Improving Nurse Practitioner Awareness and Utilization of Mental Health Community

Support Services and Psychosocial Rehabilitation Services

by

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ABSTRACT

Almost 20 % of Americans live with a form of mental illness. Of that number, only half of those individuals receive needed mental health services. Barriers to mental health services were found on many levels: patient, provider, and healthcare system. One major barrier from the primary care provider standpoint was lack of knowledge and training in the mental health field. The purpose of this project was to improve access to care for patients in Virginia living with severe mental illness through the provision of nurse practitioner education of mental health community support services (MHCSS) and psychosocial rehabilitation services (PSR). A one group, pretest-posttest design involving a sample of N=31 nurse practitioners, nurse practitioner students, and other healthcare providers using a self-reported survey measured the effects of whether a pre-recorded online provider education webinar improved knowledge of, understanding eligibility criteria for MHCSS and PSR, as well as gauged the participants ability to appropriately make referrals MHCSS and PSR in case scenarios. The posttest results indicated that participants experienced an increase in knowledge as seen by their ability to avoid incorrect answer choices in the posttest purpose and eligibility criteria questions and that 60% of participants were able to correctly make referrals to non-traditional services in posttest case scenarios. Study limitations were small number of participants and short duration of study.   Providing mental health education to NPs and NP students about MHCSS and PSR can improve their knowledge and ability to make appropriate referrals of adults living with serious mental illness to MHCSS and PSR.

Keywords: mental health-primary care providers, resources, access to care, provider education, barriers, mental health skill-building, psychosocial rehabilitation, mental illness

DEDICATION

I would like to dedicate this final project to my tremendously supportive husband, Derek Wittl, whose encouragement and love have been instrumental in my ability to tackle all of the working pieces that have led to the success of this Doctor of Nursing Practice Project. I also want to dedicate this work to my loving mother, Sherry Mulligan, and in memory of my step-mother, Helena Yvonne McCauley, from whom I learned to be compassionate and to apply grace to every situation. And finally, to my business partner, Courtni Sandras-Gaut, and best friend, Jennifer Kiser, who have been my cheerleaders and sounding boards the entire process. For all that each of you have added to my life and my education, from the bottom of my heart, I thank you.

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Chapter 1: Introduction

While primary care has historically focused on general health issues, acute and chronic disease management, and preventative services, an increasing need to address mental health issues in primary care has been found. The prevalence of mental health disorders has grown to touch virtually 20% of all Americans (National Institute of Health, 2017). The magnitude of this was seen by the 17 % increase in the rate of suicide in America over the last decade (Office of Disease Prevention and Health Promotion, 2020). In the United States, suicide was listed as the 10th leading cause of death (National Alliance on Mental Illness, 2020). An imperative need for nurse practitioners to address mental health issues, have the knowledge to make appropriate referrals to community resources, and utilize available resources when necessary has been discovered (U.S. Preventative Services Task Force, 2016).

The National Institute of Mental Health (2019) defined a serious mental illness (SMI) as "a mental, behavioral, or emotional disorder resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities" (para 2). A surveillance research study by Bowdoin, Rodriguez-Monguio, Puleo, Keller, and Roche (2016) showed that around "18.5% or 44 million adults in the United States" live with a mental health issue and that typically those individuals have poorer health outcomes than people living without mental illness (p. 2). Bartels and Pratt (2009) found that adults living with serious mental illness experience more depression, isolation, and chronic illness which are associated with poor outcomes and poor quality of life.

The Bureau of Labor Statistics (2018) showed Virginia having 830 employed psychiatrists which was significantly low compared to similar size states like New York and Ohio that employed 3,590 and 1,240 psychiatrists respectively. In 2019, Virginia had a

population of about 8.5 million people, New York had a population of about 19.4 million, and

Ohio had a population around 11.6 million people (United States Census Bureau, 2019). Virginia

ranked 40th in the United States for mental health providers consisting of 162.4 providers for

every 100, 000 people; the 162.4 providers included psychiatrists, counselors, licensed clinical

social workers, and drug treatment providers (United Health Foundation, 2019). The shortage of

mental health providers coupled with the growing need for more mental health services offered

an opportunity for education about mental health community support services and psychosocial

rehabilitation among nurse practitioners that would aid in reducing clinical morbidity (USPSTF,

2016). With longer wait times to see a psychiatric provider, nurse practitioners were in a key

position to make referrals to mental health community support services and psychosocial

rehabilitation that could address more immediate mental health needs and provide support for

patients within the patient's own community while waiting to get an appointment with a

psychiatric provider.

   Roanoke City's and Alleghany Health Districts' (2019) age-adjusted death rate due to

suicide data reflected Roanoke City's suicide rate as 24.2 per 100,000; that rate was more than

double Virginia's suicide rate of 11.8 and higher than the national suicide rate of 14.0. Roanoke

City and Alleghany Health District (2019) showed an increase in the suicide rate since 2015 and

listed Roanoke City in the worst 25% of counties in Virginia. The 2015 County Health Rankings

of Virginia revealed a patient to mental health provider ratio as 724:1 for the state of Virginia,

almost 50% less than the United States median 1128:1 (The Robert Wood Johnson Foundation

and the University of Wisconsin Population Health Institute, p. 8). In 2016, 7.94% of Virginia's

adult population experienced a major depressive episode while 4.6% of the adult population

lived with a serious mental illness (Data USA, 2019).

Mental health stigma, described as a negative view of someone due to their mental illness, has led to other negative behaviors like discrimination (National Alliance on Mental Illness, 2020). Mental health stigma has not only prevented patients and families from reaching out for help but has also created an environment where providers lacked training, if trained at all, to make appropriate referrals to mental health services or mental health specialists (NAMI, 2020). Whether it was embarrassment of the provider due to knowledge deficit in the care of the mentally ill, or humiliation of the patient from living with a mental health diagnosis, stigma has continued to be a major barrier to receiving mental health services (NAMI, 2020). Having open and honest communication with patients, screening for mental health issues, partnering with mental health providers, and receiving additional education/training in mental health management were actions taken by primary care providers that were shown to improve mental health care outcomes (USPSTF, 2016).

Research Purpose

The purpose of this project was to improve access to care for patients in Virginia living with severe mental illness (SMI) through the provision of nurse practitioner education of mental health community support services (MHCSS) and psychosocial rehabilitation services (PSR). From the review of literature for this project, this study appears to be the first study about nurse practitioner and nurse practitioner student education on MHCSS and PSR in the United States. Minimal literature was found on the topic of PSR but none in terms of provider education and no published research was found on provider education of MCHSS.

Research Question

This research answered the following PICOT clinical question: For nurse practitioners treating adult patients, does receiving education about MHCSS and PSR, compared to not

receiving education about MHCSS and PSR, increase the nurse practitioner's knowledge and ability to appropriately refer adults living with SMI to MHCSS and/or PSR?

The hypothesis statements for this study were as follows. The null hypothesis (H_0) postulated that after receiving provider education about MHCSS and PSR, there would not be a statistically significant relationship between provider education and provider knowledge or ability to appropriately refer to MHCSS and PSR. The alternative hypothesis (H_1) postulated that after receiving provider education about MHCSS and PSR, there will be an increase in the nurse practitioner's knowledge of MHCSS and PSR and ability to appropriately refer to those services as measured by self-reported surveys.

Chapter 2: Integrated Review of the Literature

A comprehensive literature search strategy was implemented to glean the most current and relevant data in support of this DNP Scholarly Project. The Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline, and PsycARTICLES were the databases utilized in this search. Search words included mental health-primary care provider, resources, access to care, provider education, medical home, barriers, mental health skill-building, psychosocial rehabilitation, and mental illness. The original search produced 6,395 articles. Using search narrowing strategies described by Melnyk & Fineout-Overhold (2019), the results were narrowed by selecting articles that were published in the last five to ten years (2009-2019), were full text, written in English, and focused on the population of adults aged 18 and above. Articles that were excluded were those articles pertaining to children or child services and those not about primary care and mental health.

A total of 22 studies were included for final analysis and are found in a level of evidence table in Appendix A. The classification system used to determine level of evidence of the articles included in this DNP Scholarly Project was found in *Essentials of Nursing Research: Appraising Evidence for Nursing Practice* (Polit & Beck, 2014). This DNP Scholarly Project cited data from three systematic reviews (Bowdoin & Pratt, 2016; Hoeft, Fortney, Patel, & Unutzer, 2018; Smith, Haedtke, & Shibley, 2015), two randomized controlled trials (RCT) (Hack, Muralidharan, Brown, Drapalski, & Lucksted, 2019; Serrano, Prince, Fondow, & Kushner, 2018), and five quasi-experimental non-RCT (Anthony et al., 2010; Burke, Pyle, Machin, Varese, & Morrison, 2019; Heath et al., 2015; Lim et al., 2016; Pratt, Mueser, Wolfe, Santos, & Bartels, 2017). Three cohort studies (Nelson, Bowersox, Kin, & Hunt, 2019; Stevens & Sidlinger, 2015; Zallman et al., 2017), one cross sectional study (Linman et al., 2019), two system review/metathesis of

qualitative studies (Cheesmond, Davies, & Inder, 2019; Clement et al., 2015), and three

descriptive studies (Chang et al., 2014; Karlin & Karel, 2014; Vickers et al., 2013) were pertinent

to the project and were reviewed. Three expert opinions (Bartels & Pratt, 2009; Lokko & Stern,

2015; Weiss, Haber, Horowitz, Stuart, & Wolfe, 2009) were included in the review. The

summaries of evidence and literature review synopsis were described in Appendix B.

Barriers to Mental Health Services

   Patient Barriers

   The barriers found to mental health services were multifactorial. From the patient

perspective, stigma was a large barrier that hindered seeking care along with isolation, lack of

support, and self-neglect (Stevens & Sidlinger, 2015). Smith et al. (2015) found that stigma

related to mental illness coupled with provider belief that older adults do not want to discuss

their feelings created a barrier to providers recognizing treatable mental health issues in the older

adult.

   In the systematic review of quantitative and qualitative studies on the impact of mental

health-related stigma on help-seeking behaviors by Clement et al. (2015), stigma was found to be

a major barrier to seeking professional help. Many types of stigma were described by Clements

et al. (2015), "anticipated stigma, experienced stigma, internalized stigma, perceived stigma,

stigma endorsement, and treatment stigma" (p. 12). Additionally, Clement et al. (2015) described

how the social stigma of mental health makes patients reluctant and/or fearful about speaking to

their primary care provider or even family members to get the support and receive the

appropriate mental health services they need.

Provider Barriers

A mixed method study of surveys, interviews, and focus groups about interprofessional mental health training in rural primary care by Heath et al. (2015) found that mental health services in rural areas are provided by primary care providers who often felt unprepared and ill-equipped to handle such pertinent needs. Barriers to providing mental health services for these primary care providers included lack of competency to address and treat mental health disorders, lack of communication, and lack of mental health resources (Heath et al., 2015). Anthony et al. (2010) in a study of 40 primary care providers about conditions that influence a primary care clinician's decision to refer patients for depression care described "time constraints, lack of access to mental health specialists, lack of training and experience" as barriers to providing mental health services (p.2). The studies by Heath et al. (2015) and Anthony et al. (2010) identified the lack of mental health knowledge among primary care providers.

Intra-Agency System Barriers

System and structural factors also presented barriers to mental health services. The lack of mental health providers, the fragmentation in the healthcare system between general and mental health, the inability to task-share due to regulations, professional boundaries, and high staff turn-over were all components that lead to structural and system barriers to mental health within agencies (Hoeft et al., 2018; Weiss et al., 2009). Anthony et al. (2010) in a study of factors influencing primary care provider referral decisions and behaviors pertaining to patient depressive symptoms found that one third of the providers, "n=14; 35.3%," do not consider addressing psychosocial factors related to mental health due to time constraints (p. 5).

Interventions to Improve Mental Health Service Utilization

Interventions to Overcome Patient Barriers

The literature reviewed found that providers can reduce mental health-related stigma by referring patients with mental health needs to peer support programs, the providers themselves participating in mental health resource organizations like NAMI, and providers using mental health supportive language. Burke, Pyle, Machin, Varese, and Morrison (2019) in a meta-analysis of 23 papers on the effects of peer support on empowerment, self-efficacy, and internalized stigma found that peer support interventions led to increased self-efficacy and empowerment and may have led to decreased internalized stigma of mental health service recipients. In a study of 167 adults living with serious mental illness who were participating in a psychosocial program, Hack et al. (2019) examined how stigma and discrimination effected patient engagement in mental health treatment. A solution to reduce stigma suggested by Hack et al. (2019) was for providers using anti-stigmatizing language, which reduced the impact stigma had on treatment engagement for individuals with serious mental illness. Provider education about mental health, mental health resources, and appropriate mental health language would aid in reducing the stigma-related patient barriers to mental health service utilization.

Interventions to Overcome Provider Barriers

A review of literature revealed interventions utilized to overcome provider barriers included providing mental health training for primary care providers, use of technology, and integrative care between general health and mental health providers. For example, in a study about behavioral health integration into primary care healthcare systems, Zallman et al. (2017) found that improving primary care provider perception of ability to handle and manage mental health needs (including substance use disorders) led to improved job satisfaction and reduced burn out among primary health care providers. Anthony et al. (2010) found that 55% (n=40) of primary care providers in a study voiced discomfort in treating depression. However, clinicians

who trained with a mental health professional felt more comfortable in identifying and

recommending mental health treatment options (Anthony et al., 2010). Additionally, Anthony et

al. (2010) suggested that fostering ongoing relationships with mental health specialists and

facilitating collaboration between medical providers and mental health providers would improve

outcomes for the mental health population. While face-to-face training with a mental health

professional may not always be available, online education resources are available to primary

care providers to aid in building their mental health toolkit.

Hoeft et al. (2017) in a systematic review of 55 articles about task-sharing approaches to

improve mental health care in rural setting demonstrated how shifting responsibility or 'task-

sharing' decreased the mental health service shortage and found that technology was a solution to

bridge help in the office and community. Task-sharing was described as the shifting day-to-day

tasks from providers with more training to those with more general training; for example, a

psychiatrist or counselor handed off day-to-day tasks to a community health worker but remained

an integral part of the team as a consultant or team lead (Hoeft et al., 2017). The same strategy is

utilized in MHCSS and PSR as seen by a psychiatrist or a primary care provider having referred

the patient to a community mental health provider for the day-to-day needs, while the

psychiatrist or primary care provider remained at the head of the treatment team. This called to

action more education for providers on MHCSS and PSR to improve quality and access to

mental health care for patients living with SMI.

Technology such as tele-video conferencing was found to improve accessibility of mental

health providers to patients in rural areas or in provider scarce areas; additionally, it was found

that telemedicine supported medical education to overcome geographic and resource sparse

barriers (Hoeft et al., 2017). In the face of the COVID-19 pandemic, use of technology to bridge

the gap to mental health services has been paramount. Virginia Medicaid has reduced the restrictions to allow telehealth into MHCSS and PSR to bridge the gap to services for individuals with SMI (DMAS, 2020). Additionally, technology-based education has taken over as the primary mode of education to reduce risk of exposure and spread of COVID-19 (Yarmosky, 2020).

Steven and Sidlinger (2015) studied mental health consumers' ability to access healthcare services. Incorporating primary care into the mental health setting reduced stigma as patients had a pre-existing comfort level in the mental health setting; this was evidenced by 325 new persons establishing care and experiencing more face-to-face time with providers during that study (Steven & Sidlinger, 2015). Collaboration between primary care providers and mental health experts decreased barriers for access to mental health services; this came in many forms such as psychopharmacology carried out by the primary care provider based on the clinical suggestion of the mental health provider or referral by the primary care provider to a mental health specialist (Lokko & Stern, 2015). Having access to online education about mental health resources, at the discretion of the providers, increased the knowledge and resources list of those providers which, in turn, increases the access to mental health services by patients.

In several articles reviewed, lack of communication among providers has been found to be a major barrier to accessing mental health services (Chang et al., 2014; Heath et al, 2015; Lokko & Stern, 2015). To provide collaborative and cohesive care to patients, Hoeft et al. (2018) studied approaches to improve access to mental health care in rural and resource-sparse settings. Interprofessional education (IPE) training programs (doctors, nurses, PT/OT, respiratory, mental health providers learning side-by-side), patient-centered care (holistic), use of technology (telemedicine), and task-sharing (shifting of day to day tasks to lesser trained staff)

were suggested as interventions to improve provider collaborative competencies (Hoeft et al., 2018). The CDC (2020) described how online education has reduced the risk of exposure and spreading illness during the COVID-19 pandemic. Additionally, online education has supported the economic needs of participants by their not having to miss work and being able to schedule the education at their convenience (CDC, 2020).

Karlin and Karel (2014) in a study of 132 mental health providers about integration of mental health providers into home-based primary care of older adults demonstrated how increased holistic patient care, a collaborative team approach to care, and integrated services promoted access and improved quality of services. Stevens and Sidlinger (2015) from their study of mental health consumers about the effect of integrating primary care into a mental health setting suggested that collaborative efforts by primary care providers, mental health providers, case managers, and support staff would allow for more comprehensive visits by patients and support shared decision-making. A team approach focusing on patient care through comprehensive discussion and shared decision-making decreased the no-show rate typically experienced with the mental health population as evidenced by more than 800 new visits being completed in one year of this study (Stevens & Sidlinger, 2015).

Patient-centered medical home models were another intervention found to overcome provider barriers. Sahasranaman (2017) found that patients with chronic medical conditions are more likely to suffer with a mental health need. The ability to integrate both medical and mental health into one setting increased likelihood of recovery to better mental health outcomes (Sahasranaman, 2017). Every primary care facility may not have had the resources or ability to integrate care by adding mental health staff. However, ensuring that primary care providers were trained on available resources was a strategy found that all providers could employ to increase

patient access to needed services. Linman, Benjenk, and Chen (2019) in a cross-sectional study of primary care practices in medical home models found that adults living with a serious mental illness were at a higher risk of cardiovascular diseases or pulmonary disorders. Additionally, the study by Linman et al. (2019) found that those individuals living with SMI and comorbid cardiac or pulmonary disease had compounding factors such as instable housing, lack of access to resources and supports, as well as the inability to pay for those services as barriers to receiving needed services. Medical home models removed some of the barriers for the aforementioned patients by having created more access to resources, care management, and integrating mental health with medical health all in one treatment setting (Linman et al., 2019). Again, while integrated care may not be a readily available strategy for all primary care providers, having received additional education about mental health resources might be a cost-effective and readily available resource to ensure that patients could at least be referred to needed services. MHCSS and PSR both ensure that recipients are connected to needed services.

