST OF FIGURES

Figure 1	<i>Likability of Follow-up Protocol</i>	35
Figure 2	<i>Greatest Strength – Patient Safety (Post Follow-up Interaction)</i>	35
Figure 3	<i>Greatest Strength – Treatment Cost (Post Follow-up Interaction)</i>	36
Figure 4	<i>Relevant for Patient Population (Post Follow-up Interaction)</i>	36
Figure 5	<i>Improvement to Current Treatment Plan</i>	37
Figure 6	<i>Effortless in Implementation</i>	37

LIST OF TABLES

Table 1	<i>Results of Seven Days Post-implementation Survey (KWC Staff)</i>	38
Table 2	<i>Patient Post Follow-up Interaction Survey (Patient Participants)</i>	39
Table 3	<i>Post-implementation Survey (KWC Staff)</i>	39

ABSTRACT

Purpose: The purpose of this quality improvement (QI) project was to present a patient follow-up protocol to an outpatient mental health clinic in southern Arizona.

Background: Psychiatric illnesses affect approximately 450 million individuals globally, a growing mental health concern. There are several reasons why patients do not adhere to their prescribed care plans, which may adversely affect their mental and physical health. Patients may not only experience a reduction in their quality of life but they may also be affected financially, costing \$3,252 to \$19,363, annually per patient. One option for increasing patient adherence includes the incorporation of a systematic follow-up protocol. The follow-up protocol provided patients the opportunity to inquire and be further educated on their prescribed interventions, medications, and procedures.

Methods: This QI project utilized the Plan-Do-Study-Act (PDSA) model to incorporate a change proposal. The implemented change incorporated follow-up educational interactions with patients of Ketamine Wellness Center (KWC), seven days post-stabilization. Healthcare providers within KWC attended a one-hour in-service, educating them on the follow-up protocol process. Both quantitative and qualitative approaches were utilized in the analysis of follow-up protocol efficacy. Self-reported patient data was obtained post-intervention for analysis.

Results: Six KWC staff participants attended the follow-up protocol in-service. Seven patient participants completed the post-follow-up interaction survey, upon completion of their stabilization series. Three potential participants had declined participation in the follow-up project, and one patient had agreed to participate but did not return to the clinic for his follow-up

appointment. Quality improvement project results were beneficial in this setting, based on the consensus of the in-service and post-follow-up protocol surveys submitted by patients and staff.

Conclusions: Implementation of follow-up protocol was beneficial in determining patients' current mental status and mental health needs. But, without a plan for sustainability, the follow-up protocol may not endure longevity.

INTRODUCTION

This quality improvement (QI) project aims to educate staff on the importance of implementing a patient follow-up protocol within a mental health facility in southern Arizona as an effective method of increasing prescribed medication and medical intervention adherence to improve the overall health of their patients. Mental health patients often feel unsupported, suffer from low motivation, and are at a higher risk of experiencing a crisis without the proper follow-up care by trained mental health clinicians (National Center for Quality Assurance [NCQA], n.d.). The project incorporated a patient-specific follow-up protocol that commenced after their initial stabilization series had been completed.

Background Knowledge and Significance

Nearly 450 million individuals are affected by psychiatric illnesses worldwide. Unfortunately, most individuals are likely to be non-adherent to their medications due to a lack of understanding and poor reasoning skills (Semahegn, 2020). Holistically understanding and treating patients by incorporating patient-centered, effective communication methods results in greater patient satisfaction, improved health outcomes, and a reduction in overall health costs (Gandy, 2019). In healthcare, there is great demand for improving the quality of care provided to individuals within our communities. Adherence to and lack of comprehension of prescribed medications and interventions impacts one's quality of health. Confounding interventions must be identified to decrease misunderstanding and non-adherence to prescribed care plans. Patient-centered education on medication and intervention adherence are essential factors influencing positive health outcomes. Providers can deliver quality care by delivering support and education on prescribed medications, reassessment of predetermined goals, and introduction of holistic

measures. Support should include shared decisions between both providers and patients in creating collaborative, patient-centered, comprehensive care plans.

Half (50%) of our population do not take their medications as prescribed, leading to uncertainty about the full potential or benefits of their prescribed medications (Kim, 2020). Mental health disorders are a growing public health concern. Several individuals suffering from mental health illnesses do not adhere to their medication regimen due to side effects, stigma, denial, delayed or lack of efficacy, and out-of-pocket costs (National Alliance on Mental Illness [NAMI], n.d.). It is estimated that an additional annual cost is acquired for individuals who do not adhere to their prescribed medication or therapy plan, ranging from \$3,252 to \$19,363 per patient (Cutler, 2018). Medication non-adherence is one of the significant barriers faced by individuals suffering from psychiatric disorders. According to (Semahegn, 2020), non-adherence to prescribed medications lead to exacerbations of illnesses, along with increasing the following, morbidity and mortality, the risk for hospitalization admissions, co-morbid conditions, and suicidal ideations. These factors resulted in a reduction in patients' quality of life. Within the United States (US), 3.8 billion prescriptions are written each year, approximately one in five new prescriptions are not filled, and only half (50%) of those prescriptions are taken as prescribed (Neiman, 2017).

Facilities that have utilized coordinated care, such as pharmacist-led patient education, have increased adherence to prescribed medications. Also, the combination of educating on the importance of medication adherence, along with family involvement, has improved patients' adherence. Patients' lack of understanding and perceived stigma toward prescribed psychiatric medications can sometimes hinder treatment adherence (Semahegn, 2020). One option for

increasing medication and prescribed intervention adherence is incorporating a systematic follow-up protocol, allowing patients to inquire further and better understand their medications, interventions, and procedures.

Level Problem

National

Mental illness within the United States (US) is widespread. Almost one in five adults suffers from a mental illness, accounting for 52.9 million Americans in 2020 (National Institute of Mental Health [NIMH], n.d.). According to the National Institute of Mental Health (NIMH), in 2020, adults with serious mental illness (SMI) estimated at 14.2 Million in the US. Unfortunately, individuals may be at an increased risk of readmission into psychiatric facilities without proper follow-up care. One study incorporated a multistate national sample of psychiatric hospitals and found that approximately 8% of patients discharged from inpatient care facilities were readmitted to psychiatric facilities 30 days post-discharge (Ortiz, 2019).

State

One notable fact is that 40.8% of adults in Arizona suffer from mental illness symptoms, and 27.4% were unable to receive any type of therapy or counseling (NAMI, n.d.). According to NAMI, in 2021 57.8% of young adults aged 12-17 years suffered from depression, and did not receive any type of care or therapy. According to the Center for Rural Health, in 2019, 4.43% of adults suffering from mental health illnesses within Arizona struggled with suicidal ideations (Koch, 2020). One protective factor that the Center for Rural Health recommends is incorporating education, which can help promote behavioral health.

County

In Pima County, 12% of members within this community reported frequent bouts of mental distress (Healthy Pima, 2021). According to Healthy Pima, the tenth leading cause of death in this community is suicide. Individuals within Pima County stated they suffered from poor mental health 3.9 out of 30 days, with symptoms such as stress, poor emotions, and depression (Pima County, 2018). And lastly, according to the Pima County Needs Assessment, proposed solutions include increasing access to behavioral services and increasing the number of providers with specialized training.

Practice

One outpatient healthcare facility in southern Arizona that cares for mental health and chronic pain patients communicates with patients 24 hours after completing their stabilization series. The stabilization series entails four to six initial Ketamine infusions, upon approval for mental health treatments by both the clinical psychologist and medical director. Patient goals and medication plans are established early within the plan of care. Unfortunately, after the initial 24-hour follow-up communication method, patients are not contacted again concerning how their treatment and medication regimen is progressing. A common complaint from patients of this facility is that they request further follow-up from providers to address medications, treatment options, and established goals.

Intended Improvement

Project Purpose

This quality improvement project aimed to stress the significance of implementing a patient follow-up protocol within a mental health outpatient facility in southern Arizona as an

effective method of increasing prescribed medication, medical and holistic intervention adherence, and improving the overall health of their patients.

Project Question

The project question for this quality improvement plan was: does incorporation of a follow-up protocol increase mental health patients' adherence to prescribed interventions? An additional inquiry of this project is whether it will help keep patients accountable in attending their follow-up appointments, along with helping them reach their predetermined goals.

Project Objectives

- 1) Implement education concerning the follow-up protocol to critical members within the facility.
- 2) Conduct a post-follow-up survey to assess patients' knowledge gained from additional education.
- 3) Evaluation of the follow-up protocols' effectiveness in increasing prescribed intervention compliance and progressing towards goals set by patients, one-week post stabilization.

Theoretical Framework

Health Belief Model

Wagner's Chronic Care Model (CCM) was the theoretical framework utilized for this project. Wagner's model provides comprehensive care between the patient and the provider to improve members' overall health within our communities (Jackson, 2018). Wagner's care model consists of six components. These components focus on the well-being of patients suffering from chronic diseases, mental health diagnosis included, with the goal of proactive versus reactive

interventions for health symptoms. Implementation of the CCM promotes adherence to individualized care plans and reported contentment with the care received (Petrelli 2021). Models incorporating multi-components, such as the CCM, stress the importance of evidence-based, coordinated care, improving outcomes for individuals suffering from chronic and mental health conditions (Bauer, 2019). The Chronic Care Model incorporates patient-specific care and stresses the importance of continuous interactions between healthcare members and patients, supporting evidence-based interventions (Garland-Baird, 2018). Components of the Chronic Care Model include Health System-Organization of Healthcare, Self-Management Support, Decision Support, Delivery System Design, Clinical Information Systems, Community Resources, and Policies.

Bauer et al. (2019) states the component of health system organization incorporates revising or redefining healthcare members' roles. This includes selecting dedicated members within the healthcare facility to ensure high-quality care is delivered. Selected members consisted of trained registered nurses (RN), medical assistants (MA), and primary care providers (PCPs), responsible for conducting follow-up, face-to-face interactions with patients. Within KWC, the clinical administrator (CA), the clinic's family nurse practitioner (FNP) took the senior leadership role. Members within the facility, such as selected RNs, the Health and Wellness Coordinator, and the office administrator (OA), assisted in monitoring improvement strategies, helped manage issues and fielded patient calls if the CA is unavailable. This component was dynamic, in incorporating and recording input from patients and providers involved in the process.

Petrelli et al. (2021) state that the self-management component stresses the importance of support and education, which is crucial for patients to be effective advocates of their health choices. Initiation of the follow-up protocol within Ketamine Wellness Centers (KWC), an outpatient mental health facility, may significantly help with the prevention of debilitating symptoms. KWC primarily infuses Ketamine for the treatment of chronic pain and mental health diagnoses and is located in southern Arizona. Follow-up with patients prior to their scheduled appointments gave both the provider and the patients opportunities to address questions and concerns about their prescribed plans, and most recent or future visits with their providers. Correia et al (2018), mention the importance of tailored telephone calls to patients, providing better monitoring of patients' symptoms, improving quality of life, and decreasing relapse of symptoms. These interventions can reduce financial burden when emergency room visits are avoided (Stenberg et al., 2019).

Decision support within this facility included meetings with KWC's clinical psychologist. The psychologist supported and guided decisions and strategies addressing patients' plan of care (POC). Clinical responses and concerns from patients were presented during bi-monthly meetings when the CA needed extra guidance.

Prior to the patients' scheduled appointments, KWC staff members addressed barriers to care, such as their reasoning for lack of follow-up communication, non-adherence to prescribed interventions, and failure to reach planned goals. During these interactions, patients reviewed pertinent information from the post-stabilization workbook and were reminded of the ease of accessibility to members within the healthcare facility. KWC's post-stabilization workbook provided patients with tips and tools, aiding with mindfulness techniques, identifying

improvements in mood, along with additional skills to help maintain gains from therapy. Personalized, face-to-face communication incorporated discussions of prescribed and over-the-counter medications, along with prescribed intervention adherence, which may help increase their overall health. In the future, during these interactions, another meeting with staff members prior to their next mental health infusion may be offered.

The clinical information systems portion of CCM incorporated providers within KWC in utilizing the electronic health record (EHR) to review information pertinent to caring for their patients. The system helped patients and healthcare providers set self-management goals, review patients' mental health status, and determined whether there was progress toward predetermined goals. Staff members were able to see missed appointments, follow up on canceled appointments, and check recent notes and recommendations from the CA or clinical psychologist. Follow-up appointment reminders were set within the EHR system, which populated an alert to the senior leader. KWC is currently working on a data retrieval system to help produce reports on patient outcomes, such as treatment success rates. This data retrieval system will have the ability to gauge and calculate patients' post-follow-up responses.

Community resources will assist in meeting the additional needs of patients. Patients of KWC received a list of self-help groups, along with local and 24-hour crisis hotlines, which provided additional resources for those requiring assistance outside of business hours or desired additional support. Collaborative relationships between KWC and local crisis response centers will give their patients another option to manage acute symptoms. One resource KWC ensured their patients were aware of was the Substance Abuse and Mental Health Services Administration (SAMHSA), a national helpline available 24 hours a day to anyone, free of

charge. SAMHSA's services include referrals to local support groups and treatment facilities (SAMHSA, n.d.). Different options will provide patients autonomy and personalize their treatment plans.

Literature Synthesis

Evidence Search

This literature review consisted of English language studies on the importance of implementing a patient follow-up protocol that can potentially increase individuals suffering from mental health disorders' adherence to their care plan, including medication adherence and medical interventions. CINAHL Plus and PubMed were utilized, "Patient Education," "Patient-centered Care," "Patient Compliance," and "Communication" were key terms used.

Utilizing the two medical subject headings (MeSH) terms within the database PubMed, "Patient Education" and "Health Education," the initial search yielded 8,897 results. Article dates were limited between 2017 and the present, along with the filter "free full text," which decreased the results to 3,651. Additional narrowing of the search was performed by including a third MESH term, "Patient-centered care," which yielded 79 search results.

Keywords utilized within the CINAHL Plus advanced search tool included "Patient education or Patient teaching," "Patient compliance or Patient adherence," and "Mental health or mental illness or mental disorder or psychiatric illness," which yielded 129 search results. Additional filters such as "English" and "full text," along with limiting the publication date from 2017 to the present, reduced the search results to 26 articles. Therefore, 105 articles from both CINAHL and PubMed were considered.

Analysis of the synthesis data supported the importance of follow-up communication with patients, which may decrease the overall cost of outpatient, urgent care, or emergency room visits. Follow-up protocols would reinforce and educate patients on the importance of adherence to providers' recommendations and personalized POC, which would benefit their overall health and well-being (Rosman et al., 2021). After reviewing the synthesis data, some search results did not support statistical outcomes (Avci et al., 2021; Brakoulias et al., 2021; Garcia-Perez et al., 2020). Another common finding among studies was the importance of patient-specific measures, respecting the patient's beliefs and priorities in at least three studies (Hashim, 2017; Johansen et al., 2020; Kessler & Bjorklung, 2020; Knowles & Alex, 2020; Moretto et al., 2019). A team approach or nurse-led patient education was also supported to improve community knowledge and health (Bobbink et al., 2020; Hermann-Lingen, et al., 2020). Literature results also supported the need for facilities to enhance information delivery measures in hopes of better clinical outcomes (Chu & Choi, 2020; Fereidouni, 2019).

Within this literature synthesis, seven articles were systematic literature reviews (Adapa et al., 2020; Bobbink et al., 2020; Correia et al., 2018; D'Anci et al., 2019; Huskies et al., 2017; Rouleau et al., 2019; Stenberg et al., 2019). Four of the included research articles were cross-sectional studies (Grondahl et al., 2018; Theriault et al., 2020; Wang et al., 2021; Wittenberg et al., 2018). The following RCT and quality improvement studies supported and reinforced the importance of follow-up care (Chu, & Choi, 2020; D'Anci et al., 2019; Huskies et al., 2017; Kessler & Bjorklund, 2019; Ream et al., 2020; See et al., 2020). A summary table is in Appendix F.

Effectiveness of Patient Education and Follow-up

Many studies have focused on follow-up care for patients suffering from mental health issues post-hospital admission. A sufficient amount of evidence supports the importance of follow-up care in assisting patients' adherence to their plan of care, including incorporating their preferences and values (Knowles, 2020). There is an excellent demand for psychoeducation and varied strategies which assist with relapse prevention in patients suffering from mental health disorders. A study conducted on children, adolescents, and young adults found that patient education interventions decreased absent days from school and fewer visits to hospitals and their primary care providers (Stenberg et al., 2019). See et al. (2020) state four in ten respondents felt their providers did not provide sufficient education on their prescribed medications. Multiple studies also mention the importance of a support system and patient-tailored interventions, resulting in better health outcomes. One descriptive study used a Patient Safety Officer who encouraged patient and family engagement while addressing unique health concerns (Kim, 2020). Another study mentions the need to tailor interventions based on the patient's diagnosis. For instance, individuals with schizophrenia benefit more from family and social network support than those diagnosed with bipolar disease (Johansen et al., 2020). According to Medicare, the readmission rates for mental health patients are approximately 15% or two out of seven individuals may be readmitted to mental health facilities, at least twice within a year (Kessler, 2019). Telehealth follow-up measures improved quality of life and psychological outcomes, such as decreased depressive symptoms, among many study participants.

Comprehensive Appraisal of Evidence

Existing Treatment Options

Most research studies enforce the importance of practical communication skills and consideration of the patient's perspective when developing one's care plan. Another study included various strategies, including incorporating a quiz that tested patients' knowledge of post-educational interventions and led to individualized face-to-face or over-the-phone sessions (Bobbink, 2020). Existing patient education treatment options include the "ask-tell-ask" approach and incorporation of patient-centered training programs within facilities has proven beneficial (Hashim, 2017). Chu and Choi (2020) discovered that incorporating a Customized Interactive Computer education System (CICS) in patients who suffered from a recent stroke was an effective educational intervention. A review by Adapa et al. (2020) found that augmented reality (AR) was a powerful tool that enabled a better understanding of healthcare information delivered to patients, which improved adherence to treatment plans. Ream et al. (2020) utilized the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach to assess the effectiveness of interventions, such as telephone follow-up, which helped decrease depressive symptoms compared to the control group. The study performed by Fereidouni et al. (2019) utilized constructive feedback and addressed obstacles and recommendations from staff nurses to improve patient education delivery methods. And finally, Training and Education in Advanced Cardiovascular Hemodynamics (TEACH) utilized collaborative team approach interventions, which promotes timely, patient-specific follow-up by trained nurses (Hermann-Lingen et al., 2020).

Strengths and Weaknesses of the Evidence

Noted strengths of the articles researched included a wide range of sources at different evidence levels. At least one article utilized an expert librarian in searching healthcare and informatics databases (Adapa, 2020). Many study results supported that education in the early phases is necessary for better healthcare outcomes. Some studies incorporated successful recommendations for improving patient follow-up education by staff members and nurses.

Mental health patients may not respond to communication methods such as phone or email. When psychiatric patients are not mentally stable, they are less likely to communicate or participate, due to the lack of a support network or low motivation. Another limitation is that most research articles found were based on post-hospital or emergency department discharges vs. outpatient clinic environments. Certain external factors may also impact adherence to a personalized treatment plan. Economic security, affordability of medications and interventions, housing, substance use or abuse, and lack of post-hospital education by a nurse lead teaching team, were potential factors contributing to psychiatric destabilization (Kessler & Bjorklund, 2020). One study reported no difference between individuals suffering from anxiety and the control subjects when telehealth interventions and follow-up interventions were performed.

Gaps and Limitations

At least two studies lacked a systematic assessment, potentially leading to bias within the research results, and some studies utilized smart devices to self-report their results. Individuals resistant to or lacking an understanding of information technology responses may have been affected. Some outcome results included additional healthcare diagnoses, other than mental health, which are more likely to respond differently than those with psychological diagnoses.

Settings, target groups, and follow-up interventions varied between studies, which may not accurately identify how individuals suffering from mental health issues may respond. Two studies mentioned that participants might not be generalizable to the entire population. Some participants may not suffer from chronic health issues and may not need assistance with or education on medications or healthcare interventions. At least five studies admit to the limited evidence and the need for future research.

METHODS

Project Design

Educating patients on the importance of adherence to prescribed mental health medications and recommended interventions may improve their overall health and quality of life. This QI project aimed to increase patients' knowledge on the importance of adherence to their prescribed plan of care (POC), which would help them progress toward their stated goals. An evaluation of patients responses to follow-up interactions with trained staff members was documented and incorporated into their POC. Combining both quantitative and qualitative approaches helped determine the effectiveness of follow-up education interactions in progressing toward goals set by patients and adherence to their POC. Patient self-reported data was utilized in the form of a post follow-up survey questionnaire (Appendix E), which was documented in patients' EHR records.

Model for Implementation

The Centers for Disease Control and Prevention (CDC) (n.d.) defines quality improvement as a continuous effort to achieve measurable outcomes by incorporating data to help improve the quality of health within communities (CDC, n.d.). The Institute for Healthcare

Improvement (IHI) utilizes the Model for Improvement (MFI) to help implement and test quality improvement interventions (IHI, n.d.). The model for improvement's first question asks about the project's purpose. This QI project intended on assisting mental health patients in adhering to their treatment care plans and goals. The second MFI question inquires how we will identify that the implemented change lead to health improvement. Benefits and incentives included additional education, better management of symptoms, and additional support resources. All, to potentially decrease mental health facility readmission rates over the course of time. And lastly, the third question asks what change can be implemented, resulting in a positive outcome. The implemented change for this model was a follow-up, educational, face-face interaction between KWC staff and patients seven days post-stabilization. A post-follow-up survey was requested from patients following the interaction, which was analyzed for efficacy (Appendix E).

Plan-Do-Study-Act (PDSA) Model

Utilization of the PDSA model helped test and track changes, along with determining whether interventions utilized led to improvement. This model incorporated the following four stages, Plan, Do, Study and Act. The PDSA cycle guided this QI project in helping create a mental health follow-up protocol.

Plan

The first phase of the PDSA cycle is the planning phase (IHI, n.d.). The follow-up protocol was devised after the author had received feedback from various patients within KWC, about the lack of follow-up care, along with their disappointment in goals not being met. There was a conversation between the CEO of KWC, the COO, Tucson's KWC staff members, and KWC's Health and Wellness Coordinator. All members agreed on the importance of addressing

their patients' concerns and gave input on what they have witnessed and heard from KWC clients. Patients of KWC were provided the opportunity to reassess predetermined goals, current medications, holistic interventions, support resources, identify mental health triggers, and incorporate a collaborative plan of care. Stakeholders of KWC were made aware that additional funding for this QI project was minimal, material was provided to their patients either via email or printed.