Clements et al. (2015) in a systematic review of 144 studies (n=90189 participants) about the impact of stigma on help-seeking behaviors found internalized and treatment-based stigma being the most associated influences reducing help-seeking behaviors with a median association of   d= -0.27 of those participants included in this study. Clements et al. (2015) suggested anti-stigma programs in treatment clinics and in communities to reduce patients' feelings of shame or embarrassment.

In an evidence-based practice guideline for providers in a medical care setting, Smith et al. (2015) discussed strategies pertaining to detecting depression later in life for older adults. Smith et al. (2015) suggested that education to increase provider competency on mental health discussions and management, encouraging patients to talk about their own mental health, and

increasing communication among providers were solutions to better patient outcomes for older

adults living with depressive symptoms. Provider education on available mental health

resources, such as MHCSS and PSR, were strategies identified to increase providers' ability to

discuss and manage mental health patients more effectively.

Interventions to Overcome System Barriers

Cheesmond, Davies, and Inder (2019) in a systematic qualitative review of 11 articles,

regarding rurality and mental health help-seeking behaviors of rural residents, found four

attitudinal barrier themes: stoicism, stigma (perceived and self-stigmas), distrust of mental

health services, and meaning (differences in how people assigned key concepts about mental

health such as what it means to be mentally ill). Cheesmond et al. (2019) suggested that rural

facilities take an individualized approach to changing policies that reduce stigma-related barriers

hindering mental health care as an approach to addressing the four attitudinal barriers perceived

by the authors of this study. Additionally, Cheesmond et al. (2019) described the importance of a

holistic approach to addressing the four identified attitudinal barriers to overcoming facility

issues, not solely focusing on stigma as the sole barrier to rural resident's help-seeking behavior.

The literature reviewed found that interventional efforts to overcome health care system

factor barriers should concentrate on integration of mental health and primary care, use of

standardized care protocols, and screening for mental illness. In a surveillance study of the

associations between patient-centered medical home and preventative care and healthcare quality

of adults with mental illness, Bowdoin et al. (2016) found that adults living with mental illness

who participated in integrated services (n=6,908), incorporating primary care and mental health

care, experienced better health outcomes. The adults in the Bowdoin et al. study were more

likely to participate in preventative measures such as cervical (AOR 2.33; 95% CI 1.41, 3.87)

and breast cancer screenings (AOR 2.19; 95% CI 1.45, 3.30), smoking cessation (AOR 2.87;

95% CI 1.75, 4.70), and vaccinations (AOR 1.88; 95% CI 1.75, 4.70). Similarly, Stevens and

Sidlinger (2015) and Smith et al. (2015) also demonstrated that integrative services led to better

patient outcomes such as increased patient participation in health-seeking appointments and

better detection of depression in the older adult by providers. Integrated services may not have

always been applicable or feasible. However, providers could have educated themselves on

resources to have been able to make appropriate referrals to services outside the purview of their

office.

Integrative services have followed one of two models: model 1 integrated mental health

services into primary care, while model 2 integrated primary care into the mental health clinic

setting. Karlin and Karel (2014) demonstrated that the integration of mental health services into

home-based primary care increased provider collaboration at the system level for the Veterans

Affairs centers as evidenced by increased consultation and training. Serrano et al. (2018) in a

study of four primary care clinics about the effect of the primary care behavioral health model on

emergency department visits showed that the integration of mental health services into primary

care reduced cost in the community by decreasing emergency department visits; one clinic in the

study experienced a statistically significant reduction in the ratio of emergency department visits

to primary care visits, 11.3 (p < .01, 95 % CI 6.3-16.3), when compared to a control site (p.

4529). Vickers et al. (2013) in a study about the integration of mental health resources into a

primary care setting (n=13) evaluated the experiences and opinions of primary care providers

and ancillary staff on expansion of mental health services into a primary care setting. Through

semi-structured interviews including open-ended questions and rating scales, the Vickers et al.

(2013) study discovered provider dissatisfaction in regard to mental health care and mental

health referrals. The intervention of adding mental health specialties (psychiatry, psychology,

and social work) to the practice for several hours each week increased access to care and was

appreciated by an increased provider satisfaction mean score of 3.9 to 8.8 (p < .001) out of 10

when treating individuals with anxiety and panic disorders (Vickers et al., 2013, p. 464).

Theoretical Model

Sister Callista Roy developed the Adaptation Model of Nursing in 1976 (Alligood, 2014).

This model described how humans were complex systems that were continuously confronted

with both internal and external stimuli; nursing's purpose was to aid humans in adapting to those

stimuli (Alligood, 2014). Adaptation allowed an individual to lead a high-quality life including

experiencing well-being; adaptation came either innately or from a learned process (Alligood,

2014). Roy's Adaptation model served as the theoretical framework for this DNP scholarly

project to encourage a continued learning environment for nurse practitioners. This model has

provided groundwork for nurse practitioners to be able to assess and care for mental health

patients within their own environment (Alligood, 2014). The increasing need of mental health

services has posed new challenges for nurse practitioners. Patients living with SMI have had

difficulty in navigating their environments and appropriately dealing with internal and external

stimuli: both real and disease-related. With the goal of promoting patient adaptation and well-

being, nurse practitioners have been called to action to engage in learning activities that do just

that. Roy's Adaptation Model has encouraged nurse practitioners to find new avenues to guide

their patients in adapting to a changing world (Alligood, 2014). Education on MHCSS or PSR

would allow nurse practitioners to refer patients living with SMI to services that would help

them in more adequately adapting to their environments.

An example of how Roy's adaption model was utilized as the framework to help nurses who worked with patients with mental health needs was seen in the paper by Jennings (2017) *The Roy Adaptation Model: A theoretical framework for nurses providing care to individuals with anorexia nervosa.* This paper described the severity of the mental illness anorexia nervosa and the nursing approach to treatment of this disorder which included monitoring and assessing weight, implementing weigh gaining interventions while also maintaining a therapeutic relationship consisting of empathy, respect, being direct and showing consistency (Jennings, 2017). Jennings (2017) further described how Roy's adaptation model provided structure and guidance to nurses in treatment of anorexia nervosa. Jennings (2017) described the four major concepts of Roy's adaption model which included the patient as an adaptive system, their environment, the patient's health, and the goals of nursing. The patient was a collection of parts that function as a whole towards a purpose which made them an adaptation system; the environment was all the internal and external stimuli that affected the patient, and health was the process of becoming or remaining a whole system (Jennings, 2017). That left nursing with the goal of "enhancing life processes to promote adaptation" (Jennings, 2017). In terms of understanding patients with anorexia nervosa, the disease process created an environment of internal and external stimuli, which resulted in the creation of defense mechanisms and subsequent behaviors (i.e. restricting caloric intake) and which were ineffective and impacted the patient's ability to adapt (i.e. gain weight) (Jennings, 2017). Behavior responses were observed in four modes of adaptation "interdependence, physiologic, role function, and self-concept" (Jennings, 2017). In having treated anorexia nervosa with an adaptation model underpinning, the nurse needed to assess the patient to identify their specific adaptation level and coping strategies, identify behaviors and stimuli that affected gaining weight, and provided interventions to waylay

learned defense mechanisms while also having promoted adaptation in one of the four adaptive

modes (Jennings, 2017).

Roy's adaptation model was flexible in that it lent itself to both mental health and

physical health arenas. Borzou et al. (2015) studied the *Effect of Roy's adaptations model on

nursing and quality of life in patients with type II diabetes*. This quasi-experimental study (pre-

test, post-test design) consisted of 60 diabetic patients that were randomly divided into two

groups where quality of life was evaluated in five dimensions: diabetes control, anxiety, social

protection, sexual activity, and energy and mobility (Borzou et al., 2015). Roy's adaption model

was used in the educational program for the experimental group and the questionnaire was based

on concepts from Roy's model to include physiological aspects (physical exercise, resting,

nutrition, oxygenation, liquids), self-perception (state of mind, personal feelings about self), role

play (regarding family members and expectations), and independence (typical behavior for the

individual) (Borzou et al., 2015). Borzou et al. (2015) found utilizing Roy's adaptation model

positively impacted quality of life among diabetic patients in comparison to their counterparts in

the non-experimental group especially in regard to diabetes control, energy and mobility, and

social support.

Roy's adaptation model has been effective in building coping strategies in patient. This

was seen in the double-blind randomized controlled clinical trial by Farsi and Azarmi (2016), the

*Effect of Roy's adaptation model-guided education on coping strategies of the Veterans with

lower extremities amputation*. Farsi and Azarmi (2016) described how nurses played a vital role

in aiding patients to adjust to new roles and to mitigate stress. Nurses evaluated patients based

on physical and psychological factors and identified maladaptive behaviors in terms of

physiology, self-concept, roles, and independence while simultaneously having developed an

educational strategy to address those maladaptive behaviors (Farsi and Azarmi, 2016). Farsi and

Azarmi (2016) described how nursing studies based on Roy's adaptation model revealed

improved adaptive responses by patients. The questionnaire in the study by Farsi and Azarmi

(2016) included questions based in the four modes of the adaptation model to include physiology

(exercise), self-concept (care about appearance), role functioning (harmony of relationships), and

interdependence (closeness to friends and family). There were no functional differences between

the groups prior to the intervention. Post the Roy's adaptation model educational intervention,

testing showed significant difference between the two groups especially in terms of coping

strategies.

In summary, there have been several interventions employed to reduce the barriers to

utilization of mental health services by patients. Those interventions included patient-centered

care, provider education on mental health management and available community mental health

resources, and integrative healthcare services between primary care and mental health. Studies

showed that the aforementioned interventions were effective in increasing the number of mental

health services used by patients (Zallman et al., 2017), increased collaborative efforts (the

number of phone calls between primary care and mental health providers) (Anthony et al., 2010),

and increased mental health awareness of providers (Smith et al., 2015). Additionally, the

aforementioned interventions were successful in reducing the number of emergency department

visits for mental health problems (Serrano et al., 2018), increasing the use of preventative

measures (Bowdoin et al., 2016), and increasing patient-focused care (Hack et al., 2019).

Moreover, the studies reflected a decreased no-show visits rate and improved shared-decision

making (Stevens & Sidlinger, 2015) as well as provision of more comprehensive care (Karlin &

Karel, 2014) when integrative medicine (combining medical and mental health interventions)

was used to reduce barriers to mental health services (See table 3, Appendix C). Table 3 depicts

how interventions to promote mental health resource utilization (mental health education,

interprofessional education, and integrated care) impacted outcomes (knowledge, resource use,

shared decisions or collaboration, and reduction in no-show to provider appointments).

Summary of Gap in Knowledge

Historically, physical health and mental health care have been separate services. As a

result, the majority of research existed for each service individually. Although more recent

research has focused on integrative approaches to healthcare, further research is warranted to

support holistic medicine approaches.

A void was found pertaining to literature and research about mental health community

support services (MHCSS), formerly mental health skill building services, and psychosocial

rehabilitation services (PSR). A small amount of research has been completed focusing on PSR

in the Veteran and elderly populations (Nelson, Bowersox, King, &Hunt, 2019; Lim et al., 2015).

There were no studies found specifically researching MHCSS. One study found focused on

concepts of a type of skills training but did not pertain to MHCSS specifically (Pratt, Mueser,

Wolfe, Santos, & Bartels, 2017).

The DNP Scholarly Project, Improving Nurse Practitioner's Knowledge and Utilization

of Mental Health Community Support Services and Psychosocial Rehabilitation Services,

addressed current knowledge of MHCSS and PSR from the nurse practitioners' perspective and

offered a protocol for MHCSS and PSR education that could be supported and tailored to fit the

needs of nurse practitioners and other healthcare providers within Virginia. The mental health

education for the project focused on the purpose of MHCSS and PSR, the eligibility criteria

patients must meet in order to be referred to these services, the specific interventions of MHCSS and PSR as well as the population best served by MHCSS and PSR.

Contribution to Current Knowledge

In light of the current mental health climate in the midst of the COVID-19 pandemic, the latest information from Mental Health America reported that as cases of COVID-19 rose, so did the impact on our country's mental health; Mental Health America suggested compiling a list of education and resources as a strategy to positively impact the country's mental health needs (Mental Health America, 2020). This research study indicated provider education about MHCSS and PSR not only aided in better understanding the purpose of MHCSS and PSR and the eligibility criteria needed for each service, but also aided providers in being able to make appropriate referrals to those services in case scenarios.

The lack of nurse practitioner education about MHCSS and PSR has created missed opportunities to refer patients to needed services. Of which has left those suffering with SMI in a more vulnerable state. This quality improvement study will positively impact the SMI population by ensuring that more providers have a knowledge of and ability to appropriately refer patients to MHCSS and PSR. The aim of this study was to identify if provider education increased knowledge and ability to make appropriate referrals to MCHSS and PSR. This study confirmed that educating not only nurse practitioners and nurse practitioner students, but other healthcare providers as well, increased their ability to make appropriate referrals to MCHSS and PSR which will aid in reducing clinical morbidity.

Chapter 3: Methods

This project aimed to improve patient access to MHCSS and PSR by promoting education of nurse practitioners and other healthcare providers about MHCSS and PSR. This project accomplished these goals by offering an online educational webinar to nurse practitioners, nurse practitioner students, and other healthcare providers about MHCSS and PSR. To facilitate attendance and to decrease disruption of workflow of the participants, the online educational webinar was pre-recorded and was available for viewing at the convenience of the participant. The estimated duration of the online webinar from beginning to end was 52 minutes. After participating in the educational webinar, attendees were able to download an example resource list of MHCSS and PSR providers available in the in Roanoke, Virginia area.

A one group, pretest-posttest study was designed, using a self-reported survey, to measure the effects of whether provider education improved (a) knowledge of MHCSS and PSR, (b) understanding of the purpose of MHCSS and PSR, (c) knowledge of eligibility criteria for MHCSS and PSR, and (d) investigated the ability to make appropriate referrals post-education to MHCSS and PSR in case scenarios.

Project Sample

The study participants were nurse practitioners, nurse practitioner students, and other health care providers who practiced in the state of Virginia, worked with adult patients, and had interest in participating in an educational webinar about MHCSS and PSR. The study was opened to other providers of healthcare services in Virginia that met the same criteria as the nurse practitioners. The COVID-19 pandemic created an unstable economic environment compounding the already overwhelmed healthcare system. While many Virginians were struggling to cope with the new normal during the pandemic, offering online education at a cost

would have been a detriment to the participant and may have potentially skewed participants away from participating in the study during economically unstable times. As such, the study assembled a convenience sample. The convenience sample was assembled from Radford University and Radford University Carilion nurse practitioner faculty and students from the Doctor of Nurse Practice and Master's level Nurse Practitioner programs. Additionally, advertising through the social media platforms Facebook and LinkedIn was utilized in this study. Connections of the student researcher through Facebook and LinkedIn made requests to participate by following the instructions on the listed advertisement which included reaching out to the student researcher via Radford University student email. In this project, the educational workshop was a free online, pre-recorded, webinar on MHCSS and PSR. The estimated sample size calculated using an anticipated effect size (Cohen's d) of 0.8, a power level of 0.8, and with probability of 0.05 was 21 per group with a minimum total sample size of 42 participants (Soper, 2019). The total anticipated number of participants was 42. Power was not believed to be achievable due to the potentially small number of participants.

With the continued provider shortage, nurse practitioners were being called to the front line in many primary care practices. Nurse practitioners comprised 25% of the provider workforce in rural areas like Virginia (Bryant, 2018). These facts made nurse practitioners the prime population for turning knowledge into action. Additionally, nurse practitioner's dedication to their community, service, and research supported this quality improvement project and pilot study. The original project was designed for an in-person educational workshop hosted at three to five different Carilion Clinic family practices. However, the COVID-19 pandemic altered the regular flow of all human interactions including those provided by primary care providers. The

COVID-19 pandemic influenced the transition of this study from an in-person educational session to a pre-recorded online webinar.

Protection of Human Subjects

Institutional Review Board (IRB) approval was sought and gained through Radford University. This project did not involve direct patient care. There were minimal risks to consider as this project was an educational webinar for nurse practitioners. The project included assessment questions that were answered by participant healthcare providers on the topics of cultural diversity, gender bias, and races. The risks for participating in the project were not greater than those associated with everyday life. This project required acknowledging the participants' last name, first name, and e-mail when the participant requested participation from the student researcher. No contact information from participants was stored by the student researcher.

Informed consent to participate in the online study was obtained the day the participant partook in the online webinar, prior to their participation. All consent forms were electronically agreed upon at initiation of the educational webinar. The agreement to participate was noted electronically for each participant in Qualtrics.

As individuals' expressed interest in participation to the student researcher through email, the email address of that individual was entered into Qualtrics, and the original interest email was permanently deleted. No paper record of emails was kept. All electronic files and computer encrypted files of data were stored on a password protected USB drive and were maintained by the student researcher in a locked cabinet at the student researcher's home office for the duration of the DNP Scholarly Project. Only the student researcher and the project primary investigator

(PI) had access to the electronic consents and data files. No individually identifying information was gleaned during the data collection of this study.

All electronic data and results from Qualtrics/SPSS will be maintained by the project PI for a maximum of three years post the completion of the DNP Scholarly Project. After three years, the project PI will be responsible for destroying the project information by deleting any computer or USB files.