After the CEO authorized the follow-up protocol, education of selected staff members was implemented. KWC clinical staff members included the clinical administrator (CA), registered nurses (RNs), Health and Wellness Coordinator, and office administrator (OA) who were trained on the follow-up protocol process. The OA obtained verbal permission from patients to participate in the follow-up program after their stabilization series had been completed. Communication with patients consisted of face-to-face visits before their scheduled appointments. The CA for the facility had approved education of, and time required for RNs to conduct follow-up communication with patients, documenting the conversation in the patient's electronic health record (EHR), and finally alerting the clinical administrator that the process had been completed. The clinical administrator reviewed documentation addressed concerns and questions patients had mentioned. Patients then filled out the post-follow-up Likert scale questionnaire.

Do

The second portion of the PDSA cycle incorporates the implemented change, and data is then collected (IHI, n.d.). This stage included a 60-minute in-service training, 40 minutes for training, and 20 minutes for selected staff questions and concerns after CEO approval was

obtained in implementing the follow-up protocol (Appendix C & Appendix D). Input from trained staff members was collected on their perceptions and recommendations of the follow-up protocol efficacy (Appendix E). Staff participants signed an attendance roster after participating in the follow-up protocol in-service (Appendix E).

The in-service consisted of a PowerPoint presentation; staff participants were also given a hard copy of what follow-up communication would entail. Including the amount of time, a single interaction entailed, which was estimated to be 15 minutes. A minimum of 10 patients was projected to be recruited for this QI project, within a 4-week timeframe. They were asked to complete a post-stabilization series follow-up survey, after their interaction with a KWC staff member (Appendix E). Bar graphs were utilized in displaying follow-up survey results.

Study

Feedback obtained from participants was analyzed and considered within the study phase (IHI, n.d.). Results from patient Likert surveys were evaluated. Post-implementation, trained staff members were asked for their opinion of the follow-up protocol (Table 1). The narrative summarizes all results and knowledge gained from this QI study.

Act

Adjustments will be made based on results and feedback from the QI project, the final part of the PDSA cycle (IHI, n.d.). The executive summary entails a review of recommended options and considerations to launch this QI project on a larger scale or discontinue testing.

Setting and Stakeholders

The setting for this QI project was within Ketamine Wellness Centers (KWC) – Tucson facility. The original KWC facility opened in 2011 in Gilbert, AZ. KWC has been treating

individuals suffering from chronic neuropathic pain, along with mental health issues. Ketamine therapy is considered a breakthrough in innovative treatments and has been utilized for greater than 50 years within healthcare settings (KWC, 2022). A quiet, relaxing, therapeutic, patient-specific experience is provided to each individual who seeks treatment within the 13 KWC facilities.

Unfortunately, services provided by KWC are mainly cash-pay for mental health treatments. For individuals suffering from chronic pain diagnoses, select insurances cover services for Ketamine infusions. Affordability of services is a common issue among many of KWC's patients. KWC has incorporated insurance specialists, who have recently contracted with the Veterans Affairs (VA) administration, and KWC can now offer their services to active and retired military personnel. Per KWC's CEO, the insurance team is also working with government-sponsored insurance, Medicare, and Medicaid in providing services to individuals who qualify for Ketamine therapy. In 2022, the population within Tucson, AZ, will be 557,718, with a 22.45% poverty rate (World Population Review, 2022). Tucsonans average wait time to be seen within a non-emergency mental or behavioral health facility is greater than one month (Schmidt, 2022). KWC's mission statement and core values include providing exceptional patient care for patients who suffer from depression, anxiety, and pain management, in an underserved population. This facility utilizes Advanced MD for its electronic health record (EHR) charting.

Participants and Recruitment

Inclusion criteria for participation in this DNP QI project included participants who had completed their mental health stabilization series, were entering the maintenance phase of

therapy and agreed to participate within the follow-up protocol. The stabilization series consists of the initial treatments, which are four to six Ketamine infusions within a two-week time frame. The maintenance phase consists of treatments following stabilization, where the time between scheduled infusions increases. Secondly, staff members within KWC were involved in the care of patients, trained staff included at least one RN, the OA, and the clinical administrator. The RN and CA conduct follow-up conversations and analyze the information received.

Individuals who had completed their stabilization series and were well within the maintenance phase were excluded from participating in this QI project. Also, individuals who suffer from chronic pain ailments were also excluded from the follow-up protocol due to the questions being geared toward clients suffering from mental health issues.

Consent and Ethical Considerations

This QI project focused on the development and adoption of a follow-up strategy to help patients adhere to their prescribed interventions and POC. A critical aspect of this DNP QI project was to treat patients' health concerns proactively vs. reactively, which can significantly improve the overall health of our patient population. The American Nurses Association (ANA) code of ethics requests that the following guide nurses in developing ethical values when investigating nursing quality improvement projects. The nurse should advance their role through research, applying effective results into practice with the utmost respect, compassion, and dignity for patients' rights, safety, and health (Haddad, 2021).

Patient participants were informed of potential benefits, risks, and the approximate time this quality improvement project consumed. There are no known risks associated with participation in the follow-up protocol. Patient privacy was maintained by ensuring no patient

identifiers were on the patient self-reported surveys. There are possible long-term benefits for patient participants, should the QI intervention prove successful. An analysis of risks, benefits, and consequences was compared to help determine whether the follow-up protocol enhances patients' overall health. Patients were also made aware of the option to withdraw from the QI project at any time, without repercussions. This author hopes the ease of accessibility and considering patients' preferences will help retain participation, decrease challenges such as lack of transportation for interactions with healthcare staff members, and allow for responses at patients' convenience in the future.

Data Collection

One of the data collection goals was to gather feedback from staff members involved in the follow-up protocol process. Feedback was obtained from the two trained RNs, the OA, Health & Wellness Coordinator, DNP student, and the CA, upon completion of the post stabilization follow-up interaction (Table 1). Following the 7-day follow-up visit, KWC patient participants provided feedback via a self-reported follow-up survey (Appendix E). The CEO of KWC and the clinical administrator of KWC-Tucson helped coordinate an in-service for select staff members. Utilizing the six components within the theoretical framework, Wagner's Chronic Care Model helped focus on the goal of proactive vs. reactive interventions to improve patients' overall health. The CEO of KWC embraced this concept. This author then requested a site letter of approval (Appendix A), permitting implementation of the follow-up protocol at KWC-Tucson. The site letter allowed team members to gather information over four weeks, making the results available to all providers involved in this QI project.

A 60-minute in-service took place with select staff members. Staff members signed an In-service Participation “Staff Roster” (Appendix C), and a formal introduction letter was provided, describing the follow-up protocol (Appendix B). Staff attending the in-service were allotted time to ask questions and express concerns. Staff filled out post-follow-up surveys, which were collected by the OA, and placed into a manila envelope, which was sealed and given to the DNP student. These results become part of the documentation involved in this project. The DNP student provided in-service participants lunch, consisting of pizza and beverages.

Potential patient participants were recruited by the OA, via face-to-face conversation. Verbal consent and signatures on the patient disclosure forms were obtained, on the last day of stabilization series. Patient participants partook in approximately a 15-minute conversation with a trained KWC staff member, post stabilization, prior to their first maintenance treatment. The participant completed a post-follow-up questionnaire, which took approximately 10 minutes to complete (Appendix E). The questionnaire did not have any patient identifiers but an alphabetical letter and number were assigned to each post-follow-up interaction survey. The RN collected the survey from the patient upon completion and placed the survey into a manilla envelope which was sealed and given to the DNP student.

Data Analysis

A descriptive analysis, including bars and graphs of data collected and analyzed, displayed patient participants’ self-reported survey results (Table 2) and staff participants’ post-stabilization follow-up survey results (Table 1). The DNP student was the only individual accessing completed surveys. One crucial observation was whether there was a change in patient participants’ perceptions after the post-stabilization follow-up conversation with a trained staff

member. Another area of interest was the opinions and perceptions of trained staff members, along with the ease of or burden in utilizing this QI project. Would the limited length of implementation of the follow-up protocol affect the decision to adopt this fully? The DNP student answered these narratives within the executive summary. After all the project surveys were placed into a Microsoft Excel spreadsheet, the surveys were shredded. The Excel spreadsheet is stored on a password-protected laptop, that only the DNP student can access. Upon completion of the project, the signed consent forms, and Excel spreadsheet file was submitted to the University of Arizona to be stored for five years per IRB.

RESULTS

Outcomes

Seven KWC staff participants were invited and attended the follow-up protocol in-service. One RN observed the in-service, but due to limited working shifts, she opted not to participate. The total percentage of staff participants was 86% of that number all respondents were female. The demographics of staff participants included the clinical administrator/family nurse practitioner, three registered nurses, Health and Wellness Coordinator, and the office administrator.

Overall, the post-in-service survey received positive results. One participant did not feel the QI project applied to all of KWC's patient populations, due to it not being geared toward patients who suffer from chronic pain diagnosis, which is a growing number of patients within KWC. This is reflected as a percentage of 97% of patients within KWC that the follow-up protocol was relevant for. Other features, such as likability, patient safety, improvement of

KWCs current process and ease of implementing the follow-up protocol received 100% approval from all staff participants.

The second survey, seven days post-project implementation, received a 100% response rate from trained staff members. Of the six surveys received, one respondent felt the follow-up protocol was irrelevant to all of KWCs patient population (97%). Not all staff agreed upon the “Effortless in implementation,” it was noted that some patient participants required longer than the 15 minutes allotted. Other features of the follow-up protocol, such as likability, patient safety, cost, and improvement to the current treatment plan, received 100% staff approval.

A total of 11 potential patients were asked to participate in this QI project. Three declined participation, for varied reasons. One participant signed the patient disclosure form, after he agreed to partake, but did not return for his follow-up appointment due to financial difficulties. Seven patient participants elected to partake in the follow-up protocol (64%). Three of the seven patient participants requested to take the survey home, they did not desire to fill it out within the clinic. Two of the three participants, called in their survey responses to one of the trained RNs, due to personal preferences.

Results of the patient post-follow-up interaction survey are as follows: six of the participants (97%) completely agreed that their questions and concerns were addressed during the follow-up interaction. Four of the seven participants (94%) now recognize the importance of adhering to their prescribed care plan. Some 91% of the patients surveyed stated they can recognize when they are nearing a mental health crisis. Of the patient participants, 89% were able to identify at least one support resource. Patients felt their progress towards stated goals,

was the least progressive, scoring the lowest percentage at 80%. And finally, 86% of respondents felt the follow-up interaction was helpful.

Figure 1

Likability of Follow-up Protocol

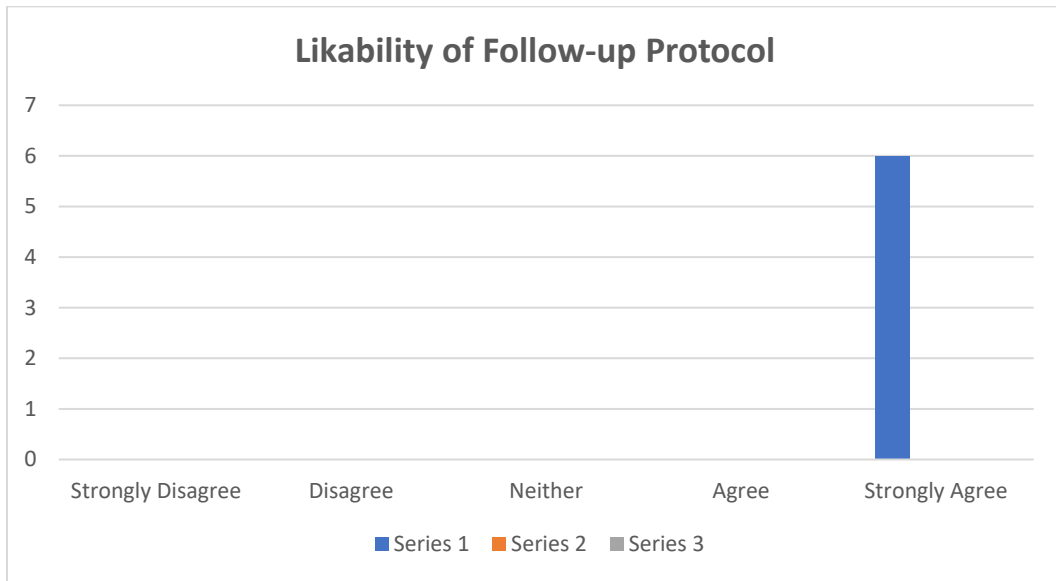


Figure 2

Greatest Strength – Patient Safety (Post Follow-up Interaction)

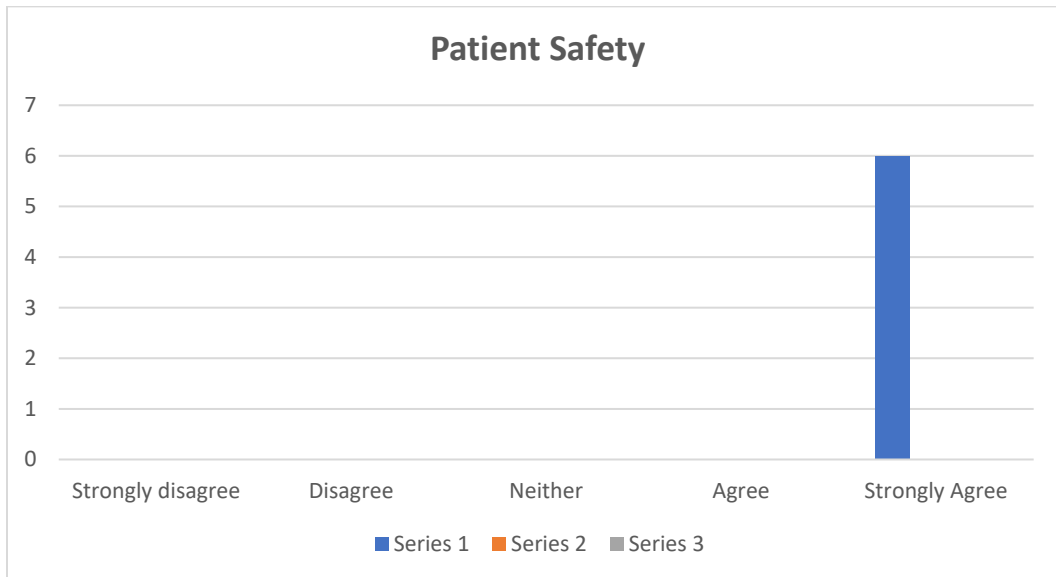
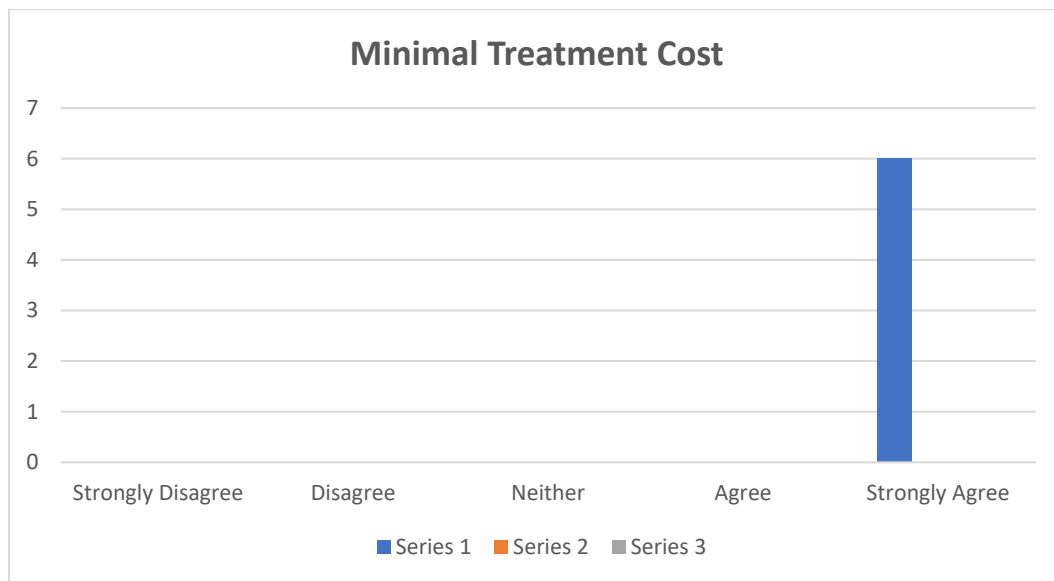


Figure 3

Greatest Strength – Treatment Cost (Post Follow-up Interaction)

**Figure 4**

Relevant for Patient Population (Post Follow-up Interaction)

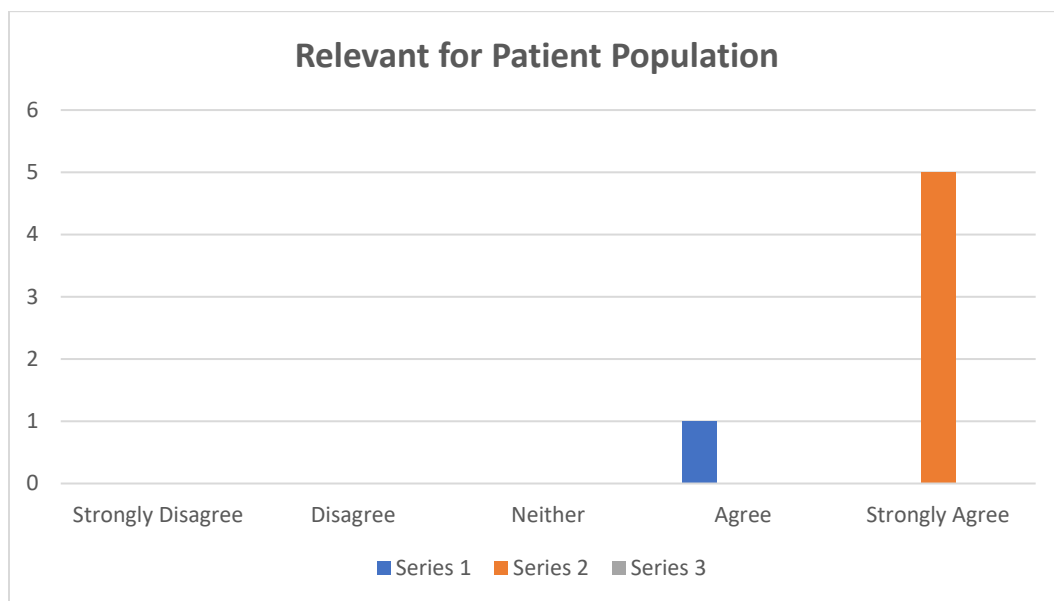


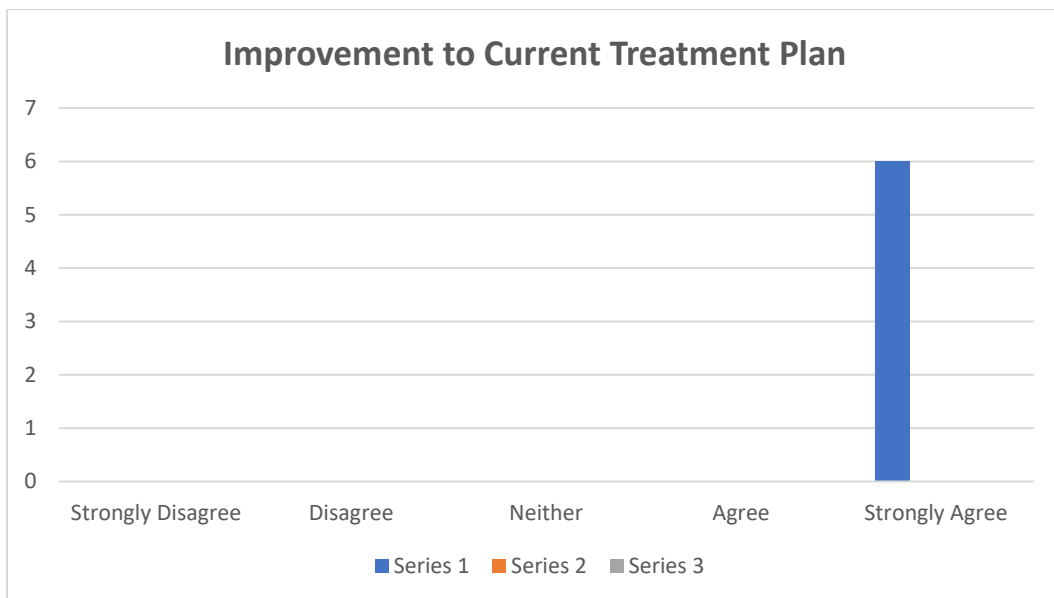
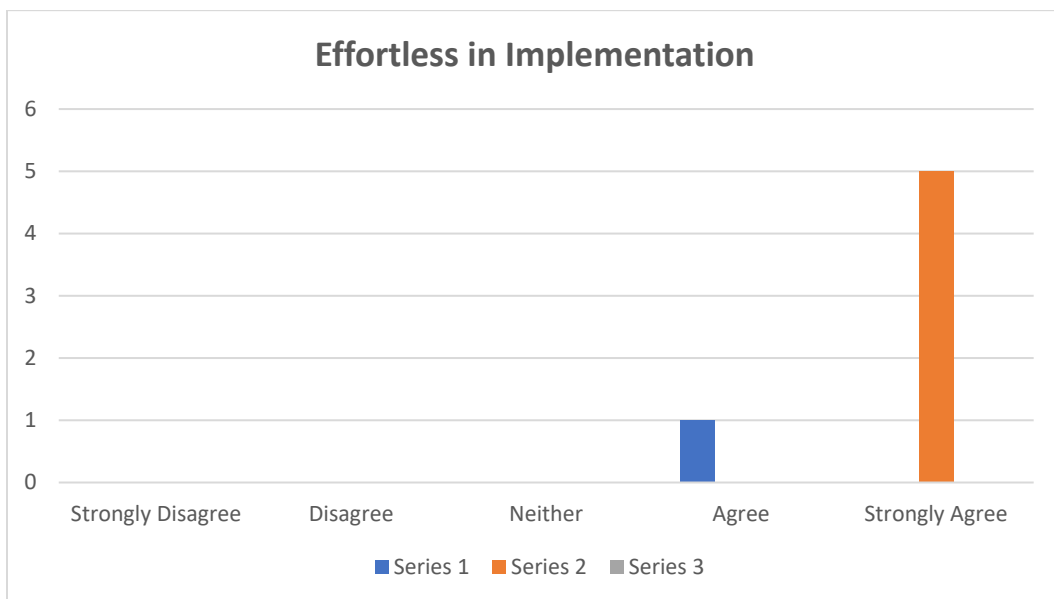
Figure 5*Improvement to Current Treatment Plan***Figure 6***Effortless in Implementation*