Instruments

No validated instruments that addressed and measured the effect of education on provider knowledge of MHCSS and PSR were found during the review of literature for this research study. The survey questions were formulated based on the purpose of the project, literature reviewed (references are discussed in the Procedure section), and measured the participants' knowledge of descriptions of MHCSS and PSR, the purpose of each of the services, and the eligibility criteria needed for patients to be referred to MHCSS or PSR.

Procedure

The original DNP Scholarly Project, the Effect of Education on Provider Knowledge of Non-traditional Mental Health Services, received verbal support from Dr. Kimberly Ferren Carter in the Nursing Research Administration of Carilion Clinic (personal communication, October 21, 2019) as well as Dr. Anita Kablinger in the Psychiatric/Behavioral Health research division (personal communication, October 15, 2019).

On March 16, 2020, Dr. Epling, head of research for Family Medicine at Carilion Clinic, decided that due to the COVID-19 pandemic, no outside family medicine research would be initiated in order to focus on how to best meet the needs of family medicine patients of Carilion Clinic over the next six to 12 months (personal communication, March 16, 2020).

IRB approval was originally sought through Carilion Clinic IRB. Given Carilion Clinic's limited involvement in the original project, Carilion Clinic's IRB department suggested seeking IRB approval through Radford University (Anita Kablinger, personal communication, October 15, 2019). In light of the unfolding changes due to the COVID-19 pandemic, IRB approval was sought and obtained through Radford University IRB.

A DNP Scholarly Project Committee meeting was held on March 19, 2020 to discuss the changing healthcare environment and how COVID-19 was affecting the original DNP project. A consensus was formed which agreed to transform the original DNP project from in-person educational workshops to an online pre-recorded webinar that was accessible at the convenience of the participant by the student researcher and the student's DNP Team Leader and Team Members. Additionally, strategies thought to encourage participation included focusing the project on education of nurse practitioners and nurse practitioner students.

Prior to submitting this project to IRB, the finalized webinar was sent to Daniel Kemp, MS Industrial Organizational Psychology, HR Global Operations; Misty Queen, DNP-FNP student, RN; Samantha Hall, FNP-BC; and Grant Hall, B.A. Econ, Certified Project Manager, for review of visual and auditory content to ensure consistency and reputability. With permission of Radford University FNP/DNP Programs, the study was advertised by email using the Radford University email system to nurse practitioner faculty and nurse practitioner students at Radford University and Radford University Carilion and social media using the accounts of the student researcher in Facebook and LinkedIn which provided the advertisement about the study to other healthcare providers (Appendix D). The same advertisement letter was made available on social media that was sent via the Radford University email system. After voicing interest in participation by individuals through email, the student researcher directly entered those

participants' email addresses into Qualtrics which initiated the study by emailing the interested

participant a link to the study. Advertising and recruitment for the study took place from June

09th, 2020 through July 13th, 2020 after the proposal was approved by the Radford IRB.

Participant informed consent was collected at the time of participation in the webinar and

included informed consent for the pre-test survey, webinar education on MHCSS and PSR, and

the post-test survey information. Data was collected by electronic transmission during the

participation of the educational webinar in Qualtrics. Table 4 in Appendix E has a full list of

study variables. Refer to the Codebook (Appendix F) for preliminary survey questionnaire data

obtained, Appendix G for the pre-education survey questionnaire, and Appendix H for the post-

education survey questionnaire.

Pre-Survey (Refer to Appendix G): The participants completed a 5-7-minute pre-

education survey that gauged attitudes, beliefs, knowledge, and behaviors of mental health

services resource utilization and management.

The pre-education survey consisted of two sections. The first section, questions one

through seven, focused on demographic information including educational background, years in

practice, type of practice, gender, specialty of practice, age, and ethnicity/race. The second

section of the pre-education questionnaire investigated provider practices, beliefs, and

knowledge. Questions eight and nine focused on comfort level in working with patients with

mental health problems and were formulated secondary to literature reporting provider

discomfort in addressing or treating mental health needs (Anthony et al., 2010; Heath et al.,

2015; Weiss et al., 2009). Questions 10, 11, and 12 queried frequency of seeing mental health

patients, likeliness to refer out for mental health needs, and frequency of addressing mental

health needs during visits. Much of the current literature focused on barriers to providing mental

health services; question 13 asked the provider to order and rank barriers from greatest to least

(Anthony et al., 2010; Chang et al., 2014; Cheesmond et al., 2019; Lokko & Stern, 2015).

Multiple studies reviewed for this project demonstrated that better patient outcomes were

experienced when primary care providers consulted or collaborated with a mental health

specialist; question 14 surveyed consultation practices of the primary care provider (Anthony et

al., 2010; Lokko & Stern, 2015; Steven & Sidlinger, 2015). Questions 15 gauged the primary

care provider's current knowledge level of mental health resources. Question 16 inquired about

historical referral practices to different mental health services. Questions 17 through 20

investigated familiarity with MHCSS and PSR services as well as history of referrals to either

program. Questions 21 through 24 measured the primary care provider's knowledge of

eligibility criteria and purpose of MHCSS and PSR.

     Post-Survey (Refer to Appendix H): After the education described above, participants

completed a 7-10-minute post-education survey that evaluated gained knowledge and

implementation of that new knowledge into mental health case scenarios. The post-education

survey questionnaires consisted of the same pre-education survey questions 21-24 which queried

the purpose of and eligibility criteria for MHCSS and PSR. Additionally, the post-education

survey consisted of four case scenarios that lead the provider to make referrals for MHCSS, PSR,

counseling, and a psychiatric hospitalization. The questions were formulated utilizing the

eligibility criteria for each service. The questions served as a measure of providers' education

comprehension of the information provided in the educational session. The patient information in

each scenario was developed by the student researcher; fabricated but plausibly depicted

scenarios that the practitioner might encounter in clinical practice, and did not utilize any real

patient information.

Educational Webinar on MHCSS and PSR

The educational webinar focused on MHCSS and PSR, the purpose of each service, eligibility criteria needed to refer patients to MHCSS and PSR, and included an example hand-out of Roanoke-based non-traditional providers of MHCSS and PSR. The educational webinar lasted 29 minutes 55 seconds. To aid nurse practitioners in navigating referrals to MHCSS and PSR, a decision tree algorithm guideline (Appendix I) was developed to assist the understanding of severity level of needs which supported the education.

The education was provided by the student researcher who is knowledgeable about MHCSS and PSR services in Roanoke, Virginia. The educational webinar contained objectives, an outline, outcomes, evaluation, and an example handout of MHCSS and PSR providers in Roanoke, Virginia. The educational program was designed for sustainability meaning that the information could be tailored to meet the future need of different primary care offices in different geographic locations that may want to participate in the educational webinar.

Prior to the education in the webinar, the overview and the objectives of the webinar on MHCSS and PSR were reviewed by participants as the following script: *This educational webinar will focus on Mental Health Community Support Services and Psychosocial Rehabilitation Services, the purpose of and eligibility criteria of each service, and review the population best served by the two services which are adults living with chronic serious mental illness. The education will also explain the differences between the two programs and how individuals may be appropriate for one, both, or neither. Additionally, the education will give a brief overview of severity level of needs and include an algorithm for nurse practitioners to contemplate when considering referral for non-traditional mental health services. Finally, the participants will receive an example of a MHCSS and PSR program reference lists that can be*

utilized in a healthcare office setting (Appendix J).

      Mental health community support services (MHCSS): formerly known as mental health support services or mental health skill-building services, is the provision of one-to-one, recovery-based, skills training to individuals living with a chronic serious mental illness. Skills training includes those skills needed to thrive in community-based, independent living to the highest level possible for that individual. MHCSS training includes education about health, safety, medication management, activities of daily living, finding and utilizing beneficial community resources, reducing risks that may require psychiatric hospitalization or judicial intervention, how to establish and maintain interpersonal relationships, and basic living skills (Department of Behavioral Health and Developmental Services, 2018; Roanoke Resource, para. 2, 2019, Virginia Medicaid, 2019).

      Psychosocial rehabilitation services (PSR): is a day-treatment program lasting two to seven consecutive hours per day in a group, non-residential setting; participants must demonstrate a clinical need for services secondary to a mental illness. PSR provides opportunities for training in areas related to independent living skills, health education, safety and/or personal care, interpersonal relationships, medication management, finances, personal hygiene, appropriate nutrition, appropriate recreational activities, symptom management, and assistance to become or remain an active participant in their community and integrated environments (DBHDS, 2018; Roanoke Resource, para. 1, 2019; Virginia Medicaid, 2019).

      The purpose of MHCSS/PSR: the purpose of MHCSS is to help individuals remain out of the psychiatric hospital and out of incarceration. Additionally, MHCSS aids individuals to remain or become an active participant in their communities by increasing independent living skills and ability to complete activities of daily living. The purpose of PSR is to decrease

isolation, increase positive social contacts, create a health environment to learn new skills, provide opportunity for peer support, gain exposure to new ideas, trainings, and education as well as community integration. (DBHDS, 2018; Roanoke Resource, para. 1, 2019; Virginia Medicaid, 2019).

    Eligibility Criteria for MHCSS/PSR: the eligibility criteria for MHCSS requires the person be an adult, be under the care of a psychiatric provider (or be referred to a psychiatric provider), be diagnosed with a chronic serious mental illness (Major Depression, Bipolar I or II, Schizoaffective disorder, or Schizophrenia), be prescribed a psychotropic medication/(s) within the last twelve months, have a history of psychiatric hospitalization as an adult or other qualifying event, have Virginia Medicaid, and exhibit a clinical need for the service. The eligibility criteria for PSR mirrors that of MHCSS with the exclusion of the history of a psychiatric hospitalization as an adult. MHCSS is a more intensive service while PSR is a less intensive service. PSR additionally allows individuals with intellectual disability/developmental disability diagnoses to participate in PSR (DBHDS, 2018; Roanoke Resource, para. 1, 2019; Virginia Medicaid, 2019).

    In addition to meeting all of the criteria listed above for each services, individuals must also meet at least two of the following criteria on an intermittent or continuous basis: (a) difficulty in establishing or maintaining interpersonal relationships to such a degree that homeless or hospitalization are risks, (b) inappropriate behavior that results in repeated interventions by mental health, social services, or judicial systems, (c) display difficulty in cognitive abilities such that the individual is unable to recognize personal danger or inappropriate social behaviors, (d) requires assistance to maintain hygiene, nutrition, or finances to such a degree that health or safety is jeopardized without intervention, or (e) unable to

function in the community without intensive intervention or requiring long-term services to be

maintained in the community (DBHDS, 2018; Roanoke Resource, para. 1, 2019; Virginia

Medicaid, 2019).

When nurse practitioners have the knowledge and an understanding of MHCSS and PSR,

they are better equipped to make referrals to these services. Additionally, understanding the

purpose and eligibility criteria of MHCSS and PSR supports the nurse practitioner to ensure that

patients have needed components to their mental health care. If the nurse practitioner observes

that a patient has a need for MHCSS or PSR but does not have psychotropics prescribed, if the

patient has a clinical need for such intervention, the nurse practitioner may fill that need, as

commensurate to one's scope of practice. Additionally, while the nurse practitioner can refer the

patient to MHCSS or PSR, they can also refer the patient to a psychiatric provider. Admission to

MHCSS and PSR services will not be halted if appropriate referrals have been made on behalf of

the patient by the nurse practitioner.

Data Management

This quality improvement study was created by the student researcher and completed by

the participants using Qualtrics. Qualtrics allowed for inclusion of the consent to participate, the

pre-test survey, the pre-recorded educational webinar, and the post-test survey. All data was

collected through and stored in Qualtrics. Qualtrics allowed for analysis of data. All data

collected was utilized to analyze the study results. All entries including those that had missed

answers or outliers were included. Qualtrics allowed data to be exported from Qualtrics into

SPSS for statistical analysis.

The data was collected at the convenience of the participant which could have been at

their home, work, or other place of their choosing. Participants were not linked to their answers

in any way. All participant information, including interest emails and dialogue, were deleted

after entering the participant's information into the Qualtrics trigger to send out the study.

All electronic data and results from Qualtrics and SPSS will be maintained by the project

PI for a maximum of three years post the completion of the DNP Scholarly Project. After three

years, the project PI will be responsible for destroying the project information by deleting any

computer or Qualtrics files.

Data Analysis

Frequency and percentages for nominal and categorical variables and mean and standard

deviation for continuous variables were used to describe the knowledge, intention, and

compliance of the mental health resources and its utilization. Providing data from the baseline

(pre-education survey) and a second time reference (post-education survey) after the education

session allowed measurement of the effectiveness of the educational session about MHCSS and

PSR. Analysis of pre-education and post-education survey data were evaluated to determine

change in knowledge of MHCSS and PSR, understanding the purpose of each service and

eligibility criteria needed to be able to refer, and providers' ability to make appropriate referrals

to each service. The original project idea called for McNemar's test for nominal variables and

dependent t-test for continuous dependent variables, however, these tests were not used to

evaluate the differences in pre-education survey data and post-education survey data due to the

changes in the questions used in the pretest and posttests, data collected, and mode of the

education change from a face-to-face interaction with participants to an online webinar using

Qualtrics (Kellar & Kelvin, 2013). Therefore, this final DNP Scholarly project only allowed for

frequency and distribution analysis of nominal information gleaned in the pretest-posttest and

case scenarios, range of ages of participants, and calculations of means and standard deviations.

Chapter 4: Results

Sample Characteristics

The convenience sample was comprised of 31 adults who were recruited over a five-week period from June 9th, 2020 through July 13th, 2020. The study sample contained all adults, of which 2 (6.5%) were male, 28 (90.3%) were female, and 1 (3.2 %) were transgendered individuals. The educational background of participants showed 7 (22.6%) as being nurse practitioners in practice, 0 (0%) as being nurse practitioners solely in academia, 7 (22.6%) were nurse practitioners in practice and academia, 9 (29.0%) were nurse practitioner students, and 8 (25.8%) identified as other (two clinical nurse specialists, one EMT, one DNP nursing faculty, one social worker, one group home administrator, one vocational rehabilitation counselor, and one LCSW). The following table demonstrates that of the sample, almost 75% of participants were of the intended population, nurse practitioners or nurse practitioner students.

The study sample diversity among 31 participants skewed heavy on homogeneity consisting of 26 (81.25%) white/Caucasian participants followed by 2 (6.25%) Hispanic or Latino participants, and the remaining participants had an evenly distributed weight of about 1 (3.125%) each for those identifying as either Black/African American, American Indian/Alaska Native, Asian, or bi-racial. One participant chose more than one ethnicity for their ethnicity response.   The ages of participants were from 27 years old to 64 years old with the majority of participants, 13 (41.9%) sitting in the 30's demographic. The mean age of the sample was 40.75 years, the standard deviation was 10.31years , the range was 37years, and the interquartile ranges were as follows: Q3 46, Q1 33, IQR 13.

Table 1
Demographic Characteristics of the Sample

Demographic Characteristic	Category	Frequency	No. (%) of total (N=31)

What is your educational background?

NP (in practice)	7	22.6
NP (in practice and acad.)	7	22.6
NP student	9	29.0
Other	8	25.8

What is your ethnicity/race? *

Hispanic/Latino	2	6.25
Black/African American	1	3.125
White/Caucasian	26	81.25
American Indian/ Alaska Native	1	3.125
Asian	1	3.125
Bi-racial	1	3.125

What is your age? (N=28) **

Mean	40.75
STD	10.31
Range	37
Q3	46
Q1	33
IQR	13

What is your gender?

Male	2	6.5
Female	28	90.3
Transgender	1	3.2

Note. *One participant indicated two ethnicities. **Only 28 of the 31 participants answered the age question in this study.

A wide range of clinical experience was noted, where a majority of participants 11 (35.5%) had over 10 years of experience, while the second largest group, 10 (32.2%), had between zero to three years of clinical experience. Among the 31 participants, almost half of participants, 15 (48.4%), worked in a group practice of providers, 1 (3.2%) in an individual provider practice, and 13 (41.9%) participants worked in other settings such as an emergency department, hospital acute care, psychiatric teaching environment, outpatient clinic arena, hospital, or state agency setting. From the sample, 7 (22.6%) participants identified as working in a family practice, 2 (6.5%) worked in internal medicine or an OBGYN office, 1 (3.2%) worked in urgent care, 6 (19.4%) worked in psych/mental health, and 12 (38.7%) participants

worked in other healthcare setting such as hospital, in the field, pediatrics, dialysis clinic, a group

home, wellness center, disability center, surgical ICU, federally qualified healthcare center, or

did not work.

Table 2
Experience and Practice Setting Characteristics of the Sample

Demographic Characteristic	Category	Frequency	No. (%) of total (N=31)
How many years have you been in practice?			
	0-3 years	10	32.2
	4-6 years	4	12.9
	7-9 years	2	6.5
	10+ years	11	35.5
	Other	4	12.9
What type of practice do you work in?			
	Individual provider in a practice	1	3.2
	Group of providers in a practice	15	48.4
	Other	13	41.9
	Missing answer	2	6.5
What type of clinic do your practice in?			
	Family practice	7	22.6
	Internal Medicine	2	6.5
	OBGYN	2	6.5
	Urgent Care	1	3.2
	Psych/mental health	6	19.4
	Other	12	38.7
	Missing	1	3.1

Major Project Variables

The variables that addressed provider practices demonstrated that most participants felt

either 'somewhat comfortable,' 14 (45.2%), or 'very comfortable,' 11 (35.5%), in addressing

mental health needs with patients. However, in the table below, the comfort levels in actually

treating patients with mental health needs dropped by 20% in the 'somewhat comfortable'

category, 8 (25.8%), but remains exactly equal in the 'very comfortable,' 11 (35.5%), category.

Most participants, 17 (54.8%), reported seeing between one to ten patients with mental health

diagnoses per week, while 8 (25.8%) saw between 11-24 patients with mental health needs, a

few participants, 3 (9.7%), reported seeing between 25-49 patients with mental health needs per

week, and only two participant, 2 (6.5%), reported seeing 50 or more patients per week with a

mental health diagnosis. Out of N=31, only one person stated they did not see any mental health

patients in one week; these numbers demonstrate the prevalence of mental health in our current

healthcare climate.