Table 1*Results of Seven Days Post-implementation Survey (KWC Staff)*

Questions/Grading	Strongly Disagree 1	Disagree 2	Neither 3	Agree 4	Strongly Agree 5
I like the F/U Features					
Registered Nurses					3
Office Administration					1
Health & Wellness Co.					1
Clinical Administration					1
Total					30
Strength Pt. Safety					
Registered Nurses					3
Office Administration					1
Health & Wellness Co.					1
Clinical Administration					1
Total					30
Strength – Tx Cost					
Registered Nurses					3
Office Administration					1
Health & Wellness Co.					1
Clinical Administration					1
Total					30
Relevant for Pt. Population					
Registered Nurses					3
Office Administration				1	
Health & Wellness Co.					1
Clinical Administration					1
Total				4	25
Improvement to Current Tx. Plan					
Registered Nurses					3
Office Administration					1
Health & Wellness Co.					1
Clinical Administration					1
Total					30
Effortless in Implementation					
Registered Nurses					3
Office Administration					1
Health & Wellness Co.					1
Clinical Administration				1	
Total				4	25
Grand Total				8	170

Table 2*Patient Post Follow-up Interaction Survey (Patient Participants)*

The following outcomes were evaluated through the post-follow-up survey:

Questions/Grading	Strongly Disagree 1	Disagree 2	Neither 3	Agree 4	Strongly Agree 5
Questions or concerns about POC addressed?				1	6
Importance of adhering to POC				2	5
Identify when nearing a mental health crisis				3	4
Identify at least one support resource			1	2	4
Progress towards set goals	1			3	3
Did you find this visit helpful?			1	3	3
Total	1		6	56	125

Table 3*Post-implementation Survey (KWC Staff)*

Questions/Grading	Strongly Disagree 1	Disagree 2	Neither 3	Agree 4	Strongly Agree 5
I like the F/U features					
Strength- Pt. safety					
Strength- Tx. Cost					
Relevant for pt. population					
Improvement to current tx. plan					
Effortless in Implementation					
Total					

Current Position (CA, RN, OA):

DISCUSSION

Summary

The purpose of this quality improvement (QI) project was to devise a follow-up protocol that would provide patients with additional support and guidance, along with assisting them in adhering to their prescribed plan of care. Implementation of the follow-up protocol was overall successful and considered a helpful, safe, and cost-effective tool. Positive responses to the follow-up protocol could be attributed to the incorporation of recommended points to address by

staff, patients, and stakeholders. Stakeholders were impressed with the minimal cost of follow-up protocol implementation. However, implementation of the follow-up interaction consumed more time than allotted with some participants, which delayed appointment start times. Stakeholders should be impressed with the percentage of staff interested in delivering more effective patient care, along with their recommendations of implementing personalized questions geared towards their treatment.

Limitations

One limitation was the sample size, it was felt that more patient participants would have helped determine whether the results were a true finding. Another obstacle to address in future studies is giving patients the option of filling out the surveys within the clinic, via phone or email. Another option to utilize would be to send the follow-up questions via the patient portal, this will allow participants to submit their responses at their own convenience. Incorporating different communication options may have enticed more participants to partake in the follow-up protocol. The time limitation of this QI project needed to be increased, to gain all desired results, four weeks was not a sufficient amount of time. Patients received a list of support resources during their follow-up interaction, but the contact information for the Health and Wellness coordinator should have been offered as an additional KWC support resource. And finally, adopting a follow-up protocol geared towards individuals suffering from chronic pain, would include all KWC patient populations.

DNP Essentials Addressed

The American Association of Colleges of Nursing (AACN) DNP Essentials are defined as the foundational competencies for Advanced Practice Nurses (AACN, 2006). Essential I,

Scientific Underpinning for practice was addressed within this QI project by incorporating science-based theories in determining the significance of health and healthcare delivery to patients of KWC. Organizational and Systems Leadership for Quality Improvement and Systems Thinking, Essential II was also incorporated into the follow-up protocol by the inclusion of quality improvement strategies that balance clinic productivity and consideration of current and future quality of care delivered to our communities. Appraisal and inclusion of existing literature, Essential III, was also utilized in developing the follow-up protocol. Utilization of technology in helping improve patient care delivered, Essential IV, was incorporated by utilizing KWCs health information system, Advanced MD, in determining qualifying candidates for this QI project. Essential V, Health Care Policy for Advocacy in Health Care was demonstrated in advocacy for and delivery of quality care provided to KWC patients. Collaborative skills and effective communication in developing a new practice model complied with Essential VI. Clinical Prevention and Population Health for Improving the Nation's Health, Essential VII, was fulfilled by potentially preventing mental health crises, and improving the health status of KWC patients. Devising and implementing this quality improvement project, based on therapeutic and scientific interventions fulfilled Essential VIII, Advanced Nursing Practice.

Conclusions

The purpose of this QI project was to support the importance of incorporating a patient-specific, follow-up protocol, along with providing additional support and guidance for patients of KWC. The results of this project supported the ease of incorporating and adapting to the follow-up protocol. A consensus of staff who attended the in-service and implemented the follow-up protocol found the tool safe, relevant, easy to use, and an improvement to the current patient

process. Post-follow-up implementation staff surveys were similar to pre-implementation in-service results.

Plan for Sustainability

Engaging stakeholders and employees help maintain the sustainability of a quality improvement project (NICHQ, 2022). According to the NICHQ, the sustainability process should start before and along with project implementation. Unfortunately, this step should have been included when designing the follow-up protocol. Another key in maintaining sustainability is focusing on how labor intensive the QI project is for staff, and the support given by upper management (Scoville, 2017). Continuous evaluation of the QI process needs to be implemented, and staff involved should have opportunities to discuss concerns and recommendations to the protocol. Upper management must be cognizant of staff's attitudes towards the follow-up protocol, ensuring they are engaged and supportive of the process.

Plan for Dissemination

Upon incorporating sustainable factors and addressing limitations, a proposal of the follow-up protocol will be presented to the CEO and CCO of KWC to incorporate within the remaining 12 clinics. The study results of this QI project will be shared with stakeholders with a goal of supporting the importance of incorporating the follow-up protocol within all KWC clinics.

Funding

The project was implemented utilizing the personal funds of this author (Appendix G).

APPENDIX A:
SITE APPROVAL LETTER



Ketamine Wellness Centers Tucson
3130 N. Swan Rd.
Tucson, AZ 85712
Fax 844-KET-WELL
Toll Free 855-KET-WELL
www.ketaminewellnesscenters.com

June 10, 2022

University of Arizona Institutional Review Board
c/o Office of Human Subjects
1618 E Helen St
Tucson, AZ 85721

To Whom It May Concern:

Please note that Mrs. Magda Villegas, UA Doctor of Nursing Practice student, has permission of the KWC Clinic to conduct a quality improvement project at our facility for her project, "Using a Patient-Centered Approach to Improve Health Outcomes."

Mrs. Villegas will conduct a survey of health care providers at the KWC-Tucson Clinic. She will recruit providers through email. The email will provide a description of the project, what they will be asked to do, the time involved, and a link to the online survey. Mrs. Villegas' activities will be completed by September 30th, 2022.

Mrs. Villegas has agreed to provide to my office a copy of the University of Arizona Determination before she recruits participants. She will also present aggregate results to the providers at their monthly staff meeting.

If there are any questions, please contact my office.

Thank you,

A handwritten signature in black ink, appearing to read 'Kevin S. Nicholson', written over a faint, illegible typed name.

Kevin S. Nicholson, BSN, MBA
Chief Executive Officer
Ketamine Wellness Centers

APPENDIX B:

CONSENT DOCUMENT (KWC STAFF DISCLOSURE AND CONSENT FORM; PATIENT
DISCLOSURE AND CONSENT FORM)

KWC Staff Disclosure Form

Using a Patient-Centered, Educational Approach to Support Patients with Mental Health Conditions in Adherence to Prescribed Interventions.

Magda L. Villegas

The purpose of this project is to support the importance of the incorporation of a patient-specific, follow-up protocol. This will provide patients of KWC additional support and guidance in understanding their prescribed plan of care.

If you choose to take part in this project, you will be asked to participate in a 60-minute in-service training, 40 minutes of education, and 20 minutes for questions and discussion. Your post-implementation survey results are anonymous. Your name will not be collected or linked to your answers.

If you choose to participate in the project, participation is voluntary, refusal to participate will involve no penalty. You may withdraw at any time from the project. In addition, you may skip any question that you choose not to answer within the survey. By participating, you do not give up any personal legal rights you may have as a staff participant in this project.

For questions, concerns, or complaints about the project, you may contact Magda Villegas FNP-C, DNP student at (520)220-5854 or via email: magdav@arizona.edu.

You agree to have your responses used for this project.

Signature of Patient or Legal Guardian

Date

Patient Disclosure Form

Using a Patient-Centered, Educational Approach to Support Patients with Mental Health Conditions in Adherence to Prescribed Interventions.

Magda L. Villegas

The purpose of this project is to support the importance of the incorporation of a patient-specific, follow-up protocol. This will provide additional support and guidance in understanding my prescribed plan of care.

If you choose to take part in this project, you will be asked to participate in a conversation with a staff member post-stabilization. It will take approximately 10 minutes to discuss my Plan of Care, additional support resources, identify mental health crisis triggers and a plan when crisis occurs, holistic measures, and finally discuss my progress towards stated goals. There are no foreseeable risks associated with participating in this project. You will receive no immediate benefit from your participation. Your responses are anonymous. Your name will not be collected or linked to your answers.

If you choose to participate in the project, participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw at any time from the project. In addition, you may skip any question that you choose not to answer. By participating, you do not give up any personal legal rights you may have as a participant in this project.

For questions, concerns, or complaints about the project, you may contact Magda Villegas FNP-C, DNP student at (520)220-5854 or via email: magdav@arizona.edu.

You agree to have your responses used for this project.

Signature of Patient or Legal Guardian

Date

APPENDIX C:

RECRUITMENT MATERIAL (AGENDA FOR 60-MINUTE IN-SERVICE MEETING; KWC
FOLLOW-UP PROTOCOL – STAFF; STAFF ATTENDANCE ROSTER)

Agenda for 60-minute in-service meeting on the Follow-up protocol

1. Introduction of the Follow-up protocol PowerPoint.
2. Provide hard copy
3. Discuss implementation process
4. Questions??

KWC Follow-up Protocol (Staff)

Please read thoroughly and sign Staff Attendance Roster.

This quality improvement project aims to provide patients with a follow-up protocol at Ketamine Wellness Centers. The goal is for KWC to adopt the follow-up protocol into the remaining 12 KWC clinics.

Should you choose to take part in this QI project, the following will be asked of you:

1. Participation in a 30 minute follow up protocol in-service.
2. Initiate the Follow-up protocol post stabilization.
3. A survey, focusing on staffs thoughts of the Follow-up protocol will be requested.

Responses will be kept confidential.

4. By signing the Roster and Staff Disclosure form, you are giving consent to participate.

It will take approximately 10-15 minutes to complete the post stabilization survey. There aren't any predicted risks with participation in this project. Participation in this project is voluntary, staff members will not be penalized for choosing to not participate. One may withdrawal from the study at any time without any penalty.