From this sample, 17 (54.8%) participants reported addressing patient mental health

needs at each visit while 11 (35.5%) reported addressing mental health needs occasionally. One

participant (3.2%), reported addressing mental health needs only when they are brought up, 2

(6.5%) participants reported addressing mental health needs semi-annually and no participants

addressed mental health needs only annually. That means that 45.2% (N=14) participants in this

sample do not address mental health on a regular basis while the other portion address mental

health every visit; a seemingly dichotomous approach to such a prevalent issue. In terms of

likeliness to refer patients out for mental health needs, 14 (45.1%) reported they are likely to

refer out (Likert scale), while 8 (25.8%) are very likely to refer out, 5 (16.1%) are not likely to

refer out, and 6.5% either do not refer out (N=2) or refer out every time (N=2).

Table 3
Sample Practicing Characteristics

Demographic Characteristic	Category	Frequency	No. (%) of total (N=31)
What is your comfort level in addressing patients with mental health issues?			
	Not comfortable at all	1	3.2
	A little uncomfortable	5	16.1
	Somewhat comfortable	14	45.2
	Very comfortable	11	35.5
What is your comfort level in treating patients with mental health issues?			
	Not comfortable at all	5	16.1

A little uncomfortable	7	22.6
Somewhat comfortable	8	25.8
Very comfortable	11	35.5

How many patients do you see in one
week with a mental health diagnosis?

0	1	3.2
1-10	17	54.8
11-24	8	25.8
25-49	3	9.7
50+	2	6.5

How often do you address patients'
mental health needs?

Never address it or only when it is brought up	1	3.2
Occasionally	11	35.5
Each visit	17	54.8
Semi-annually	2	6.5

What is your likeliness to refer patients
 out for mental health care?

Do not refer out	2	6.5
Not likely to refer out	5	16.1
Likely to refer out	14	45.1
Very likely to refer out	8	25.8
Refer out every time	2	6.5

The barriers to addressing mental health needs were included in this study to better gauge areas of potential improvement. The largest barrier identified by the study participants was time constraints (35.7%, N=10), followed by lack of resources (21.4%, N=6), low comfort level in providing mental health care and scope of practice (14.3%, N=4 each), and education of providers (10.7%, N=3). Very few participants reported no barriers, but 'no barriers' were reported by 3.6% (N=1) of participants and three participants did not answer this question at all.

The consultation practices of the participants revealed that almost half, 14 (45.2%), of participants consulted a mental health specialist at least sometimes, 1-3 times per month. The data revealed that 7 (22.6%) participants consulted a mental health specialist more frequently,

more than 4 times per month, while 9 (29%) reported never consulting a mental health specialist.

A majority of the participants, 16 (51.6%), reported having some knowledge of mental health

resources in their area while 10 (32.3%) reported having a little knowledge of area resources and

4 (12.9%) reported being very knowledgeable about area mental health resource. Only 1 (3.2%)

participant reported having no knowledge of area mental health resources.

In terms of historical mental health referrals made, the study cohort demonstrated that all

but 2.1% (N=2) had made referrals to traditional mental health services in the past. Of the

participants, 21 (21.7%) had made referrals to psychiatry, 27 (27.8%) made referrals to

counseling/therapy, 14 (14.4%) had made referrals to MHCSS, 4 (4.1%) had made referrals to

PSR, 16 (16.5%) made referrals to substance use disorder treatment providers, 12 (12.4%) had

made referrals to inpatient psychiatric hospitalizations, and 1 (1%) had made referrals to other

mental health resources (peer support).

Table 4
Barriers, Consultation, Resource Knowledge, and Historical Referral Pattern

Demographic Characteristic	Category	Frequency	No. (%) of total (N=31)
What are the barriers to addressing mental health needs in your practice?			
	Time	10	35.7
	Resources	6	21.4
	Comfort	4	14.3
	Scope	4	14.3
	Education	3	10.7
	No barriers	1	3.6
	Missing	3	0
Do you consult with a mental health specialist about the course of treatment for your patients?			
	No	9	29.0
	Sometimes (1-3 times per month)	14	45.2
	Frequently (4+ times per month)	7	22.6
	Missing	1	3.2

What is your current knowledge
 level of mental health resources
in your area?

	No knowledge	1	3.2
	A little knowledge	10	32.3
	Some knowledge	16	51.6
	Very knowledgeable	4	12.9

Please select all of the mental
health referrals that you have
made previously? *

	Psychiatry	21	21.7%
	Counseling	27	27.8%
	MHCSS	14	14.4%
	PSR	4	4.1%
	SUD	16	16.5%
	Inpatient	12	12.4%
	None	2	2.1%
	Other	1	1%

Note. *Participants could have chosen more than one type of referral which is why there are more than N=31 answers.

MHCSS and PSR Familiarity and Historical Referrals

The final variables investigated prior to evaluating the pretest-posttest knowledge questions were those that pertained to familiarity and historical referral patterns of the participants to MHCSS and PSR. More than half, 18 (58.1%), of the study participants indicated that they were familiar with MHCSS but the exact same number, 18 (58.1%), of participants had never referred a patient to MHCSS. The data revealed that a smaller number, 10 (32.3%), were familiar with PSR but that 25 (80.6%) of participants had never referred a patient to PSR. The data revealed that participants were more familiar with MHCSS than PSR, but had little referral history of referral to both MHCSS and PSR.

Table 5
MHCSS and PSR Familiarity and Historical Referrals

Demographic Characteristic	Category	Frequency	No. (%) of total (N=31)

Are you familiar with mental
health community support services
(MHCSS) in your area?

Yes	18	58.1
No	12	38.7
Missing	1	3.2

Have you ever referred a patient
to mental health community
support services (MHCSS)?

No	18	58.1
Occasionally	6	19.4
Frequently	6	19.4
Missing	1	3.2

Are you familiar with psycho-
Social rehabilitation services
 (PSR) in your area?

Yes	10	32.3
No	21	67.7

Have you ever referred
 a patient to psychosocial
rehabilitation (PSR) program?

No	25	80.6
Occasionally	1	3.2
Frequently	4	12.9
Missing	1	3.2

Note. Missing values included in total percentage weight.

Comparison of Knowledge Level on MHCSS and PSR Before and After Education

Purposes: The pretest-posttest question related to the purpose of MHCSS was

formulated in a 'select-all-that-apply' basis. In the following table of pretest-posttest data, the

percentages from pretest data and posttest data do not always match, which is correct due to the

'select-all-that-apply' formulation of the questions. N=31 individuals had the opportunity to

choose any or all answers from 11 choices.

The pretest data regarding the purpose of MHCSS revealed the following: 18 (10.7%)

participants indicated that MHCSS was for transportation, 18 (10.7%) for medication

management, 15 (8.93%) for training on activities of daily living, 9 (5.4%) for

companionship/sitter, 21 (12.5%) for training on independent living skills, 27 (16.1%) on finding

and utilizing appropriate community resources, 17 (10.12%) indicated symptom management, 19

(11.3%) indicated peer support, 11 (6.55%) chose risk management training, 13 (7.7%) indicated

the purpose was for socialization, and no participants reported MHCSS had no purpose.

The posttest data related to the question gauging knowledge of purpose of MHCSS

displayed the following: 7 (5.3%) participants indicated the purpose of MHCSS was for

transportation, 21 (15.8%) for medication management, 22 (16.5%) chose training on activities

of daily living, 3 (2.2%) indicated companionship/sitter, 21 (15.8%) chose training on

independent living skills, 21 (15.8%) selected finding and utilizing appropriate community

resources, 17 (12.8%) chose symptom management, 2 (1.5%) selected peer support, 12 (9.0%)

picked risk management, 7 (5.3%) chose socialization, and again, no participant chose that

MHCSS had no purpose.

There was an increase in the participants' ability to correctly identify medication

management, training on activities of daily living and risk management in posttest data on

purpose of MHCSS. Additionally, participants experienced a higher incidence of avoiding

incorrect answers in the posttest data as seen in a reduction of choice of transportation,

companion/sitter, and peer support as purposes for MHCSS. Lateral movement was seen on the

choices of training on independent living skills and symptom management, both of which were

correct answers. However, there was a decrease in correctly identify finding and utilizing

appropriate community resources as a purpose of MHCSS at posttest.

The pretest-posttest questions related to the purpose of PSR were also formulated as a

select all that apply question and the percentages are formulated as mentioned in the previous

section. The pretest data on the purpose of PSR is described here: 0 (0%) of participant chose

the purpose of PSR as transportation, 8 (5.7%) chose medication management, 19 (13.7%)

selected training on activities of daily living, 3 (2.2%) chose companion/sitter, 18 (12.9%)

selected training on independent living skills, 17 (12.2%) chose personal hygiene, 24 (17.3%) of

participant selected community integration, 20 (14.4%) picked peer support, 10 (7.2%) selected

symptom management, 20 (14.4%) chose socialization as the purpose of PSR, and no participant

chose that PSR had no purpose.

The posttest results for the purpose of PSR revealed the following: 5 (3.6%) chose

transportation as the purpose of PSR, 11 (7.8%) selected medication management, 11 (7.8%)

chose training on activities of daily living, 4 (2.8%) chose companion/sitter, 15 (10.6%) chose

training on independent living skills, 16 (11.4%) chose personal hygiene, 23 (16.3%) selected

community integration and peer support, 11 (7.8%) chose symptom management, 22 (15.6%)

chose socialization, and no participants stated that PSR had no purpose.

In comparison of pretest-posttest data of purpose of PSR, participants experienced an

increase in ability to correctly identify peer support, medication management, and socialization

as purposes of PSR. There was no lateral movement on any answer in the purpose of PSR

questions. There was some decline in choosing correct answer of personal hygiene, community

integration, and training on independent living skills. The data implies that participants gleaned

more information about purpose of MHCSS over purpose of PSR.

Table 6
Pretest and Posttest Purpose of MHCSS and PSR Responses (N=31)

Purpose Category	Pretest Response n (%)	Posttest Response n (%)
MHCSS		
Transportation	18 (58.1%)	7 (22.6%) *
Medication Management	**18 (58.1%)**	**21 (67.7%) ***
Training on ADLs	**15 (48.4%)**	**22 (70.9%) ***

Companion/Sitter	9 (29.0%)	3 (9.7%) *
Training on ILSs	**21 (67.7%)**	**21 (67.7%)**
Finding/Using Resources	**27 (87.1%)**	**21 (67.7%)**
Symptom Management	**17 (54.8%)**	**17 (54.8%)**
Peer Support	19 (61.3%)	2 (6.5%) *
Risk Management	**11 (35.5%)**	**12 (38.7%)** *
Socialization	13 (41.9%)	7 (22.6%) *
No purpose	0	0
PSR		
Transportation	0 (0%)	5 (16.1%)
Medication Management	**8 (25.8%)**	**11 (35.5%)** *
Training on ADLs	**19 (61.3%)**	**11 (35.5%)**
Companion/Sitter	3 (9.7%)	4 (12.9%)
Training on ILSs	**18 (58.1%)**	**15 (48.4%)**
Personal Hygiene	**17 (54.8%)**	**16 (51.6%)**
Community Integration	**24 (77.4%)**	**23 (71.2%)**
Peer Support	**20 (64.5%)**	**23 (71.2%)** *
Symptom Management	10 (32.3%)	11 (35.5%)
Socialization	**20 (64.5%)**	**22 (70.9%)** *
No purpose	0	0

Note. * Indicates an intended direction of the response post-education. Bolded answers indicate correct responses for purpose from the education.

Eligibility Criteria: The questions gauging participant knowledge of the eligibility criteria of MHCSS and PSR were also formulated using a 'select-all-that-apply' method. The study participants indicated the following items as being eligibility criteria to refer a patient to MHCSS in the pretest survey: 16 (5.2%) reported private insurance, 21 (6.9%) reported Medicaid insurance, 17 (5.6%) reported Medicare, 21 (6.9%) indicated anxiety disorder, 25 (8.2%) noted a mood disorder, 23 (7.5%) noted a thought disorder, 18 (5.9%) marked personality disorder, 21 (6.9%) noted substance use disorder (SUD), 25 (8.2%) marked history of psychiatric hospitalization or other qualifying event. Seven (2.3%) of participants chose history of incarceration, 16 (5.3%) chose history of homelessness, 23 (7.5%) selected the patient needed to be under the care of a psychiatric provider. Seventeen (5.6%) indicated the patient needed to be under the care of a counselor while 16 (5.2%) indicated the patient needed be under the care of a

case manager. Twenty-two (7.2%) indicated the need for prescribed psychiatric medication, 8 (2.6%) indicated the need for non-psychiatric prescribed medications, 5 (1.6%) indicated no medications were needed, and 4 (1.4%) indicated there were no eligibility criteria needed to refer a person to MHCSS.

The posttest data on eligibility criteria for MHCSS presented the following: 4 (2.2%) of participants chose private insurance, 25 (13.4%) chose Medicaid, 3 (1.6%) chose Medicare, 7 (3.8%) selected anxiety disorder, 19 (10.2%) chose mood disorder, 17 (9.1%) elected thought disorder, 10 (5.4%) picked personality disorder, 4 (2.2%) chose substance use disorder (SUD), 22 (11.8%) indicated history of psychiatric hospitalization or other qualifying event, 5 (2.6%) reported history of incarceration, 8 (4.3%) indicated history of homelessness, 22 (11.8%) reported the patient needed to be under the care of a psychiatric provider. Seven (3.8%) reported the patient needed to be under the care of a counselor/therapist, while 4 (2.2%) indicated needing to be under the care of a case manager, 21 (11.3%) chose prescribed psychiatric medications, 1 (0.5%) chose prescribed non-psychiatric medications while 3 (1.6%) indicated patients did not need to take any medication, and after the education webinar 4 (2.2%) participants reported there was no eligibility criteria needed to make a referral to MHCSS.

In comparison of the pretest-posttest data pertaining to eligibility criteria for MHCSS, the data revealed that participants experienced a decline in choosing the correct eligibility criteria in the posttest questions. However, participants also experienced escalations in avoiding incorrect answers. For examples, participants chose mood disorder, thought disorder, and under the care of psychiatry less in the posttest; all of which are correct answers. However, participants also did not choose private insurance, personality disorder, substance use disorder, or under the care

of a case manager which were incorrect answers. Participants experienced an overall decline in choosing correct answer in the posttest in this area.

The pretest-posttest survey questions on the eligibility criteria of PSR were written in a 'select-all-that-apply' manner. The pretest survey data revealed that participants considered the following as needed eligibility criteria to make a referral to a PSR program: 13 (5.0%) chose private insurance, 19 (7.4%) chose Medicaid, 16 (6.2%) chose Medicare, 14 (5.4%) elected anxiety disorder, 19 (7.4%) chose mood disorder while 17 (6.6%) selected thought disorder, 10 (3.9%) chose personality disorder, and 15 (5.8%) chose substance use disorder. Twenty-one (8.1%) elected history of psychiatric hospitalization or other qualifying event, 12 (4.7%) chose history of incarceration, 14 (5.4%) selected history of homelessness, 20 (7.8%) indicated the patient had to be under the care of a psychiatric provider while 16 (6.2%) indicated the need to be under the care of a counselor/therapist, 15 (5.8%) indicated needing to be under the care of a case manager, 16 (6.2%) chose prescribed psychiatric medication, 10 (3.9%) elected prescribed a non-psychiatric medication, 5 (1.9%) chose no medications, and 6 (2.3%) participants indicated there was no eligibility criteria to make a patient referral to a PSR program.

The posttest data pertaining to the eligibility criteria to make a referral to PSR was described as follows: 4 (1.8%) chose private insurance, 24 (11.1%) chose Medicaid, 6 (2.8%) chose Medicare. Thirteen (5.9%) of participants chose anxiety disorder, 24 (11.1%) chose mood disorder, 18 (8.3%) chose thought disorder, 19 (8.8%) chose personality disorder, and 7 (3.2%) chose substance use disorder as eligibility criteria to refer to PSR. Fifteen (6.9%) of participants chose history of psychiatric hospitalization or other qualifying event, 3 (1.4%) chose history of incarceration, and 9 (4.1%) chose history of homelessness. In terms of oversight and medications, 24 (11.1%) chose being under the care of a psychiatric provider, 8 (3.7%) chose

being under the care of a counselor/therapist, 6 (2.8%) chose being under the care of a case

manager, 22 (10.1%) chose prescribed psychiatric medications, and 5 (2.3%) chose prescribed

non-psychiatric medications or taking no medication or there were no eligibility criteria to meet.

The posttest data for the eligibility criteria question exhibited mixed results. Participants

were able to correctly identify Medicaid insurance, mood disorders, thought disorders, being

under the care of psychiatrist, not needing a psychiatric hospitalization, and being prescribed

medications as eligibility criteria for PSR. Additionally, participants correctly avoided incorrect

answers such as private insurance, substance use disorder, history of incarceration, and under the

care of a case manager in the posttest data on eligibility criteria of PSR. The data reveals that

participants retained more knowledge pertaining to eligibility criteria of PSR than MHCSS.