For any questions or concerns please contact:

Magda Villegas FNP-C DNP Student
Phone number: 520-780-0467
Email: magdav@email.arizona.edu

APPENDIX D:
EVALUATION INSTRUMENTS (POST IN-SERVICE SURVEY – STAFF; POINTS TO
ADDRESS WITH KWC PATIENT PARTICIPANTS DURING FOLLOW-UP)

Post In-service Survey (KWC Staff Participants)

Follow-up Survey	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
Questions/ Grading	1	2	3	4	5
I like the features of the Follow-up Survey					
Patient safety is one of the greatest strengths					
The Follow-up protocol is relevant to KWC's patient population					
Initiation of the follow-up protocol is an improvement to the current pt. POC					
The Follow-up protocol was easy to learn and apply to our patients					
Total					

Current Position (CA, RN, OA):

(Please write in any suggestions or modifications that may be implemented)

Points to Address with KWC Patient Participants During Follow-up

1. What questions or concerns do you have concerning your recommended POC?
2. How have you been feeling lately? Do you have any questions concerning your prescribed medications?
 - a. If patient wishes to decrease dosage or eliminate a prescribed medication, they should be directed to consult with their prescribing physician.
3. Do you understand the importance of adhering to recommendations made by your provider?
4. Have you reviewed the post stabilization workbook?
 - a. Can we review some important tools to help maintain a healthy mental state, such as mind stillness and breathing exercises?
5. Can you identify when you are nearing a Mental Health crisis? (Signs, symptoms, triggers)
 - a. Do you have an emergency plan set up with your mental health provider?
6. Do you know local support resources or crisis hotline numbers?
 - a. Who is your support network, are you in a stable environment?
7. Do you feel you are making progress towards your stated goals? (Goals set during your medical screening)
 - a. On a scale of 1-10, how would you rate your progress towards predetermined goals? 1-(no progress towards goals), 5- (50% progress towards goals), 10- (goal met)
8. Have you scheduled your next appointment?

Current or potential concerns will be reviewed and shared with KWC's Clinical Administrator and Dr. Diamond- KWC's Clinical Psychologist.

APPENDIX E:

PARTICIPANT MATERIAL (PATIENT POST FOLLOW-UP INTERACTION SURVEY –
PATIENT PARTICIPANTS; PATIENT POST FOLLOW-UP INTERACTION COMMENTS;
OA VERBIAGE FOR PATIENT PARTICIPANTS)

Patient Post Follow-up Interaction Survey (Patient Participants)

The following outcomes were evaluated through the post-follow-up survey:

1. Were questions or concerns about your prescribed POC answered?
2. Do you understand the importance of adhering to your recommended POC?
3. Can you better identify when you are nearing a mental health crisis?
4. Can you identify at least one additional support resource?
5. Do you feel you are making progress towards your set goals?
 - a. Please elaborate on why you are or why you are not making progress.
6. Did you find this visit helpful?
7. What recommendation would you make to improve this visit?

Patient Post Follow-up Interaction Comments

If you would like to further elaborate, please write in any suggestions or recommendations below, if applicable: (Patient responses are in bold & Italic)

1. Were questions or concerns about your prescribed Plan Of Care answered?
2. Do you understand the importance of adhering to your recommended Plan Of Care?
 - a. ***I enjoy the treatments, so I will stay on top of them.***
3. Can you better identify when you are nearing a mental health crisis?
 - a. ***Could already do this.***
4. Can you identify at least one additional support resource?
 - a. ***My Church.***
5. Do you feel you are making progress towards your set goals?
 - a. Please elaborate on why you are or why you are not making progress.
 - i. ***Yes, not so depressed or angry.***
 - ii. ***Yes, the sessions are very cathartic, I have a lot of big emotions following it, but feel I am moving in the right direction.***
6. Did you find this visit helpful?
 - a. ***I'm indifferent.***
 - b. ***Yes, they all have been.***
7. What recommendation would you make to improve this visit?
 - a. ***Initially I was discouraged, and some people may feel the same way as I was, I was hoping for more of an experience. I needed more aggressive treatment. I may not have returned for further appointments if this process was not explained to me.***
 - b. ***Ask - "What do you want to have happen to make treatments more successful?"***



OA Verbiage (For Patient Participants)

Patient agrees to participate in a conversation with a staff member 7 days post stabilization series.

Patient will meet with a KWC staff member 10 minutes prior to their first maintenance infusion, 7 days post stabilization.

The conversation is estimated to take 10 minutes, which will entail:

- Plan of Care discussion
- Holistic interventions- mind stillness, breathing exercises, etc.
- Identify additional support resources,
- Identify mental health crisis triggers and discuss plan when crisis occurs,
- Discuss progress towards stated goals.

Answer any questions or concerns the patient may have.

APPENDIX F:
LITERATURE REVIEW GRID

Project Question: Does incorporation of a follow-up protocol increase mental health patients' adherence to prescribed interventions?

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Main Outcomes of Findings	Support for and or Link to Project
2020; Adapa, K., Jain, S., Kanwar, R., Zaman, T., Taneja, T., Walker, J., & Mazur, L.	Augmented reality in patient education and health literacy: a scoping review protocol.	Systematic review	Sample	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7497551/
2021; Avci, D, Duran, S., Oz, Y. C., & Basak, I.	Suicide probability in psychiatric patients' primary caregivers: the role of care burden, alexithymia and some risk factors.	Cross-sectional study	This study demonstrates that approximately one out of every five caregivers was at risk for suicide. Therefore, hospital and community-based intervention strategies to support caregivers should be developed	https://doi-org.ezproxy2.library.arizona.edu/10.1016/j.apnu.2021.06.013
2020; Bobbink, P., Pugliese, M., Larking, P., & Probst, S.	Nurse-led patient education for persons suffering from a venous leg ulcer in outpatient's clinics and homecare settings: a scoping review.	Scoping review	Effectiveness of Nurse led education. Nurses have a specific contribution to VLU management and must use and adapt evidence-based interventions targeted to each person. Recommends further intervention studies.	https://doi.org/10.1016/j.jtv.2020.08.006
2021; Brakoulias, V., Pineada, J., & Fimmanco, V.	Short communication: a report of the first twelve months of an early intervention service for obsessive-compulsive disorder (OCD).	Descriptive statistics	Early intervention services should be implemented to improve mental health literacy in young individuals.	https://doi-org.ezproxy2.library.arizona.edu/10.1016/j.comppsy.2021.152268
2020; Chu, Y. M. & Choi, K. S.	Effectiveness of patient education in acute stroke: a comparison between a customized computer system and a pictorial information booklet.	Non-blinded RCT	Patient education was needed and feasible in the early acute phase, and the CICS was more efficacious than the booklet. The positive results provided insights into	https://doi:10.1136/bmjhci-2020-100144

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Main Outcomes of Findings	Support for and or Link to Project
			and give a direction to the use of information technology in patient education.	
2018; Correia, S., Correia, A., Videira, I., Abrunhosa, P., Cuco, C., Bolas, D., & Fonseca, C.	Health gains of telephone follow-up nursing intervention to patient with heart disease.	Literature review	Utilization of telephone nursing interventions with heart disease patient's health gains were identified related to: symptomatic control, management of the therapeutic regimen, use of health services, safety/adverse events and quality of life.	https://doi-org.ezproxy1.library.arizona.edu/10.1007/978-3-030-16028-9_10
2019; D'Anci, U. S., Giradi, G., & Martin, C.	Treatments for the prevention and management of suicide: a systematic review.	Systematic review, randomized control trial	Limited evidence suggests that dialectical behavior therapy (DBT) reduces suicidal ideation compared with wait-list control or crisis planning.	https://doi.org/10.1097/jnr.000000000000280
2019; Fereidouni, Z., Sabet Sarvestain, R., Hariri, G., Kuhpaye, S. A., Amirkhani, M., & Kalyani, M. N.	Moving into action: the master key to patient education.	Qualitative analysis	Study findings provide a complete picture of patient education and challenge managers to develop new strategies to plan and implement appropriate change.	https://doi.10.1097/jnr.000000000000280
2019; Gandy, J., Sawin, E. M., Zook, S., & Eggert, L.	Improving adherence to mental health treatment in a low-income clinic.	Quantitative analysis	This pilot project showed that patients who became engaged as active participants in a bundle of interventions were more likely to keep their appointments.	https://journals.sagepub.com/doi/full/10.1177/2158244019851015
2020; Garcia-Perez, L., Linertova, R., Serrano-Perez,	Interventions to improve medication adherence in	Systematic review	Interventions to improve medication adherence in	https://doi-org.ezproxy3.library.arizona.edu/

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Main Outcomes of Findings	Support for and or Link to Project
P., Trujillo-Marin, M., Rodrigues-Rodrigues, L., Valcarcel-Nazco, C., & Del Pino-Sedeno, T.	mental health: the update of a systematic review of cost-effectiveness.		adults with mental health problems could be cost-effective, especially those based on financial incentives, although more research is needed. Improved cost-effectiveness, improve med. adherence.	edu/10.1080/13651501.2020.1782434
2019; Grondahl, W., Muurinen, H., Katajisto, J., Suhonin, R., & Leino-Kilpi, H.	Perceived quality of nursing care and patient education: a cross-sectional study of hospitalized surgical patients in Finland.	Cross-sectional study	Quality of nursing care and patient education are interconnected. Improves patient education, & quality of nursing care can also be improved. It is particularly important to improve collaboration with family members and patients' own management strategies as well as the multidimensionality of educational knowledge.	https://bmjopen.bmj.com/content/9/4/e023108
2021; Haddad, L. M. & Geiger, R. A.	Nursing ethical considerations.		To practice competently with integrity, nurses, must have regulation and guidance within the profession. The American Nurses Association (ANA) has developed the Code of Ethics for this purpose.	https://www.ncbi.nlm.nih.gov/books/NBK526054/
2017; Hashim, M. J.	Patient-centered communication: basic skills.		Communication skills needed for patient-centered care include eliciting the patient's agenda with open-ended questions, especially early on; not interrupting the patient; and engaging in	https://www-clinicalkey-com.ezproxy1.library.arizona.edu/#!/content/playContent/1-s2.0-S0002838X16304038

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Main Outcomes of Findings	Support for and or Link to Project
			focused active listening. Understanding the patient's perspective of the illness and expressing empathy are key features of patient-centered communication.	
2021; Healthy Pima.	Behavioral health.			https://www.healthypima.com/behavioral-health
2020; Hermann-Lingen, C., Albus, C., DeZwaan, M., Geiser, F., Heinemann, K., Hellmich, M., Michal, M., Sadlonova, M., Tostmann, R., Wachter, R., & Herbeck Belnap, B.	Efficacy of team-based collaborative care for distressed patients in secondary prevention of chronic coronary heart disease (TEACH): study protocol of multicenter randomized controlled trial.	Randomized controlled study.	TEACH-addresses distress and medical CHD risk factors conducted in cardiac patients. If proven effective, its results can improve long-term chronic care of this vulnerable patient group and may be adapted for patients with other chronic conditions	https://doi-org.ezproxy2.library.arizona.edu/10.1186/s12872-020-01810-9
2017; Huskies, V. J. V., Burger, D. M., Van Den Ende, C. H. M., & Van Den Bemt, B. J. F.	Effectiveness of medication review: a systematic review and meta-analysis of randomized controlled trials.	Systematic review, meta-analysis, randomized controlled study.	More effort should be put in the development and evaluation of other medication improvement strategies- more individualized and longitudinal medication therapy management, targeting specific risk moments of drug treatment and targeting problems that patients experience.	https://link.gale.com/apps/doc/A478122506/AONE?u=arizona_main&sid=bookmark-AONE&xid=77053d83
2020; Johansen, K. K., Hounsgaard, L., Frandsen, T. F., Fluttert, F. A., & Hansen, J. P.	Relapse prevention in ambulant mental health care tailored to patients with schizophrenia or bipolar disorder.	Systematic literature review	Patients with schizophrenia seem to benefit more from interventions that include support from social network or family than patients with bipolar disorder. More qualitative studies clarifying	https://doi-org.ezproxy2.library.arizona.edu/10.1111/jpm.12716