Table 7
Pretest and Posttest Eligibility Criteria to Refer to MHCSS and PSR Responses (N=31)

Eligibility Criteria Category	Pretest Response n (%) *	Posttest Response n (%) *
MHCSS		
Private Insurance	16 (51.6%)	4 (12.9%) *
Medicaid Insurance	**21 (67.7%)**	**25 (80.6%) ***
Medicare Insurance	17 (54.8%)	3 (9.7%) *
Anxiety Disorder	21 (67.7%)	7 (22.6%)
Mood Disorder	**25 (80.6%)**	**19 (61.3%)**
Thought Disorder	**23 (74.2%)**	**17 (54.8%)**
Personality Disorder	18 (58.1%)	10 (32.3%) *
SUD	21 (67.7%)	4 (12.9%) *
History of Psych Hosp.	**25 (80.6%)**	**22 (70.9%)**
History of Incarceration	7 (22.6%)	5 (16.1%) *
History of Homelessness	16 (51.6%)	8 (25.8%) *
Under care of Psychiatry	**23 (74.2%)**	**22 (70.9%)**
Under care of Counselor	17 (54.8%)	7 (22.6%) *
Under care of Case Manager	16 (51.6%)	4 (12.9%) *
Prescribed Psychiatric Meds	**22 (70.9%)**	**21 (67.7%)**
Prescribed Non-Psych Meds	8 (25.8%)	1 (3.2%) *
Taking No Medications	5 (16.1%)	3 (9.7%) *
No Eligibility Criteria	4 (12.9%)	4 (12.9%)
PSR		
Private Insurance	13 (41.9%)	4 (12.9%) *

Medicaid Insurance	**19 (61.3%)**	**24 (77.4%) ***
Medicare Insurance	16 (51.6%)	6 (19.4%) *
Anxiety Disorder	14 (45.2%)	13 (41.9%) *
Mood Disorder	**19 (61.3%)**	**24 (77.4%) ***
Thought Disorder	**17 (54.8%)**	**18 (58.1%) ***
Personality Disorder	10 (32.3%)	19 (61.3%)
SUD	15 (48.4%)	7 (22.6%) *
History of Psych Hosp.	21 (67.7%)	15 (48.4%) *
History of Incarceration	12 (38.7%)	3 (9.7%) *
History of Homelessness	14 (45.2%)	9 (29.0%) *
Under care of Psychiatry	**20 (64.5%)**	**24 (77.4%) ***
Under care of Counselor	16 (51.6%)	8 (25.8%) *
Under care of Case Manager	15 (48.4%)	6 (19.4%) *
Prescribed Psychiatric Meds	**16 (51.6%)**	**22 (70.9%) ***
Prescribed Non-Psych Meds	10 (32.3%)	5 (16.1%) *
Taking No Medications	5 (16.1%)	5 (16.1%)
No Eligibility Criteria	6 (19.4%)	5 (16.1%) *

Note. *Indicates an intended direction of the response post-education. Bolded answers indicate correct responses for eligibility criteria from the education.

Case Scenario Analysis

The final four posttest questions were case scenarios intended to gauge the participants newly learned knowledge of MHCSS and PSR. The questions were long-description scenarios formulated to encourage the participant to choose one of four answers to refer the scenario patient to a particular service. Not all participants answered the last four questions. Individual N numbers are listed by each scenario.

In the scenario about the 53-year-old African American male diagnosed with schizoaffective disorder, 2 (6.7%) study participants indicated they would refer this patient to counseling/therapy, 7 (23.3%) indicated they would refer him to MHCSS, 18 (60%) indicated they would refer him to a PSR program, 1 (3.3%) indicated they would refer him to inpatient psychiatric hospitalization, and 2 (6.7%) participants reported this patient did not need any referrals. The correct referral answer was to PSR as this individual was isolating in his home,

had a psychiatrist, was prescribed psychiatric medications, never had a psychiatric

hospitalization and had Medicaid benefits.

In the case scenario of the 33-year-old Caucasian female diagnosed with depression,

recurrent, severe with psychotic features, 0 (0%) of participants indicated a counseling/therapy

referral, 24 (82.8%) indicated a MHCSS referral, 4 (13.8%) indicated a PSR referral, 1 (3.4%)

indicated an inpatient psychiatric hospitalization was in order, and 0 (0%) chose no referral

needed. The correct answer to this case scenario was a referral to MHCSS; this individual had

an MHCSS-worthy diagnosis, had Medicaid, was followed by a psychiatrist and prescribed

psychiatric medications, and had a history of psychiatric hospitalizations.

In the scenario about the 45-year-old Caucasian male diagnosed with PTSD and panic

disorder, study participants indicated the most appropriate referrals were as follows: 17 (63%)

counseling/therapy, 4 (14.8%) MHCSS, 5 (18.5%) selected PSR, 1 (3.7%) chose inpatient

hospitalization, and no participant, 0 (0%), chose no referral needed. The appropriate referral to

this case scenario was to counselor or therapy as indicated by lack of MHCSS/PSR-worthy

diagnoses, having flashbacks, and having Anthem and VA benefits.

The final case scenario and final question for this study pertained to a 57-year-old African

American female diagnosed with schizophrenia. The study data reflected that participants chose

the following referrals for this patient scenario: 3 (10.3%) chose counseling/therapy, 5 (17.2%)

chose MHCSS, no participants chose PSR 0 (0%), 21 (72.4%) of participants chose inpatient

psychiatric hospitalization, and no participants, 0 (0%), chose no referral needed for this patient.

The severity of symptoms in the last case scenario combined with the history of hospitalizations,

and being under the care of a psychiatrist with medication management calls for an inpatient

hospitalization. Overall, the sample was able to correctly identify the appropriate referral to

services at least 60% of the time. These results indicate learning and knowledge growth.

Table 8
Posttest Scenario Responses

Patient Scenario	Category of Referral	Scenario Response n (%)
53-year-old African American Male diagnosed w/ schizo-Affective disorder: (N=30)		
	Counseling/Therapy	2 (6.7%)
	MHCSS	7 (23.3%)
	PSR	**18 (60%) ***
	Inpatient Psych Hosp.	1 (3.3%)
	No Referral	2 (6.7%)
33-year-old Caucasian Female diagnosed w/ major Depression, recurrent, Severed w/ psychotic Features: (N=29)		
	Counseling/Therapy	0 (0%)
	MHCSS	**24 (82.8%) ***
	PSR	4 (13.8%)
	Inpatient Psych Hosp.	1 (3.4%)
	No Referral	0 (0%)
45-year-old Caucasian Male diagnosed w/ PTSD and Panic Disorder: (N=27)		
	Counseling/Therapy	**17 (63%) ***
	MHCSS	4 (14.8%)
	PSR	5 (18.5%)
	Inpatient Psych Hosp.	1 (3.7%)
	No Referral	0 (0%)
57-year-old African American Female diagnosed w/ Schizophrenia: (N=29)		
	Counseling/Therapy	3 (10.3%)
	MHCSS	5 (17.2%)
	PSR	0 (0%)
	Inpatient Psych Hosp.	**21 (72.4%) ***
	No Referral	0 (0%)

Note. The correct referral answers are in bold.

The pretest-posttest survey for this study was created by the student researcher due to lack of current surveys that queried nurse practitioner knowledge of MHCSS and PSR. The surveys investigated the participant's comfort in addressing and treating mental health needs (Likert scale), current knowledge of MHCSS and PSR (yes or no), and any historical referrals to MHCSS and PSR (yes or no). The basis for comparison was woven into the questions that gauged the participant's knowledge of the purpose of and eligibility criteria of MHCSS and PSR. The questions were formulated as a check all that apply.

Independent Variables. The independent variable for this research was the educational webinar on MHCSS and PSR. The educational webinar reviewed the objectives and intended outcomes of the education. The educational webinar explained the impact of mental illness, the purpose and research question being investigated, had a discussion of nomenclature, described MHCSS and PSR, their purpose and examples of their activities. The education provided an example of a decision tree algorithm, continued to explain other eligibility criteria needed to be met, and discussed who provides MHCSS and PSR.

Dependent Variables. The primary dependent variable for the study was knowledge of the purpose and eligibility criteria for MHCSS and PSR. This information was collected in the posttest survey that participants completed immediately post watching the pre-recorded educational webinar on MHCSS and PSR. The posttest questions mimicked the pretest questions regarding knowledge of purpose and eligibility criteria. Additionally, post-education knowledge was evaluated using four case scenarios intended to lead the participant to choose one of four referral options: MHCSS, PSR, counseling, or inpatient hospitalization.

Research Question and Hypothesis Statement Analysis

The research question, for nurse practitioners treating adult patients, does receiving education about MHCSS and PSR, compared to not receiving education about MHCSS and PSR, increase the nurse practitioners' knowledge and ability to appropriately refer adults living with SMI to MHCSS and/or PSR, was answered by descriptive statistical analysis including frequencies and distribution review.

A review of the participants' pretest-posttest responses is summarized in Tables 6 and 7. Generally, it was found that participants had a general idea of the purpose of MHCSS and PSR prior to the educational webinar. After the educational webinar, a modest increase in appropriate answers pertaining to purpose of MHCSS and PSR was revealed. However, the posttest data also revealed that participants experienced a decrease in choosing erroneous answers. Similar results were found in the pretest-posttest data pertaining to eligibility criteria. While study participants experienced a modest increase in knowledge of eligibility criteria of MHCSS and PSR in the posttest, it was found that participants were much better at correctly identifying things that were not eligibility criteria. Participants seemed to score better on eligibility criteria for PSR than for MHCSS, experiencing a greater increase in correct answers as can be seen in Table 7.

The null hypothesis (H_0), that after receiving provider education about MHCSS and PSR, there would not be a statistically significant relationship between provider education and provider knowledge or ability to appropriately refer to MHCSS and PSR, could not be determined. No inferential statistical analysis was conducted due to the nature of the questions asked, data responses to questions, and level of measurements of data collected (Polit & Beck, 2014) via Qualtrics. However, it appears that the null hypothesis would likely be rejected since

more than 60% of participants correctly identifying appropriate referrals in the case scenarios post the educational webinar (Table 8).

The self-reported evaluation of the study revealed that 82.14% of participants 'definitely' felt the webinar increased their awareness of MHCSS and PSR and about 92% of participants felt the webinar was very useful or extremely useful. Thirty % of participants indicated they were most likely to make referrals to MHCSS and PSR in the future while 56.6% of participants indicated they were very likely to make MHCSS and PSR future referrals.

Summary of Data Results

The objective of this quality improvement study was to determine if providing education about MHCSS and PSR to nurse practitioners and nurse practitioner students would increase the nurse practitioner's knowledge and ability to appropriately refer adults living with SMI to MHCSS and/or PSR. As the first, of hopefully many, research studies about nurse practitioner education on non-traditional mental health services, this study was intended as a springboard to launch nurse practitioner education into the current mental health climate and need. The results of this study shown in the pretest-posttest data does reflect learning and knowledge growth. These results were confirmed by the participants' ability to correctly make referrals to needed mental health services based off of typical case scenarios.

Chapter 5: Discussion

Relationship of Findings to Prior Research

The overall purpose of this project was to investigate if educating nurse practitioners, nurse practitioner students, and other healthcare providers about MHCSS and PSR would increase their knowledge and ability to correctly identify the purpose of and eligibility criteria of MHCSS and PSR. The study found that with completion of the pre-recorded educational webinar on MHCSS and PSR that participants were better prepared to make appropriate referrals in case scenarios as evidenced by correctly referring to appropriate services by at least 60% of all participants in all four case scenarios. Nursing education is not a new concept. However, educating nurse practitioners and nurse practitioner students about non-traditional services, like MHCSS and PSR, is a novel strategy.

Since this is the first study investigating nurse practitioner and nurse practitioner student education of MHCSS and PSR, this study hopes to serve as the launching pad for more research in this area. Minimal research was found regarding PSR program and participants, but no research was found about education of nurse practitioners about PSR programs. No research was found pertaining to MHCSS. This study serves as contribution to current and future knowledge of NPs for quality improvement and the benefit of those patients who may not have a strong voice in advocating for themselves to access valuable resources and services.

It is speculated that future research will produce similar results showing that education about non-traditional mental health resources increases the nurse practitioners and nurse practitioner student's ability to correctly identify purpose of and eligibility criteria of MHCSS and PSR as well as to be able to correctly refer patients to needed non-traditional services.

The sample from this study was convened from a convenience sample. The study was advertised through the Radford University email system to the DNP and FNP faculty and students at Radford University and Radford University Carilion as well as on two social medial platforms, Facebook and LinkedIn. Participants ranged from nurse practitioners to nurse practitioner educators to nurse practitioner students to other healthcare providers that deal with mental health needs. In such, future research may glean more fruitful and specific data from focusing the study sample solely on nurse practitioners and nurse practitioner students.

Observations

Interestingly, while there were not significant differences in pretest and posttest answers in terms of correctly identifying purpose of and eligibility criteria for MHCSS and PSR. The data did reveal that participants were better equipped to avoid selecting answers that were not correct. Meaning that while participants did not experience an increase in correct answers, the sample did show growth from an unexpected purview, not choosing wrong answers. This finding was noted likely because of allowing the participants to 'select-all-that-apply' as answers to questions about what are the purpose and eligibility criteria for MHCSS and PSR based on case scenarios.

This project was originally intended as an in-person educational session with a one-month post education follow up. While the original plan of attempting to get 42 providers to participate in a face-to-face session seemed daunting, the change of the project to an online, self-paced project did not seem to encourage participation as expected. To reach a sample of N=31, the project required two emails sent to the Radford University Nursing faculty and the FNP students in the two nurse practitioner programs at Radford University as well as multiple advertisements on Facebook and LinkedIn posted by the student researcher. A longer duration of

the study being open to participants could have increased the sample size. Having the data

collection over a holiday period and in the summer (June 09th, 2020 through July 13th, 2020)

could have limited participation of the targeted sample. Using an online, self-paced platform

such as the pre-recorded webinar is a good strategy to allow participants to engage in the

learning at their own pace and at their desired time. It is recommended to use online platforms

for educational needs, especially in times of economic and healthcare stress.

The project findings were mixed. While there was not a large escalation in correctly

identifying purpose and eligibility criteria of MHCSS and PSR, more than half of all participants

were able to correctly refer patients to needed services within the posttest scenarios. In the study

findings, the inability to see an improvement of knowledge in non-case scenario questions could

be related to the lack of time needed to digest the complex information related to detailed

purpose and eligibility criteria for MHCSS/PSR programs or related to the education modality.

This study showed that participants were able to incorporate knowledge obtained by application

of appropriate referrals to services in posttest case scenarios. Didactic learning incorporating

scenario-based education after reviewing purpose and eligibility criteria of each program within

the scenario may have been helpful. Additionally, results may have been more fruitful if the case

scenario questions had been included in the study as a pretest and not just as a posttest given

after the educational webinar.

Evaluation of the Theoretical Model

Roy's Adaptation Model was the framework upon which this DNP Scholarly Project was

built. Nurse practitioners educating themselves on available services and resources certainly

allows the nurse practitioners to be able to assist their patients to adapt to their environment

which supports the use of this model as the framework for this project. The case scenario results

showed that post-educational webinar, more than 60% of participants were able to correctly refer patients to needed mental health services.

Limitations

There were several limitations found in previous studies. Much of the literature found, pertaining to promoting utilization of mental health services, was based in qualitative data and was subject to researcher bias. Another concern from the literature was the seemingly small sample sizes in studies that were relative to very specific populations which is often seen in qualitative research studies. While it is possible to find strong correlations using small samples and specific populations, for research to affect change in processes and evidenced based practice, the findings must be generalizable (Chang et al., 2014; Hoeft et al., 2018; Karlin & Karel, 2014; Vickers et al., 2013; Zallman et al., 2017).

Several limitations existed in this research study. The first limitation was that a convenience sample was utilized in this study. The study was advertised through two nurse practitioner programs at Radford University as well as on two social medial platforms, Facebook and LinkedIn. Although the nurse practitioners and nurse practitioner students at Radford University and Radford University Carilion may represent the general nurse practitioner and student population, convenience sampling can limit the generalization of the findings. Participants in this project ranged from nurse practitioners to nurse practitioner educators to nurse practitioner students to other healthcare providers that deal with mental health needs. Richer data may have been gleaned, and a bigger impact may have been realized, by opening the educational program to all nurse practitioners in surrounding areas, if the study had been more exclusive to only nurse practitioners and nurse practitioner students, or if the study focused solely on practitioners or student practitioners from different disciplines to evaluate and compare

the impact of the educational session on the knowledge and competencies in utilizing non-traditional mental health services.

The second limitation in this study was the short duration of the intervention. One pre-recorded educational webinar watched one time may not have been enough to influence true change in referral behaviors by nurse practitioners. Another limitation was the type of questions asked in the study. While the questions did provide insight into practices, they did not lend themselves to inferential statistical analysis; especially, the pretest-posttest questions.

Another limitation to the study was the specific nature of education on MHCSS and PSR with just a pretest and posttest provided once in approximately one hour. Having a follow up posttest to see if practice changes had occurred with increased referrals would add to knowledge about MCHSS and PSR referrals, education via webinar, and the use of social media to attract participants for mental health provider education.   Nurse practitioners may benefit from more in-depth education on many types of mental health resources in the geographical practice area.

A final limitation of this study was the relatively small sample size, N=31. As calculated in the proposal stage using an anticipated effect size (Cohen's d) of 0.08, a power level of 0.8, and with a probability of 0.05, the estimated sample size was 42. Power was not achieved due to the small sample size. Inferential statistics were not completed to determine if the null hypothesis was accepted or rejected.

Implications for Future Research

The knowledge deficit of nurse practitioners about MHCSS and PSR coupled with the rising need of mental health services calls for more mental health education for nurse practitioners. Nurse practitioners are in a critical position to help fill this gap in the care of patients with mental health needs by having an increased awareness of and ability to refer to

community-based mental health services (USPTF, 2016). The literature reviewed reveals mental

health stigmas of patients and providers, a lack of provider knowledge and competency in

addressing mental health issues, lack of resources, poor communication among providers as the

major barriers to utilization of mental health resources and services (Anthony et al., 2010;

Clement et al., 2015; Heath et al., 2015; Stevens & Sidlinger, 2015; Smith et al., 2015; Weiss et

al., 2009). Several interventions, including provider education on mental health resources, were

shown to be effective in promoting utilization of community mental health services in the

primary care setting through referral (Heath et al., 2017). The next steps in research of this need

would be to launch a state wide educational webinar study to investigate the ability of online

educational webinars about MHCSS and PSR to increase access to care of these services for

individuals living with serious mental illness.

Ultimately, the literature demonstrates correlation between providers receiving mental

health education and resources and an increase in mental health interventions being provided

(Anthony et al., 2010; Heath et al., 2017; Hoeft et al., 2017; Zallman et al., 2017). However, the

gap in evidence demonstrates that the current research does not definitively show strong positive

correlation between mental health education and mental health interventions being provided.

Longitudinal research on providers, mental health education, and mental health resource

utilization and their effect on mental health interventions is needed. The instruments and

educational webinar from this study should be refined and relaunched to investigate the

outcomes of provider education and access to care for adults living with serious mental illness.

The new study should include providers from multiple different disciplines across Virginia.

Additionally, the new study should span a longer period of time to include follow up and to

investigate outcomes for patients who do not meet eligibility criteria for the services.

This study showed that there was a lack of providers' knowledge and utilization of non-traditional mental health services like MHCSS and PSR. There are gaps in evidence and practices because there is a lack of education on this topic in advanced healthcare curriculum and lack of research done to evaluate the effect of this type of education. It is important for healthcare providers to be aware of different types of traditional and non-traditional mental health services and to maximize their utilization to improve the outcomes of patients living with mental illnesses. This is the first study investigating the impact of nurse practitioner and nurse practitioner student education of MHCSS and PSR with hopes to serve as the catalyst for more research in this area.

Implications for Education

The significance of this study's results for clinical education calls to action the need to incorporate more nurse practitioner education pertaining to non-traditional mental health services like MHCSS and PSR. The results show that education can impact outcomes. By educating nurse practitioners and nurse practitioner students about MHCSS and PSR it is possible to reduce clinical morbidity in the SMI population.

This education could be imbedded into orientation education for new nurse practitioners and into course curriculum for nurse practitioner students which would ensure that current and future providers are educated on non-traditional mental health services which would teach them how to work with adults living with serious mental illness. This DNP Scholarly Project research study findings would be an excellent topic to present for a nurse practitioner convention or consortium which could increase the knowledge basis of non-traditional services in the provider arena outside southwest Virginia. Examples of potential presentations arenas include the Nursing Education Research Conference, at the Association for Nursing Professional

Development Annual Convention, the American Association of Nurse Practitioner National Conference, the American Psychiatric Nurses Association Annual Conference, for the Sigma Theta Tau annual conference, or the Nursing World Conference.

Education curriculum for advance healthcare providers should consider incorporating education on different types of mental health services including traditional and non-traditional services (e.g. MHCSS and PSR programs) and this topic would be a great fit for interprofessional education. Further studies are needed in the area to produce evidence of whether education about non-traditional mental health resources increases the knowledge and competencies of nurse practitioners and nurse practitioner students in correctly identifying purpose of and eligibility criteria of MHCSS and PSR as well as in appropriately referring patients to needed non-traditional services.

Conclusion

This research study was conducted to investigate if educating nurse practitioners, nurse practitioner students, and other healthcare providers about MHCSS and PSR would lead to better referral outcomes therefore reducing clinical morbidity for adults living with SMI. The data shows that providing NPs and NP students with education on MHCSS and PSR increases knowledge of and ability to appropriately refer to needed mental health services using case scenarios. This study did add new knowledge to the deficit of literature on NP education of MHCSS and PSR.   It is recommended to perform future research with a larger sample, with randomization, over a longer period of time, and with more specific education on either MHCSS or PSR.

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Appendix

Appendix A
Level of Evidence Table

Table 1. Level of Evidence of 22 Studies Included for Final Analysis

Level of Evidence	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
I Systematic Review			X							X								X				
II Single RCT								X									X					
III Quasi-exp/ non RCT	X			X					X			X				X						
IV Cohort, Cross-sectional, or Case studies													X		X				X			X
V System Review/ meta-synthesis of qualitative studies						X	X															
VI Single Qualitative or Descriptive					X						X									X		
VII Expert Opinion		X												X							X	

 Studies in alphabetical order: 1, Anthony; 2, Bartels; 3, Bowdoin; 4, Burke; 5, Chang; 6, Cheesmond; 7, Clement; 8, Hack; 9, Heath; 10, Hoeft; 11, Karlin; 12, Lim; 13, Linman, 14, Lokko; 15, Nelson; 16, Pratt; 17, Serrano; 18, Smith; 19, Stevens; 20, Vickers; 21, Weiss; 22, Zallman.   All listed references were cited.

Appendix B

Table 2. Literature Review Synopsis/Evaluation Table

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Anthony et al. (2010)	Level III: Quasi experimental/ Qualitative Study mix	Mixed quasi-experiment and qualitative study of influences on referral decisions of primary care providers	n=40 primary care clinicians (15 general internists, 10 nurse practitioners, 15 family practice physicians).	Using a mixture of semi-structured interviews and completed 2 quantitative instruments: DCQ instrument or Provider Belief Survey	Average number of patients seen with depression per practice. Likeliness to use antidepressants, brief in-office counseling, or refer to a mental health specialist. Belief about ability to treat psychosocial issues. Perceived severity of depressive symptoms. Clinician comfort in treatment depression. Clinical perception of complexity of diagnosis.	Mixed data (qualitative and quantitative) method was used to generate a theory. Frequencies and percentiles were utilized to analyze quantitative data and grounded theory used to evaluate qualitative data for inclusion for consideration.	DCQ findings: 30-50% of patients experience depressive symptoms, 90% (n=36) were likely to prescribe antidepressants, 92.5% (n=37) were likely to provide brief in-office counseling, 85% (n=34) were likely to refer out. 75% (n=30) had referred out in the last year. 22.5% (n=9) had a mental health specialist in office while 80% (n=34) knew of a mental health specialist who they liked to refer. Provider Belief Survey: 55.9% of PCP felt they could treat psychosocial problems; 94.2% (n=37) felt that psychosocial problems had to be addressed concurrently. 35.3% (n=14) did not consider psychosocial problems due to time constraints. More than 50% felt that psychosocial problems caused a decrease in productivity and money.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Bartels & Pratt (2009)	Level VII: Expert Opinion	Expert opinion on psychosocial rehabilitation and quality of life for older adults with serious mental illness; no formal study was completed.	n=0	Review of recently published descriptive studies of older adults with serious mental illness. Review of recent research on psychosocial interventions.	Older adults living with serious mental illness. Psychosocial interventions.	Quality of life measurements	Psychosocial rehab is a feasible and potentially effective treatment for improving functioning and quality of life in older adults with SMI. A call for future research focused on older adults with SMI focusing on psychosocial rehabilitative interventions.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Bowdoin et al. (2016)	Level I: Surveillance Study/Systematic Review	Surveillance study used self-reported data for non-elderly adults with mental illness participating in the 2007-2012 Medical Expenditure Panel Survey.	6, 908 non-elderly adults with mental illness	Self-report surveys	Participant rating of all healthcare including cervical, breast, and colorectal cancer screenings; current smoking; smoking cessation advice; flu shot; foot exam and eye exam for people with diabetes; follow up after emergency room visit for mental illness.	Multiple logistic regression models were developed to compare the odds of meeting preventative care and healthcare quality measures for participants without a usual source of care, participants with a non-patient centered medical home usual source of care, and participants who received care consistently with the patient centered medical home.	Patients connected with integrated patient centered medical homes had better odds for attending to preventative care needs. Other had lesser odds of participating in preventative care. Having a patient centered medical home does not appear to be associated with most preventative care quality measures. Questionable value of PCMH and suggestion of other better mental health suited models for primary care for those living with MH needs.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Burke et al. (2019)	Level III: Narrative Synthesis and Meta-Analysis	A narrative synthesis and meta-analysis	n=23 studies were included and were separated into three broad categories: peer-led group interventions, one-to-one peer support, and peer-run services	Meta-analysis was conducted for group interventions	Patient self-advocacy where the person is involved in the decisions about their healthcare. Patient activation is the extent of persons knowledge, skill, confidence, and beliefs in managing health. Empowerment data. Stigma data.	Results were integrated through narrative synthesis. Meta-analysis was performed using Review Manager software (version 5.3). Hedges' correction was applied. Effects were integrated using a random effects model.	Peer-led, time-limited group interventions may result in small improvements in empowerment and self-efficacy in the community; effects were maintained at 3-4 month follow up. Not enough evidence to make conclusions regarding stigma.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Chang et al. (2014)	Level VI: Quality Improvement/ Single Qualitative study	Quality Improvement	11 on-site primary care and mental health providers, administrators, and researchers and facilitators; three psychiatrists, five PCPs, one PC nurse care manager, one researcher, and info technology specialist

multi-specialty academic community-based outpatient clinic serving over 16, 000 Veterans in Southern California | Fishbone diagrams and process flow maps to identify possible barriers to PC-MH communication. Then used focus groups, semi-structured interviews, chart reviews, and provider surveys | Process, communication tools, provider characteristics, Non-VA providers, and Culture | Fishbone diagram and process flow evaluation and analysis; themes clustered and further evaluated | Found barriers include lack of effective standardized communication processes, practice style differences, and inadequate primary care training in MH.

QI include: collocated collaborative care, joint care planning, and joint case conferences as feasible, EB intervention for improving communication. |

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Cheesmond et al. (2019)	Level V: Systematic Qualitative Review	Systematic review and meta-synthesis of relevant qualitative research	n=11 studies included in review Search databases include EBSCO, CINAHL, and PsychINFO	Six search elements identified and combined using Boolean logic following the pattern, "help-seeking terms" AND "mental health concerns terms" AND "rural terms" AND "barrier terms" AND "qualitative approach terms" NOT "child/adolescent terms."	Mental health concerns Adult studies Rural location Qualitative approach English	Thematic analysis in three stages following guidance for synthesis of data for qualitative systematic reviews. Quotes taken were used verbatim. Data were coded using descriptive themes to conserve original meaning. Thematic mapping used to identify connections.	Thematic mapping produced 4 attitudinal help-seeking barrier groups: *Stoicism*-quietly dealing with mental health distress was the most common cited barrier; was a cultural finding, played into masculinity. *Stigma*-perceived that others will negatively judge you was a common theme in all 11 studies. Self-stigma that one negative judge's self is displayed as shame. *Distrust*-of mental health services was found in 5 of the studies. Some distrusted the professionals from outside of their community and some distrusted the services as not up to par. *Meaning*-lack of consistency in meanings of words. Mental health literacy was a barrier including lack of knowledge of available services.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Clement et al. (2015)	Level V: Systematic review of quantitative and qualitative studies	Modification of the method introduced by the Evidence for Policy and Practice Information and Co-ordinating Centre Revealed 3 sets of literature: Quantitative association studies Quantitative barrier studies Qualitative process studies	n=144 studies included 5 electronic databases were mined: Medline, EMBASE, Sociological abstracts, PsychInfo and CINAHL from 01/1980-12/2011.	Keywords: stigma-related terms AND help-seeking-related terms AND mental health-related terms OR stigma-related terms AND mental health service-related terms	Stigma: public, perceived, internalized, anticipated, experienced, by association, and treatment. Help-seeking: for a mental health problem, related attitudes, intentions and behaviors; from a health practitioner or service Study type: address association between stigma and help seeking, stigma is identified as a barrier, relationship between stigma and help seeking; data based journal articles, any language	Impact of stigma on help seeking behaviors Help seeking for mental health problems Items that enable help seeking behaviors	Deterrents to help seeking for mental health: structural stigma, dissonance between preferred self/social identity and mental illness stereotypes, anticipation/experience of stigma (public, internalized, by association, anticipated danger from psychiatric inpatients), need/preference for non-disclosure. Enablers of help seeking for mental health problems: controlled disclosure, knowing they aren't the only one, rejecting stigma, framing, friends with MH, confidentiality, less stigmatizing forms of care, respectful professionals.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Hack et al. (2019)	Level II: RCT analysis	Data collected from 167 adults with SMI receiving services at 5 different PSR programs. Treatment engagement assessed by MH providers, using Service Engagement Scale Psychoeducation group design	n=167 Setting was 5 different psychosocial rehabilitation programs	Treatment engagement assessed by utilizing Service Engagement Scale Secondary analysis from baseline data from RCT using Ending Self Stigma intervention Wahl Stigma and Discrimination scale Self-Stigma of Mental Illness Scale	Demographic information Active engagement over 3 months: availability, collaboration, help-seeking and treatment adherence Frequency of stigma related disrespect experiences Stereotype awareness, stereotype agreement, self-concurrence, self-esteem decrement	Pearson's correlation was calculated; multiple linear regressions analyzes were performed with the SES Demographic groups were defined as gender- men (n=105, 63%) and women (n=62, 37%); race-White people (n=90; 54%) and people of color (n=76; 46%); and education-HS degree or less (n=131, 78%) and some college or more (n=36, 22%). Age was analyzed as a continuous variable (range=18-70 years; M=44, SD=13).	Treatment engagement was not correlated with experiences of stigma, experiences of discrimination, or application of stigmatizing beliefs to self. Gender, race, and age were not significant moderators but education was. Experiences of stigma were associated with greater treatment engagement in those with higher education (p = 0.007). Self-stigma was associated with poor treatment engagement in those with higher levels of education (p = 0.005).

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Heath et al. (2015)	Level III: Quasi exp/Non RCT; Quasi-experiment	Quasi-experiment, sequential mixed method	125 participants purposively selected by Community Facilitators who were health professional in Primary care leadership positions. Participation came from a variety of sectors including health care, community agencies, justice and school.	Evaluation of impact of an interprofessional, intersectoral education program designed to enhance collaborative mental health capacity in six rural sites. RMHITP educational training program. Attitudes Toward Health Care Teams scale. Perception of Interprofessional Collaboration scale Post program questionnaire In depth interviews	Advantages and disadvantages of interprofessional mental health care. Perception of collaborative skills and interprofessional teamwork. Knowledge and understanding about collaborative mental health care and various roles of professionals in the provision of that care.	Demographics were analyzed using SPSS (V.16); reliability analyses were conducted for standard measures. The Cronbach's alpha reliability coefficient was 0.82 for the Attitudes towards interprofessional collab. And 0.83 for the perception of interprofessional collab. Pre-post paired sample t-test. Program feedback questionnaire was used for descriptive stats. Interviews and focus groups were transcribed and analyzed using MAXQDA (2007)	Qualitative results found a significant increase in positive attitudes towards interprofessional mental health care teams a self-reported increase in knowledge and understanding about collaborative mental health care delivery; quantitative data reinforced the value of teaching mental health content within the context of collaborative practice and revealed practice changes needs.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Hoeft et al. (2018)	Level I: Systematic Review	Systematic Review, and expert opinion	182 articles, reports, and presentations were retained after final review. The 182 were peer reviewed and gray literature.	Data mining information regarding a program, tested intervention, focused on policy.	Data mined for task-sharing events in current literature: peer support, community outreach, education, psychotherapy, assist with crisis response, case management, primary care, ACT team collaboration	Settings where task shifting occurred, providers involved in care, training and supervision for task shifting care, technology support, and challenges.	The findings mostly focused on community mental health workers and primary care. Technology was a major factor in getting support across the board. Provider education, supervision, and partnership supported task sharing. Task sharing may be an effective way to incorporate mental health care in rural or low resource areas.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Karlin & Karel (2014)	Level VI: Single Qualitative or Descriptive	Quality Improvement	132 mental health providers presenting 119 home-based primary care programs, and 112 program directors completed this survey. The setting was VA Medical Centers in the United States	Provider survey assessing the integration of a wide range of MH care practices and home-based primary care team processes.	12 major domains were assessed through a combination of scaled or multiple-choice item and open-ended questions: identifying and descriptive info, HBPC MH provider characteristics, clinical issues addressed by HBPC MH providers, identification of HBPC veterans in need of MH care, MH evaluations, MH interventions, clinical pathways, transitions in care, team functioning, implementation resources, MH trainees, provider activities.	Basic percentages of usage or not, participation or not, resources or not. Coupled with statistical analysis of percentages. Distribution charts (mean, SD, range) Likert scales in the surveys. Open-ended questions were themed.	40% of time is spent on direct clinical care. Integration of MH services into HBPC is feasible and facilitates service access for a vulnerable population. This system facilities a high degree of interdisciplinary practice. This system may function as an example for incorporating MH care among homebound or older individuals.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Lim et al. (2016)	Level III: Quasi experiment, non-random controlled trial	To determine remission status, consensus-based criteria proposed by the Remission in Schizophrenia working group were adapted to identify predictors of remission outcomes. Longitudinal design, every 6 months for a total of 24-month observation period.	n=187 individuals with schizophrenia spectrum disorder Participants were found from six different community based psychosocial rehabilitation programs	Demographic and psychiatric history data collected at baseline Diagnosis made from DSM-IV using a checklist Review of collateral reports from admitting clinician and on-site psychiatrist Quality of Life Scale (3 items from the intrapsychic deficit subscale) Role Functioning Scale	Inclusion criteria: aged 18-55, dx of psychotic d/o, absence of ETOH/drug dependence 6 months prior, absence of neurologic d/o. Age, gender, ethnicity, marital status, education Psychiatric characteristics: age of onset, length of illness, regular medication use, in remission, symptom severity, role functioning, and social functioning	Statistical analyses were conducted using data collected at baseline and 6 months. Univariate analysis for descriptive statistics and prevalence of remission at both time points. Purposeful selection of covariates methods due to select baseline explanatory variables for multivariate model Analyses performed using STATA 13.0	34.57% and 55.61% of the sample was in remission at baseline and 6 months. Remission at 6 months was predicted by shorter length of illness and being in remission at admission. Remission of schizophrenia is achievable in the community PSR setting.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Linman et al. (2019)	Level IV: Cross-sectional study	Analysis of the 2015 Medical Expenditure Panel Survey Household Component and Medical Organizations Survey. National data represented from sample of US households on how they receive primary care. Focused on adults 18 and above.	n=4290 household survey participants included in this study Data sourced from the 2015 MEPS household component and medical organization survey	Data mining from surveys and then follow up phone calls	Medical home functions (use of case management for care coordination, adoption of E.H.R.s with secure messaging, timely follow up appointments after hospitalization, preventative care, personalized quality reports, and PCMH certification). Psychological distress using the K6 screening assessment (nervous, hopeless, restless, intensely depressed, unable to complete tasks). Covariates: predisposing factors, enabling factors, clinical need factors.	Descriptive statistics to compare population characteristics and primary care practice characteristics. Any value of $p < 0.05$ was considered significant. Created composite outcome variables of the total number of medical home functions. Statistical analysis completed using STATA 15.	Adults with psychological stress had higher incidence of chronic illness and poverty. Those with psychological distress were more likely to receive care from advanced practitioners and non-profit based centered. Practices that care for adults living with SMI have started transitioning towards a medical home model of primary care.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Lokko & Stern (2015)	Level VII: Expert Opinion	Expert opinion on collaboration and referral process; no formal study was completed. Case vignette presented.	n=0	Educational paper discussing current literature on integrative and collaborative approach for medicine and psychiatry. Additionally, addressing the referral gap.	Collaboration between medical and mental health providers.