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Main Outcomes of Findings	Support for and or Link to Project
			the patient's perspective on tailored relapse prevention are indicated.	
2020; Kessler, J., & Bjorklung, P.	Effect of an RN-led medication teaching initiative on psychiatric recidivism.	Quality improvement	Medication non-adherence is a certain risk factor for psychiatric destabilization, initiatives to improve medication adherence should continue as a standard of care.	https://doi-org.ezproxy3.library.arizona.edu/10.1080/01612840.2019.1636907
2020; Kim, Y., Kim, H. S., Kim, H. A., Chun, J., Kwak, M. J., Kim, M., & Hwang, J., Kim, H.	Can patient education prevent medical errors? A descriptive study.	Descriptive study	Patient safety education involving patients, families, and patient safety officers can all prevent medical errors. A method should be developed to ensure patient safety through patients rather than unilateral delivery to them.	https://doi.org/10.1186/s12913-020-05083-y
2020; Knowles, S. R., & Alex, G.	Medication adherence across the life span in inflammatory bowel disease: implications and recommendations for nurses and other health providers.		Poor adherence in adolescents include low medication knowledge, not establishing good medication habits initially, and peer victimization with low social support. For adults, non-adherence is more frequently unintentional (e.g., forgetting) and occurs more often in the context of a poor-quality patient-physician relationship, low medication knowledge, infrequent/missed appointments, busy lifestyle,	https://doi-org.ezproxy3.library.arizona.edu/10.1097/SGA.0000000000000467

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Main Outcomes of Findings	Support for and or Link to Project
			and concurrent mental health concerns.	
2019; Moretto, I. G., Contim, C. L., & Santo, F. H.	Telephone follow-up as a nursing intervention for patients receiving outpatient chemotherapy: an integrative review.	Integrative review	Strategies and methods of follow-up of patients in outpatient chemotherapy are feasible and effective. Nurses should identify compatible and patient-centered methods.	https://pubmed.ncbi.nlm.nih.gov/31553375/
2019; Ortiz, G.	Predictors of 30-day post-discharge readmission to a multistate national sample of state psychiatric hospitals.	Cross-sectional analysis	Individuals with mental illness at risk of being prematurely discharged, suggests insights into quality initiatives aimed at reducing rapid readmissions into psychiatric inpatient care.	https://doi.org/10.1097/JHQ.000000000000162
2020; Ream, E., Hughes, A. E., Cox, A., Skarparis, K., Richardson, A., Perderson, V. H., Wiseman, T., Forbes, A., & Bryant, A.	Telephone interventions for symptom management in adults with cancer.	Randomized controlled trials	Telephone interventions are convenient for patients, their families and healthcare workers but the results of our review were not conclusive. Further, rigorous research on this topic would help to answer our review questions.	https://doi.org/10.1002/14651858.CD007568.pub2
2021; Rosman, L., Armbruster, T., Kyazimzade, S., Mazzela, A. J., Deyo, Z., Walker, J., Machineni, S. & Gehi, A.	Effect of a virtual self-management intervention for atrial fibrillation during the outbreak of COVID-19.	Single-center pilot study	This pilot study suggests that a virtual patient education program could have beneficial effects on adherence to guideline-recommend self-care of AF, emotional well-being, & physical function. Future randomized studies in larger samples are needed to determine the clinical benefits of the intervention.	https://doi-org.ezproxy2.library.arizona.edu/10.1111/pace.14188

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Main Outcomes of Findings	Support for and or Link to Project
2019; Rouleau, G., Cote, J., Payne-Gagnon, J., Hudson, E., Dubois, C., & Bouix-Picasso, J.	Effects of e-learning in a continuing education context on nursing care: systematic review of systematic qualitative, quantitative and mixed studies review.	Systematic review, qualitative, quantitative, & mixed studies	E-learning improved knowledge- reported by nurses.	https://doi.org/10.2196/15118
2022; Schmidt, C.	Tucson crisis center expanding services for faster mental health care.		Expanding services for mental health care.	https://tucson.com/news/solutions/tucson-crisis-center-expanding-services-for-faster-mental-health-care/article_e2600b2a-890b-11ec-b977-cb2171b74488.html
2020; See, M., Butcher, B. E., & Banh, A.	Patient literacy and awareness of medicine safety.	Qualitative study	Ongoing need for consumer education regarding medicine safety.	https://doi-org.ezproxy2.library.arizona.edu/10.1111/ijpp.12671
2019; Stenberg, U., Haaland-Overby, M., MPhil, A., Trollvik, A., Kristoffersen, L., Dybvig, S., & Vagan, A.	How can we support children, adolescents and young adults in managing chronic health challenges? A scoping review on the effects of patient education interventions.	Comprehensive systematic review	Participants considered the interventions beneficial, reporting less symptom distress, improved medical adherence and/or less use of medication, and improved knowledge.	https://doi.org/10.1111/hex.12906
2020; Theriault, K. M., Rosenheck, R. A., & Rhee, T. G.	Increasing emergency department visits for mental health conditions in the United States.	Cross-sectional analysis	The increasing use of EDs by patients with mental health conditions may indicate suboptimal delivery of effective or acceptable outpatient mental health care.	https://www-psychiatrist-com.ezproxy1.library.arizona.edu/jcp/psychiatry/ed-visits-for-mental-health-conditions-in-the-us/
2021; Wang, R., Zhou, C., Wu, Y., Sun, M., Yang, L., Ye, X., & Zhang, M.	Patient empowerment and self-management behavior of chronic disease patients: a moderated mediation of self-efficacy and health locus of control.	Cross-sectional study	Patient empowerment may improve confidence and adherence to self-management among people with chronic illness.	https://doi-org.ezproxy2.library.arizona.edu/10.1111/jan.15077

Pub. Year; Author's Last Name	Title of Publication	Type of Study	Main Outcomes of Findings	Support for and or Link to Project
2018; Wittenberg, E., Ferrell, B., Kanter, E., & Butler, H.	Health literacy: exploring nursing challenges to providing support and understanding.	Cross-sectional study	A majority of the nurses reported communication challenges with patients who spoke English as a second language.	https://link.gale.com/apps/doc/A537031647/AONE?u=arizona_main&sid=bookmark-AONE&xid=64308589

APPENDIX G:
OTHER DOCUMENTS AS APPLICABLE TO THE PROJECT (SUPPORT RESOURCES
AND CRISIS HOTLINES; BUDGET FOR QI PROJECT)

Support Resources & Crisis Hotlines

HOPE: Sam Foundation

National Suicide Prevention Lifeline: 1-800-273-8255

Warm line, Peer Recovery, non-emergency Support by HOPE- 0800-2200 7 days/week

Crisis Text Line: text “START” to 741741

Free crisis support services 24hrs. day/7 days a week

Pima County Mental Health Crisis Line: 520-622-6000 or 1-866-495-6735

Talk to a counselor 24 hours a day/7 days a week

National Substance Use and Disorder Referral and Treatment Hotline: 800-622-4357

Substance Abuse and Mental Health Services Administration (SAMHSA)

<https://www.samhsa.gov/>

Veterans Crisis Line: 800-273-8255

24 hr. treatment and referral info. About mental and/or substance use disorders, prevention, and recovery

Crisis Response Center (CRC)- Connections Health Solutions/Banner Health: (520) 301-2284

connectionshs.com

Level 1 Inpatient facility and Outpatient Behavioral Health clinic for adults and children

**Call 911 if you cannot reach someone or get to the ER or nearest
crisis center.**

Budget for QI Project

	Amount	Cost	Total
In-Service			
Printing F/U Hardcopy	25 Copies	\$0.20/copy	\$5.00
Refreshments & Pizza	6 - 8 People	\$35.00	\$35.00
Transportation Cost	4 Miles	\$4.90/gallon	\$19.60
Total			\$59.60
Re-Survey			
Stationary	25 People	\$1.50 for envelopes and paper	\$37.50
Grand Total			\$97.10
Total Projected Cost			\$97.10

REFERENCES

- Adapa, K., Jain, S., Kanwar, R., Zaman, T., Taneja, T., Walker, J., & Mazur, L. (2020). Augmented reality in patient education and health literacy: a scoping review protocol. *BMJ Open*, 10(9). <https://doi.org/10.1136/bmjopen-2020-038416>
- American Association of Colleges of Nursing (AACN). (2006). *The essentials of doctoral education for advanced nursing practice*. <https://www.aacnnursing.org/Portals/42/Publications/DNPEssentials.pdf>
- American Nurses Association (ANA) (n.d.) <https://www.nursingworld.org/>
- Avci, D., Duran, S., Oz, Y.C., & Basak, I. (2021). Suicide probability in psychiatric patients' primary caregivers: the role of care burden, alexithymia and some risk factors. *Archives of Psychiatric Nursing*, 35(5), 457-464. <https://doi.org.ezproxy2.library.arizona.edu/10.1016/j.apnu.2021.06.013>
- Bauer, M. S., Miller, C., J., Kim, B., Lew, R., Stolzmann, K., Sullivan, J., Riendeau, R., Pitcock, J., Williamson, A., Connolly, S., Elwy, A. R., Weaver, K. (2019). Effectiveness of Implementing a Collaborative Chronic Care Model for Clinician Teams on Patient Outcomes and Health Status in Mental Health: A Randomized Clinical Trial. *JAMA Network Open*. 2(3). <https://pubmed.ncbi.nlm.nih.gov/30821830/>
- Bobbink, P., Pugliese, M., Larkin, P., & Probst, S. (2020). Nurse-led patient education for persons suffering from a venous leg ulcer in outpatient's clinics and homecare settings: a scoping review. *Journal of Tissue Viability*, 29(4), 297-309. <https://doi.org/10.1016/j.jtv.2020.08.006>
- Brakoulias, V. Pineada, J., & Fimmano, V. (2021). Short communication: a report of the first twelve months of an early intervention service for obsessive-compulsive disorder (OCD). *Comprehensive Psychiatry*, 110. <https://doi.org.ezproxy2.library.arizona.edu/10.1016/j.comppsy.2021.152268>
- Centers for Disease Control and Prevention. (CDC). (n.d.) <https://www.cdc.gov>
- Chu, Y. M. & Choi, K. S. (2020). Effectiveness of patient education in acute stroke: a comparison between a customized computer system and a pictorial information booklet. *BMJ Health & Care Informatics*. <https://doi.org/10.1136/bmjhci-2020-100144>
- Correia, S., Correia, A., Videira, I., Abrunhosa, P., Cuco, C., Bolas, D., & Fonseca, C. (2018). Health gains of telephone follow-up nursing intervention to patient with heart disease. *Gerontechnology*, 107-113. https://doi-org.ezproxy1.library.arizona.edu/10.1007/978-3-030-16028-9_10