Referrals or consultation requests from medical to mental health. | Evidence of mental health disorders identified during provision of medical care.

Evidence of lack of appropriate referrals based on the idea of a bad referral. | Collaboration between mental health and medication significantly facilitates timely diagnosis and treatment of mental health and medical problems.

Patient factors: stigma, shame, minimizing, medical obscuring mental problems, denial, fear of abandonment, fear of addiction.

Physician factors: lack of time to evaluate psych needs, uncertainty, how to make a referral, lack of knowledge. |

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Nelson et al. (2019)	Level IV: Cohort Study	VA IRB approved the use of NEPEC PRRC program monitoring data collected under written informed consent	n=5,086 veterans with SMI who were mostly male (95%), and corresponding staff, who completed PRRC assessment packets during the study evaluation period. Primary diagnoses evaluated of schizophrenia, schizoaffective disorder, bipolar disorder, major depression, PTSD, or other anxiety disorder.	Veteran-Rated Psychiatric Symptom Items Clinician-Rated psychiatric symptom items- interview based instrument Internalized Stigma of MI 10-Item Scale	Psychiatric symptoms, global indices of distress, positive symptom totals. Severity of psychiatric symptoms Internalized stigma	Descriptive statistics Analyses on total group and three subgroups Principal axis factoring was used for all outcome measures Promax rotation was used for the VR-PSI and CR-PSI Oblique rotation method was selected based on recommendations Tests of interval consistency and bivariate correlations were used to determine internal consistency and convergent validity. SPSS statistical software used.	This study provides initial support for the latent factor structures and psychometric properties of measures used to assess nation al VHA PRRC performance. VR-PSI had full scale internal consistency was excellent for total sample (CA=.95) and good for 4 factors (Depression=Cronbach's alpha =.88, interpersonal sensitivity CA =.88, psychosis CA =.85, anxiety CA=.88). CR-PSI: full scale internal consistency was good (CA=.87), but varied for the four latent factors (Mood disturbance CA =.82, activation CA =.71, reality distortion CA=.76, apathy CA=.65).

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Pratt et al. (2017)	Level III: Quasi experiment	This study provided the Helping Older People Experience Success-Individually Tailored (HOPES-I) intervention	n=47 aged 50 or older with SMI Two community mental health centers in New Hampshire	Helping Older People Experience Success-Individually Tailored (HOPES-I) intervention Multnomah Community Ability Scale Social Skills Performance Assessment UCSD Performance Based Skills Assessment Scale to Assess Negative Symptoms	Leisure time, communication, independent living, friendships, and health self-management Psychosocial functioning Communication ILS Relationships with friends and peers	Measured at baseline for performance domains. General linear mixed-model regression analyses with unstructured covariance to analyze differences over time Time was entered into the mixed model as a continuous variable Mixed effects linear regression Statistical significance set at p less than or equal to .05 Secondary exploratory analyses using chi-square analyses to determine whether impairments in specific skills areas influenced participants selection	Participants with baseline impairments in overall functioning and in each of the skill areas targeted by the program demonstrated significant improvements on related outcome measures. Selection of specific HOPES-I curriculum was not associated with level of impairment in associated skill areas at baseline, but participants with more impairment overall chose and completed more curriculum modules. The study supports the feasibility and potential benefit of individually tailored skills training program for the elderly with SMI.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Serrano et al. (2018)	Level II: Single RCT	Retrospective, quasi-experimental, controlled, pre-post study design	Sample size consisted of 11, 968 unique patients selected. Three Dane County, Wisconsin hospitals and four primary care clinics from 2003-2011	Retrospective data was obtained from electronic health records. Evaluate the impact of implementing the PCBH model on ED and primary care usage.	Location accessed, type of visit (ED or PC), gender, age, race, insurance type	Data mine charts. Linear regression-based model that controlled for autocorrelation between successive periods and at the same time provided testing of a number of components of interest. Test of change in trend for the intervention group alone. Tested for mean change at time of intervention.	After PCBH model, one clinic experienced statistically significant (p< 0., 95% CI 6.3-16.3 %), 11.3 % decrease in the ration of ED visits to primary care visits, relative to a control site, but two other intervention clinics did not. It appears that integration of this model may be associated with an ED use reduction, but better controlled studies are needed to verity.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Smith et al. (2015)	Level I: Systematic Review	Systematic Review, PubMed, inclusion criteria rates of depression late in life, risk factors for onset of depression, barriers to detection of late-life depression, approaches to depression screening. Exclusion: depression in cognitively impaired, younger than 65, measurement not primarily on depression, unusual or rare medical conditions, intervention or treatment studies.	A total of 851 articles were identified, and after inclusion/ exclusion criteria were applied, 271 articles remained to include information on depression detection guidelines.	Mine data from 271 articles pertaining to detection of depression. Created clinical practice guideline.	Rates of depression late in life, risk factors for onset of depression, barriers to detection of late-life depression, approaches to depression screening	Barriers: provider perceptions and beliefs. Somatic versus mood Communication Part of aging Time limitations Inadequate training Older adult perceptions and beliefs. Fear/stigma Normalcy of depression Fear of medication	Creation of the clinical practice guidelines offers implementation strategies. Tool is easy to use. Can be used in diverse settings. Call for more provider education on MH needs For providers to be able to identify clinically significant depressive symptoms and manage or refer for management. Call to incorporate clinical practice guidelines in current practice.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Stevens & Sidlinger (2015)	Level IV: Cohort or Case Study	Cohort study; 30-45-minute primary care appointments in the mental health clinic. Warm hand off from MH providers to primary care providers. Primary care services monitored over one year.	325 adults between 18-73 years old living with mental illness who attend this community mental health center	Incorporating primary care appointments into the mental health community center. Acute illness screening, chronic disease management, well person exams.	New patients establishing care, and number of appointments attended.	Types of appointments, number of no-shows, number of new patients, productivity as measured by number of minutes face-to face time with consumers (99.85%). An additional room increased visits by 53%.	Meeting the patient in a safe, stigma free zone may have increased participation. Barriers continue to be low health literacy, transportation, and poor support of health environments.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Vickers et al. (2013)	Level VI: Single Qualitative or Descriptive	Cross Sectional study; individual semi-structured interviews which contained a combo of open-ended question and rating scales	13 individuals were purposively selected to participate including 2 RN, 2 NP, 1 PA, 2 clinical assistants, 6 MD; Study took place at Mayo Family Clinic Northeast (Rochester, MN).	Semi-Structured one-on-one interviews pertaining to attitudes and beliefs about pre and post on-site system and resource changes;	Opinions about mental health services, including access, availability, and integration; issues related to implementation. Tools to assess anxiety. Rating scale system was utilized.	Results from rating scale items about access all had difference significant at P < .05 using a paired t test. Qualitative data was analyzed using QSR's NVivo 10 qualitative data software analysis program.	Integrating mental health services increased staff and provider satisfaction and increased access for patients. The initial data showed average of 14-minute interview times; post intervention an average of 19 minutes interview time was noted. Emerged themes: access to care and referrals for care

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Weiss et al. (2009)	Level VII: Expert Opinion	Expert opinion on integrative care; no formal study was completed.	n=0	Educational paper discussing the symbiotic nature of physical and mental health factors.	Mental health factors. Physical health factors.	Evidence of mental health disorders in primary care. Evidence of apparent higher incident of medical diagnoses in the mental health population.	Fragmented healthcare system that focuses solely on mental health OR physical health, but not both. A call to implement for mental health education in nursing and advance practice nursing curriculum. A call to action for advance practice nurses to specialize in mental health. Develop and evaluate integrated systems of care. Political influences in the paper.

First Author (Date)	Level/Quality of Evidence	Design/ Method	Sample/ Setting	Intervention	Major Variables Studied (and their definitions)	Measurement	Findings
Zallman et al. (2017)	Level IV: Cohort or Case Studies	Prospective study with a pre- and post-implementation surveys	381 PCPs from 11 primary care clinic from the Cambridge Health Alliance in Eastern Massachusetts. 82% of revenue come from public funding sources.	Imple-mentation of program came in two waves, an early wave for 2 years, and then a late wave. Administered an anonymous online survey annually to PCPS: 381 PCPs at 11 primary care clinics participated.	Screen for substance abuse and mental health disorders. Training of primary care teams Integration of behavioral health providers into primary car teams Roll out of unlicensed mental health care managers and establishment of a behavioral health registry Psychiatry consult service Site based behavioral health meetings Site self-assessments	How to manage, triage, and access external help for patients with MH or SUD. Communication with BH providers, if they felt patients received the needed care. Analyzed perceptions across 3 years with Mantel-Haenszel chi-square tests and compared changes from year to year with the fisher's exact tests. Multivariable logistic regression analyses controlling for provider.	The proportion of PCPs with high perceived behavioral health primary care system functioning scores quadrupled from 14% to 55% ($p < 0.0001$) and high perceived knowledge scores increased from 63 to 85% ($p < 0.001$). The integration of the BHI model improves PCP perceptions and knowledge.

Appendix C
Table 3. Interventions That Promote Mental Health Resource Utilization

First Study Author	Year	No. & Type of Partici-pants	Study Design	I-1 MH Education	I-2 IPE Education	I-3 Integrated Care	O-1 Knowledge	O-2 Resource Use	O-3 Shared Decision/ Collaboration	O-4 Reduction in No-Show/ Participation
Anthony et al.	2010	n=40 Primary care clinicians	Quasi-experiment			X		X		
Bartels & Pratt	2009	n=0 Review of studies	Not a study	X				X		
Bowdoin et al.	2016	n=6908 Adults with SMI	Surveillance study			X				X*
Burke et al.	2019	n=23 Studies Reviewed	Synthesis and Meta- analysis		X				X	
Chang et al.	2014	n=11 VA employees	QI			X			X*	
Cheesmond et al.	2019	n=11 Studies reviewed	Systematic Qualitative Review	X						X
Clement et al.	2015	n=144 Studies included	Systematic Review of qualitative and quantitative studies	X				X		
Hack et al.	2019	n=167 Adults with SMI in PSR	Analysis of RCT; psychoeducation design	X						X*
Heath et al.	2015	n=125 PCP Leadership	Quasi-experiment		X		X			
Hoeft et al.	2018	n=182 Articles reviewed	Systematic Review			X			X*	
Karlin & Karel	2014	n=132 MH Providers	QI			X			X*	
Lim et al.	2016	n=187 Adults w/ schizophrenia	Longitudinal Quasi			X	X			
Linman et al.	2019	n=4290 Adults surveys administered	Cross-sectional study			X		X		
Lokko & Stern	2015	n=0 Case Vignette	Not a study			X			X	
Nelson et al.	2019	n=5,086 Veterans with SMI	Cohort Study			X			X	

Author	Year	Sample	Design	MH	Int-1	Int-2	Int-3	Out-1	Out-2	Out-3	Out-4
Pratt et al.	2017	n=47 Older adult with SMI	Pilot test QI	X				X*			
Serrano et al.	2018	n=11,968 Adults using ED Services	Retrospective, quasi-experimental, controlled, pre-post study design			X		X*			
Smith et al.	2015	n=271 Articles about Depression	Systematic review	X			X				
Stevens & Sidlinger	2015	n=325 Adults living with SMI	Cohort Study			X					X*
Vickers et al.	2013	n=13 Healthcare Professionals	Cross sectional			X					X*
Weiss et al.	2009	n=0 Integrative Care	Not a study			X	X				
Zallman, et al.	2017	n=381 PCP's	Prospective study			X			X*		

MH=mental health care, Intervention-1=MH Education, Intervention-2=IPE Education, Intervention-3=Integrated Care, Outcome-1=Knowledge, Outcome-2=Resource Use   Outcome-3=Shared/Decision Collaboration, Outcome-4=Reduction in No Show/Increased Participation. *P value <0.05

Appendix D

Hello and Greeting Nurse Practitioners and NP students,

     My name is Celia McCauley-Wittl and I am a DNP Student at Radford University. For my DNP Scholarly Project, I am studying the effect of education on nurse practitioner knowledge and utilization of referral to mental health community support services and psychosocial rehabilitation. I am excited to offer you the opportunity to participate in this research study. Participation in the study will require taking a 5-7-minute pre-education survey, watching a pre-recorded educational webinar on non-traditional mental health services (mental health community support services and psychosocial rehabilitation) and then taking a 7-10-minute post-education survey, totaling 52 minutes. Participants will be able to download resources of non-traditional mental health service providers for their participation. Participants will not be compensated for their participation.

Thank you for your time and consideration.

Please respond by email to cmccauleywitt@radford.edu your intent to participate.

Sincerely,

Celia McCauley-Wittl, RN
Doctoral Candidate
Radford University

Appendix E

Table 4. Study Variables Addressing Demographics, Attitudes/Beliefs, and Knowledge/Practices

Demographic	Attitudes/Beliefs	Knowledge/Practices
Education	Comfort Level in addressing MH	Frequency of addressing MH
Experience	Comfort level in treating MH Dx	Communication with specialty
Type of Practice	How many pts with MH Dx in 1 week	Knowledge of MH resources
Gender	Likeliness to refer out for MH needs	Type of MH referrals made
Specialty	Current knowledge of resources	Familiarity with MHCSS
Age	Barriers to addressing MH needs	Familiarity with PSR
Ethnicity/Race		Referral to MHCSS
		Referral to PSR
		Eligibility criteria for MHCSS
		Eligibility criteria for PSR
		Purpose of MHCSS
		Purpose of PSR

Appendix F

Improving Nurse Practitioner Awareness and Utilization of Mental Health Community Support Services and Psychosocial Rehabilitation Services

Code Name	Full Variable Name	Variable description	Measurement Level	Missing Values	Value Labels	Position in File
TYPRO	Type of provider	Educational background of the provider	Nominal	0	A. Nurse practitioner (in practice), B. Nurse practitioner (in academia), C. Nurse Practitioner (in practice and academia), D. Nurse Practitioner Student, E. Student, F. Other, G. Refused	1
LNGTTM	Length of time as a provider	Years of experience as a provider	Interval	0	A. 0-3 years, B. 4-6 years, C. 7-9 years, D. 10+ years, E. Other F. Refused	2
TYPRAC	Type of practice	Individual or group	Nominal	0	A. Individual, B. Group C. Other D. Refused	3
GNDR	Gender	Gender identification	Nominal	0	A. Male, B. Female, C. Trans-gender, D. No disclosure, E. Refused	4

PRCSPC	Practice Specialty	Type of clinic that the NP works in	Nominal	0	A. Family practice, B. Internal medicine, C. OBGYN, D. Urgent Care, E. Psych/ Mental Health F. Medical home, G. Other (Type: _____), H. Refused	5
AGE	Provide Age	The age of the provider during the study	Interval	0	A. Fill in age: B. Refused	6
ETHNRC	Ethnicity/Race	What is your ethnicity	Nominal	0	1. Hispanic or Latino, 2. Black of African American, 3. White or Caucasian, 4. American Indian or Alaska Native, 5. Asian, 6. Native Hawaiian or Other Pacific Islander, 7. Other 8. Refused	7

CMFLVL	Comfort Level	What is the comfort level of the NP or NP student in addressing patients with MH issues?	Ordinal	0	A. Not comfortable at all, B. A little uncomfortable, C. Somewhat comfortable, D. Very comfortable	8
CMFTXT	Comfort of Treatment	What is the comfort level of the NP or NP student in treating patients with mental health disorders?	Ordinal	0	A. Not comfortable at all, B. A little uncomfortable, C. Somewhat comfortable, D. Very comfortable	9
PTPRWK	Patients per week	How many patients do you see in a week that has a mental health diagnosis?	Ratio	0	1. 0, 2. 1-10, 3. 11-24, 4. 24-49, 5. 50+, 6. Refused.	10
LIKRFRL	Likely to refer	How likely is the provider to refer patients out for mental health needs?	Ordinal	0	0. Don't refer out, 1. Not likely to refer out, 2. Likely to refer out, 3. Very likely to refer out, 4. Refer out every time, 5. Refused	11

ADDSMH	Address mental health	How often does the provider address patients' mental health needs?	Interval	0	1. Never address it or only when it is brought up, 2. Occasionally, 3. Each visit, 4. Semi-annually, 5. Annually, 6. Refused	12
BRRIERS	Barriers	What are the barriers to addressing mental health needs in the provider practice	Nominal	0	1. Time, 2. Education of providers, 3. Resources, 4. Comfort level in providing MH care, 5. Scope of practice, 6. No barriers	13
CMPSYC	Commun-ication with Psych Specialist	Do you consult with a Mental Health Specialist about course of treatment?	Nominal	0	1. No, 2. Sometimes (1-3 times/ month), 3. Frequently (4+ times per month)	14
CRTKNW	Current Knowledge	What is your current level of knowledge of available mental health resources in your community?	Ordinal	0	1. No knowledge, 2. A little knowledge, 3. Some knowledge, 4. Very knowledgeable	15

HXRFRL	Referrals	Please select all of the mental health referrals you have made previously:	Nominal	0	1. Psychiatry, 2. Counseling/ Therapy, 3. MHCSS, 4. PSR 5. SUD treatment, 6. Psych Inpatient treatment, 7. None, 8. Other write in, 9. Refused	16
FAMMHS	Familiar MHCSS	Are you familiar with mental health community support services in Roanoke?	Nominal	0	1. Yes, 2. No, 3. Refused	17
FAMPSR	Familiar PSR	Are you familiar with psychosocial rehabilitation services in Roanoke?	Nominal	0	1. Yes, 2. No, 3. Refused	18
RFRLMH S	Referral to MHCSS	Have you ever referred a patient to mental health community support services?	Nominal	0	1. No, 2. Occasionally (2-3 times/ year), 3. Frequently (4+ times/ year), 4. Refused	19