- Cutler, R. L., Fernandez-Llimos, F., Frommer, M., Benrimoj, C., & Garcia-Cardenas, V. (2018). Economic impact of medication non-adherence by disease groups: a systematic review. *BMJ open*, 8(1). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5780689/>
- D'Anci, U. S., Giradi, G., & Martin, C. (2019). Treatments for the prevention and management of suicide: a systematic review. *Annals of Internal Medicine*, 171(5), 334-342. <https://doi.org/10.7326/M19-0869>
- Fereidouni, Z., Sabet Sarvestani, R., Hariri, G., Kuhpaye, S. A., Amirkhani, M., & Kalyani, M. N. (2019). Moving into action: the master key to patient education. *Journal of Nursing Research*, 27(1). <https://doi.10.1097/jnr.0000000000000280>
- Gandy, J., Sawin, E. M., Zook, S., & Eggert, L. (2019). Improving adherence to mental health treatment in a low-income clinic. *Sage Open*. <https://journals.sagepub.com/doi/full/10.1177/2158244019851015>
- Garcia-Perez, L., Linertova, R., Serrano-Perez, P., Trujillo-Marin, M., Rodrigues-Rodrigues, L., Valcarcel-Nazco, C., & Del Pino-Sedeno, T. (2020). Interventions to improve medication adherence in mental health: the update of a systematic review of cost-effectiveness. *International Journal of Psychiatry in Clinical Practice*, 24(4), 416-417. <https://doi-org.ezproxy3.library.arizona.edu/10.1080/13651501.2020.1782434>
- Garland-Baird, L. & Fraser, K. (2018). Conceptualization of the Chronic Care Model. *Home Healthcare Now*, 36(6), 379-385. <https://oce-ovid-com.ezproxy3.library.arizona.edu/article/01845097-201811000-00006/HTML>
- Grondahl, W., Muurinen, H., Katajisto, J., Suhonin, R., & Leino-Kilpi, H. (2019). Perceived quality of nursing care and patient education: a cross-sectional study of hospitalized surgical patients in Finland. *BMJ Open*. <https://bmjopen.bmj.com/content/9/4/e023108>
- Haddad, L. M. & Geiger, R. A. (2021). *Nursing ethical considerations*. StatPearls. National Library of Medicine. <https://www.ncbi.nlm.nih.gov/books/NBK526054/>
- Hashim, M. J. (2017). Patient-centered communication: basic skills. *American Family Physician*. 95(1), 29-34. <https://www-clinicalkey-com.ezproxy1.library.arizona.edu/#!/content/playContent/1-s2.0-S0002838X16304038>
- Healthy Pima. (2021). *Behavioral health*. <https://www.healthypima.com/behavioral-health>
- Hermann-Lingen, C., Albus, C., DeZwaan, M., Geiser, F., Heinemann, K., Hellmich, M., Michal, M., Sadlonova, M., Tostmann, R., Wachter, R., & Herbeck Belnap, B. (2020). Efficacy of team-based collaborative care for distressed patients in secondary prevention of chronic coronary heart disease (TEACH): study protocol of a multicenter randomized controlled trial. *BMC Cardiovascular Disorders*, 20(1), 1-14. <https://doi-org.ezproxy2.library.arizona.edu/10.1186/s12872-020-01810-9>

- Huskies, V. J. V., Burger, D. M., Van Den Ende, C. H. M., & Van Den Bemt, B. J. F. (2017). Effectiveness of medication review: a systematic review and meta-analysis of randomized controlled trials. *BMC Family Practice*, 18(1).
https://link.gale.com/apps/doc/A478122506/AONE?u=arizona_main&sid=bookmark-AONE&xid=77053d83
- Institute for Healthcare Information (IHI) (n.d.) <https://www.ihl.org>
- Jackson, G. L., Stechuchak, K. M., Weinberger, M., Bosworth, H. B., Coffman, C. J., Kirshner, M. A., Edelman, D. (2018). How Views of the Organization of Primary Care Among Patients with Hypertension Vary by Race or Ethnicity. *Military Medicine* 183, (9-10).
<https://academic.oup.com/milmed/article/183/9-10/e583/4973659>
- Johansen, K. K., Hounsgaard, L., Frandsen, T. F., Fluttert, F. A., & Hansen, J. P. (2020). Relapse prevention in ambulant mental health care tailored to patients with schizophrenia or bipolar disorder. *Journal of Psychiatric and Mental Health Nursing*, 28(4), 549-577.
<https://doi-org.ezproxy2.library.arizona.edu/10.1111/jpm.12716>
- Kessler, J. & Bjorklung, P. (2020). Effect of an RN-led medication teaching initiative on psychiatric recidivism. *Issues in Mental Health Nursing*, 41(2), 146-153. <https://doi-org.ezproxy3.library.arizona.edu/10.1080/01612840.2019.1636907>
- Ketamine Wellness Centers (KWC). (2022). *Treatment options at Ketamine Wellness Centers. How does it work?* <https://ketaminewellnesscenters.com/treatments/>
- Kim, Y., Kim, H.S., Kim, H.A., Chun, J., Kwak, M.J., Kim, M., Hwang, J., & Kim, H. (2020). Can patient education prevent medical errors? A descriptive study. *BMC Health Services Research*. <https://doi.org/10.1186/s12913-020-05083-y>
- Knowles, S. R., & Alex, G. (2020). Medication adherence across the life span in inflammatory bowel disease: implications and recommendations for nurses and other health providers. *Gastroenterology Nursing*, 41(1), 76-88. <https://doi-org.ezproxy3.library.arizona.edu/10.1097/SGA.0000000000000467>
- Koch, B., Coates, S., Brady, B., Peters, J., and Derksen, D. (2020). The Arizona Behavioral Health Workforce. Center for Rural Health.
https://crh.arizona.edu/sites/default/files/2022-03/20210702_AZ_BH_WorkforceReport_FINAL.pdf
- Moretto, I. G., Contim, C. L., & Santo, F. H. (2019). Telephone follow-up as a nursing intervention for patients receiving outpatient chemotherapy: an integrative review. *Rev Gaucha Enferm*. <https://pubmed.ncbi.nlm.nih.gov/31553375/>

- National Alliance on Mental Illness (NAMI). (n.d.). *Mental health in Arizona*.
<https://www.nami.org/NAMI/media/NAMI-Media/StateFactSheets/ArizonaStateFactSheet.pdf>
- National Center for Quality Assurance (NCQA). (n.d.). <https://www.ncqa.org>
- National Institute of Mental Health (NIMH). (n.d.). *Mental illness*.
https://www.nimh.nih.gov/health/statistics/mental-illness#part_2555
- National Institute for Children’s Health Quality (NICHQ). (2022). *Setting the stage for sustainability in quality improvement projects*. <https://www.nichq.org/insight/setting-stage-sustainability-quality-improvement-projects>
- Neiman, A., Ruppap, T., Ho, M., Garber, L., Weidle, P. Hong, Y., George, M., Thorpe, P. (2017). Understanding Medication Nonadherence. U.S. Department of Health & Human Services. <https://www.cdc.gov/mmwr/volumes/66/wr/mm6645a2.htm>
- Ortiz, G. (2019). Predictors of 30-day post-discharge readmission to a multistate national sample of state psychiatric hospitals. *Journal for healthcare quality: Official publication of the National Association for Healthcare Quality*, 41(4), 228-236.
<https://doi.org/10.1097/JHQ.000000000000162>
- Petrelli, F., Cangelosi, G., Nittari, G., Pantanetti, P., Debernardi, G., Scuri, S., Sagaro, G. G., Nguyen, C. T., Grappasonni, I. (2021). Chronic Care Model in Italy: a narrative review of the literature. *Primary Health Care Research & Development*. 22(32).
<https://www.cambridge.org/core/journals/primary-health-care-research-and-development/article/chronic-care-model-in-italy-a-narrative-review-of-the-literature/947A99472EB0B015527DC11898BC383D>
- Pima County. (2018). *Community health needs assessment*.
<https://static1.squarespace.com/static/5a21a88bcd39c3ec782756ed/t/5d0d2076e19a0b00014486b4/1561141373832/CHNA+Book+2018+FINAL.PDF>
- Ream, E., Huges, A. E., Cox, A., Skarparis, K., Richardson, A., Pedersen, V. H., Wiseman, T., Forbes, A., & Bryant, A. (2020). Telephone interventions for symptom management in adults with cancer. *Cochrane Library*. <https://doi.org/10.1002/14651858.CD007568.pub2>
- Rosman, L., Armbruster, T., Kyazimzade, S., Mazzela, A. J., Deyo, Z., Walker, J., Machineni, S., & Gehi, A. (2021). Effect of a virtual self-management intervention for atrial fibrillation during the outbreak of COVID-19. *Pacing & Clinical Electrophysiology*, 44(3), 451-461. <https://doi-org.ezproxy2.library.arizona.edu/10.1111/pace.14188>

- Rouleau, G., Cote, J., Payne-Gagnon, J., Hudson, E., Dubois, C., Bouix-Picasso, J. (2019). Effects of e-learning in a continuing education context on nursing care: systematic review of systematic qualitative, quantitative, and mixed-studies reviews. *Journal of Medical Internet Research*, 21(10). <https://doi.org/10.2196/15118>
- Schmidt, C. (2022). Tucson crisis center expanding services for faster mental health care. https://tucson.com/news/solutions/tucson-crisis-center-expanding-services-for-faster-mental-health-care/article_e2600b2a-890b-11ec-b977-cb2171b74488.html
- Scoville, R., Little, K., Rakover, J., Luther, K., & Mate, K. (2017). *Sustaining improvement*. <https://www.ihl.org/resources/Pages/IHIWhitePapers/Sustaining-Improvement.aspx>
- See, M., Butcher, B. E., Banh, A. (2020). Patient literacy and awareness of medicine safety. *International Journal of Pharmacy Practice*, 28(6). <https://doi-org.ezproxy2.library.arizona.edu/10.1111/ijpp.12671>
- Semahegn, A., Torpey, K., Manu, A., Assefa, N., Tesfaye, G., & Ankomah, A. (2020). Psychotropic medication non-adherence and its associated factors among patients with major psychiatric disorders: a systematic review and meta-analysis. *Systematic reviews*, 9(10), 17. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6966860/>
- Stenberg, U., Haaland-Overby, M., MPhil, A., Trollvik, A., Kristoffersen, L., Dybvig, S., Vagan, A. (2019). How can we support children, adolescents and young adults in managing chronic health challenges? A scoping review on the effects of patient education interventions. *Health Expectations*, 22(5), 849-862. <https://doi.org/10.1111/hex.12906>
- Substance Abuse & Mental Health Services Administration. (SAMHSA). (n.d.) <https://www.samhsa.gov/>
- Therriault, K. M., Rosenheck, R. A., & Rhee, T. G. (2020). Increasing emergency department visits for mental health conditions in the United States. *J Clin Psychiatry*, 81(5). <https://www-psychiatrist-com.ezproxy1.library.arizona.edu/jcp/psychiatry/ed-visits-for-mental-health-conditions-in-the-us/>
- Wang, R., Zhou, C., Wu, Y., Sun, M., Yang, L., Ye, X., & Zhang, M. (2021). Patient empowerment and self-management behavior of chronic disease patients: a moderated mediation of self-efficacy and health locus of control. *Journal of Advanced Nursing*, 78(4), 1055-1065. <https://doi-org.ezproxy2.library.arizona.edu/10.1111/jan.15077>
- Wittenberg, E., Ferrell, B., Kanter, E., & Butler, H. (2018). Health literacy: exploring nursing challenges to providing support and understanding. *Clinical Journal of Oncology Nursing*, 22(1). https://link.gale.com/apps/doc/A537031647/AONE?u=uarizona_main&sid=bookmark-AONE&xid=64308589

World Population Review. (2022). *Tucson, Arizona Population 2022*.
<https://worldpopulationreview.com/us-cities/tucson-az-population>