RFRLPSR	Referral to PSR	Have you ever referred a patient to a psychosocial rehabilitation program?	Nominal		0	1. No, 2. Occasionally (2-3 times/ year), 3. Frequently (4+ times/ year), 4. Refused	20
ELIGMHS	Eligibility Criteria MHCSS	What are the eligibility criteria to receive mental health community support services (select all that apply)?	Nominal		0	1. Private insurance, 2. Medicaid insurance, 3. Medicare insurance, 4. Anxiety disorder, 5. Mood disorder, 6. Thought disorder, 7. Personality disorder, 8. Substance use disorder, 9. History of psychiatric hospitalization, 10. History of incarceration, 11. History of homelessness, 12. Under the care of a psychiatrist, 13. Under the care of a counselor, 14. Under the care of a case manager, 15. Prescribed psychiatric medications, 16. Prescribed medical medications,	21

					17. Taking no medications, 18. No eligibility criteria	

ELIGPSR	Eligibility Criteria PSR	What are the eligibility criteria to received psychosocial rehabilitation (select all that apply)?	Nominal	0	1. Private insurance, 2. Medicaid insurance, 3. Medicare insurance, 4. Anxiety disorder, 5. Mood disorder, 6. Thought disorder, 7. Personality disorder, 8. Substance use disorder, 9. History of psychiatric hospitalization, 10. History of incarceration, 11. History of homelessness, 12. Under the care of a psychiatrist, 13. Under the care of a counselor, 14. Under the care of a case manager, 15. Prescribed psychiatric medications, 16. Prescribed medical medications, 17. Taking no medications, 18. No eligibility criteria	22

| PRPMHS | Purpose of MHCSS | What is the purpose of mental health community support services (select all that apply)? | Nominal | | 0 | 1. Transportation, 2. Medication management, 3. Training on activities of daily living, 4. Companionship, 5. Training on independent living skills, 6. Finding and utilizing appropriate community resources, 7. Symptom management, 8. Peer support, 9. Risk management training, 10. Socialization, 11. No purpose | | 23 |

| PRPPSR | Purpose of PSR | What is the purpose of psychosocial rehabilitation services (select all that apply)? | Nominal | | 0 | 1. Transportation, 2. Medication management, 3. Training on activities of daily living, 4. Companionship, 5. Training on independent living skills, 6. Personal hygiene, 7. Community Integration, 8. Peer support, 9. Symptom management, 10. Socialization, 11. No purpose | | 24 |

Appendix G
Pre-Education Survey Questionnaires
<u>Demographic Data (Indicate your answer with an X or fill in answer)</u>

1. What is your educational background?
    a) ___Nurse Practitioner (in practice)
    b) ___Nurse Practitioner (in academia)
    c) ___Nurse Practitioner (in practice and academia)
    d) ___Nurse Practitioner student
    e) ___Student Other _____
    f) ___Other _____

2. How many years have you been in practice?
    a) ___0-3 years
    b) ___4-6 years
    c) ___7-9 years
    d) ___10+ years
    e) ___Other _____

3. What type of practice do you work in?
    a) ___Individual provider in a practice
    b) ___Group of providers in a practice
    c) ___Other _____

4. What is your gender?
    a) ___Male
    b) ___Female
    c) ___Transgender
    d) ___No disclosure

5. What type of clinic do you practice in?
    a) ___Family practice
    b) ___Internal medicine
    c) ___OBGYN
    d) ___Urgent care
    e) ___Psych/mental health
    f) ___Medical home (Interdisciplinary team including provider, social work, etc.)
    g) ___Other (Type: _____)

6. What is your age? _____

7. What is your ethnicity/race?
    a) ___Hispanic or Latino
    b) ___Black or African American
    c) ___White or Caucasian
    d) ___American Indian or Alaska Native
    e) ___Asian
    f) ___Native Hawaiian or Other Pacific Islander
    g) ___Other _____

Mental Health Utilization Data (Indicate your answer with an X or fill in answer)

8. What is your comfort level in **addressing** patients with mental health issues?
    - a) ___Not comfortable at all
    - b) ___A little uncomfortable
    - c) ___Somewhat comfortable
    - d) ___Very comfortable

9. What is your comfort level in **treating** patients with mental health issues?
    - a) ___Not comfortable at all
    - b) ___A little uncomfortable
    - c) ___Somewhat comfortable
    - d) ___Very comfortable

10. How many patients do you see in one week with a mental health diagnosis?
    - a) ___0
    - b) ___1-10
    - c) ___11-24
    - d) ___25-49
    - e) ___50+

11. What is your likeliness to refer patients out for mental health care?
    - a) ___Do not refer out
    - b) ___Not likely to refer out
    - c) ___Likely to refer out
    - d) ___Very likely to refer out
    - e) ___Refer out every time

12. How often do you address patients' mental health needs?
    - a) ___Never address it or only when it is brought up
    - b) ___Occasionally
    - c) ___Each visit
    - d) ___Semi-annually
    - e) ___Annually

13. What are the barriers to addressing mental health needs in your practice? Put in order ranking from 1 to 6 with 1 being the biggest barrier and 6 being the least barrier **OR** you may choose no barriers.
    - a) ___Time
    - b) ___Education of providers
    - c) ___Resources
    - d) ___Comfort level in providing mental health care
    - e) ___Scope of practice
    - f) ___No barriers

14. Do you consult with a mental health specialist about the course of treatment for your patients?
    - a) ___No
    - b) ___Sometimes (1-3 times per month)
    - c) ___Frequently (4+ times per month)

15. What is your current knowledge level of mental health resources in your area?
    a) ___No knowledge
    b) ___A little knowledge
    c) ___Some knowledge
    d) ___Very knowledgeable

16. Please select all of the mental health referrals you have made previously:
    a) ___Psychiatry
    b) ___Counseling/Therapy
    c) ___Mental Health Community Support Service (MHCSS)
    d) ___Psychosocial Rehabilitation Services (PSR)
    e) ___Substance use disorder treatment
    f) ___Psychiatric inpatient treatment
    g) ___None
    h) ___Other (write in: _____)

17. Are you familiar with mental health community support services (MHCSS) in your area?
    a) ___Yes
    b) ___No

18. Are you familiar with psychosocial rehabilitation services (PSR) in your area?
    a) ___Yes
    b) ___No

19. Have you ever referred a patient to mental health community support services (MHCSS)?
    a) ___No
    b) ___Occasionally (2-3 times per year)
    c) ___Frequently (4+ times per year)

20. Have you ever referred a patient to a psychosocial rehabilitation (PSR) program?
    a) ___No
    b) ___Occasionally (2-3 times per year)
    c) ___Frequently (4+ times per year)

21. What is the purpose of mental health community support services (MHCSS) (select all that apply)?
    a) ___Transportation
    b) ___Medication management
    c) ___Training on activities of daily living (ADLs)
    d) ___Companionship/Sitter
    e) ___Training on independent living skills
    f) ___Finding and utilizing appropriate community resources
    g) ___Symptom management
    h) ___Peer support (finding support in others that have the same disease as the patient)
    i) ___Risk management training
    j) ___Socialization
    k) ___No purpose

22. What is the purpose of psychosocial rehabilitation services (PSR) (select all that apply)?

a) ___Transportation
b) ___Medication management
c) ___Training on activities of daily living (ADLs)
d) ___Companionship/Sitter
e) ___Training on independent living skills
f) ___Personal hygiene
g) ___Community integration
h) ___Peer support (finding support in others that have the same disease as the patient)
i) ___Symptom management
j) ___Socialization
k) ___No purpose

23. What are the eligibility criteria to receive mental health community support services (select all that apply)?
a) ___Private insurance
b) ___Medicaid insurance
c) ___Medicare insurance
d) ___Anxiety disorder
e) ___Mood disorder
f) ___Thought disorder
g) ___Personality disorder
h) ___Substance use disorder
i) ___History of psychiatric hospitalization or another qualifying event
j) ___History of incarceration
k) ___History of homelessness
l) ___Under the care of a psychiatric provider
m) ___Under the care of a counselor/therapist
n) ___Under the care of a case manager
o) ___Prescribed psychiatric medications
p) ___Prescribed non-psychiatric medications
q) ___Taking no medications
r) ___No eligibility criteria

24. What are the eligibility criteria to receive psychosocial rehabilitation (select all that apply)?
a) ___Private insurance
b) ___Medicaid insurance
c) ___Medicare insurance
d) ___Anxiety disorder
e) ___Mood disorder
f) ___Thought disorder
g) ___Personality disorder
h) ___Substance use disorder
i) ___History of psychiatric hospitalization or another qualifying event

j)   ___History of incarceration
k)   ___History of homelessness
l)   ___Under the care of a psychiatric provider
m) ___Under the care of a counselor/therapist
n)   ___Under the care of a case manager
o)   ___Prescribed psychiatric medications
p)   ___Prescribed non-psychiatric medications
q)   ___Taking no medications
r)   ___No eligibility criteria

Appendix H
Post-Education Survey Questionnaires
Mental Health Utilization Data (Indicate your answer with an X)

1. What is the purpose of mental health community support services (MHCSS) (select all that apply)?
    a) ___Transportation
    b) ___Medication management
    c) ___Training on activities of daily living (ADLs)
    d) ___Companionship
    e) ___Training on independent living skills
    f) ___Finding and utilizing appropriate community resources
    g) ___Symptom management
    h) ___Peer support (finding support in others that have the same disease as the patient)
    i) ___Risk management training
    j) ___Socialization
    k) ___No purpose

2. What is the purpose of psychosocial rehabilitation services (PSR) (select all that apply)?
    a) ___Transportation
    b) ___Medication management
    c) ___Training on activities of daily living (ADLs)
    d) ___Companionship
    e) ___Training on independent living skills
    f) ___Personal hygiene
    g) ___Community integration
    h) ___Peer support (finding support in others that have the same disease as the patient)
    i) ___Symptom management
    j) ___Socialization
    k) ___No purpose

3. What are the eligibility criteria to receive mental health community support services (select all that apply)?
    a) ___Private insurance
    b) ___Medicaid insurance
    c) ___Medicare insurance
    d) ___Anxiety disorder
    e) ___Mood disorder
    f) ___Thought disorder
    g) ___Personality disorder
    h) ___Substance use disorder
    i) ___History of psychiatric hospitalization or another qualifying event
    j) ___History of incarceration
    k) ___History of homelessness
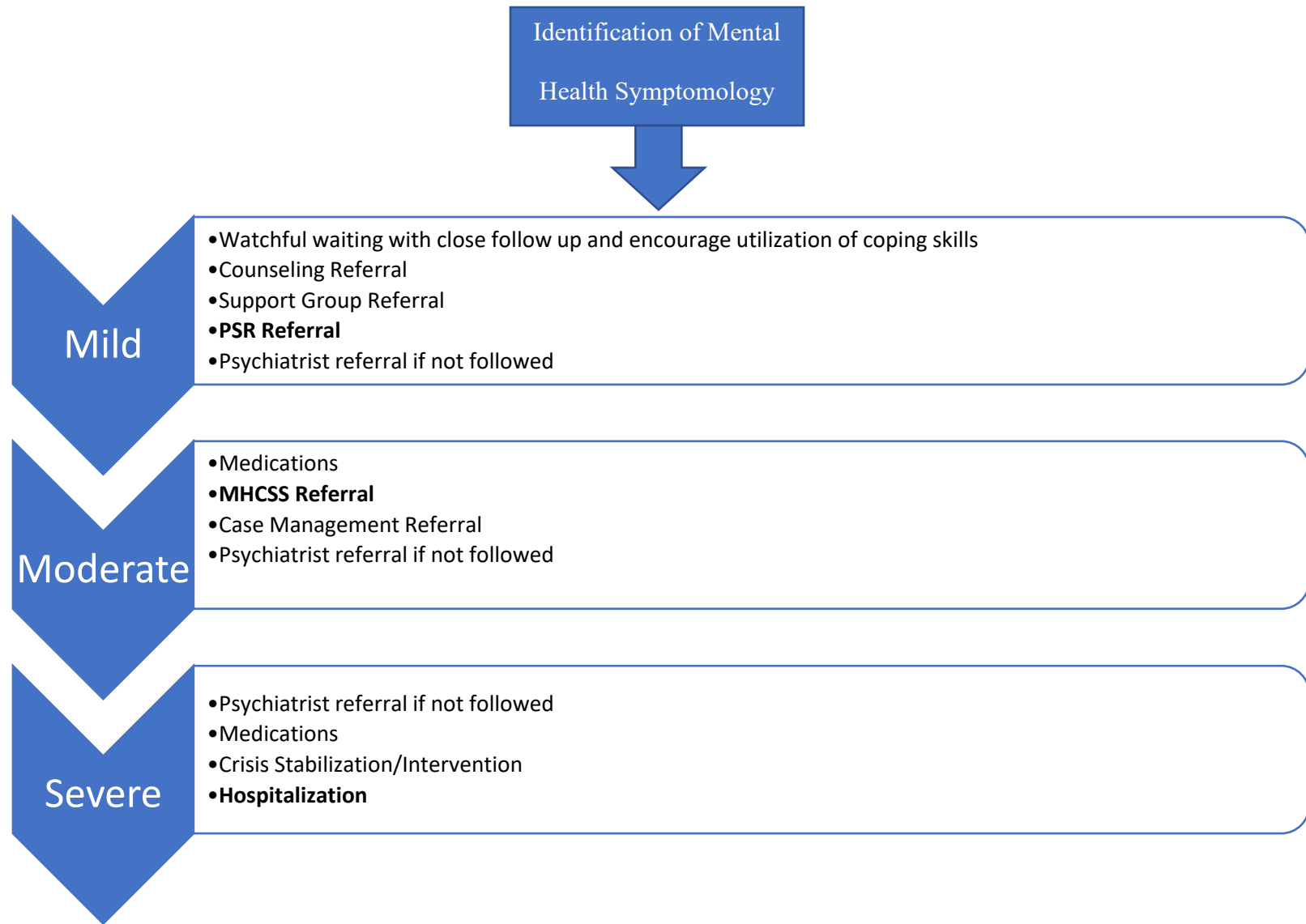
l) ___Under the care of a psychiatric provider

m) ___Under the care of a counselor/therapist

n) ___Under the care of a case manager

o) ___Prescribed psychiatric medications

p) ___Prescribed non-psychiatric medications

q) ___Taking no medications

r) ___No eligibility criteria

4. What are the eligibility criteria to receive psychosocial rehabilitation (select all that apply)?

a) ___Private insurance

b) ___Medicaid insurance

c) ___Medicare insurance

d) ___Anxiety disorder

e) ___Mood disorder

f) ___Thought disorder

g) ___Personality disorder

h) ___Substance use disorder

i) ___History of psychiatric hospitalization or another qualifying event

j) ___History of incarceration

k) ___History of homelessness

l) ___Under the care of a psychiatric provider

m) ___Under the care of a counselor/therapist

n) ___Under the care of a case manager

o) ___Prescribed psychiatric medications

p) ___Prescribed non-psychiatric medications

q) ___Taking no medications

r) ___No eligibility criteria

5. Scenario: A 53-year-old African American male diagnosed with schizoaffective disorder, substance use disorder, nicotine dependence, and hypertension reports isolating in his home. The patient is followed by a psychiatrist who prescribes a mood stabilizer and antipsychotic. The patient is prescribed antihypertensives by your office. The patient has never had a psychiatric hospitalization. The patient received Medicaid and Medicare benefits. Pick the most appropriate referral (there is only 1 answer).

a) ___Counseling/Therapy

b) ___Mental health community support services (MHCSS)

c) ___Psychosocial rehabilitation (PSR)

d) ___Psychiatric inpatient hospitalization

e) ___No referral needed

6. Scenario: A 33-year-old Caucasian female diagnosed with major depression, recurrent, severe with psychotic features, hiatal hernia, nicotine dependence, alcohol use disorder and eczema reports a new history of homelessness and increased alcohol use to help her sadness. The patient has Medicaid benefits only. The patient is followed by a psychiatrist and prescribed an antidepressant (which she is refusing) and an antipsychotic

(injectable form). The patient has experienced three psychiatric hospitalizations over the last four months. The patient denies suicidal or homicidal ideations this day. The patient is coming to your office for a complaint of breathing problems. After evaluating and treating her respiratory issues, what the next most appropriate referral (there is only 1 answer)?
- a) ___Counseling/Therapy
- b) ___Mental health community support services (MHCSS)
- c) ___Psychosocial rehabilitation (PSR)
- d) ___Psychiatric inpatient hospitalization
- e) ___No referral needed

7. Scenario: A 45-year-old Caucasian male diagnosed with PTSD, panic disorder, substance use disorder, and seasonal allergies comes to your office today with complaints of increased substance use and increasing episodes of flashbacks. The patient is being triggered by stressors at home and work. The patient is covered by Anthem and VA benefits. The patient has had one psychiatric hospitalization post deployment, is only followed by a VA psychiatrist, and is prescribed antidepressants, anxiolytics, and allergy medications. What is the most appropriate referral for this patient (there is only 1 answer)?
- a) ___Counseling/Therapy
- b) ___Mental health community support services (MHCSS)
- c) ___Psychosocial rehabilitation (PSR)
- d) ___Psychiatric inpatient hospitalization
- e) ___No referral needed

8. Scenario: A 57-year-old African American female diagnosed with schizophrenia, hypertension, and tobacco use disorder presents to your office covered in urine and feces, responding to internal stimuli, and is screaming at the nursing staff for having forked tongues and being devil worshipers. This individual has had over 20 hospitalizations in her lifetime, is being followed by a psychiatrist at the Community Services Board and is prescribed an injectable antipsychotic monthly. Based on current presentation what referral is the most appropriate for this patient (there is only 1 answer)?
- a) ___Counseling/Therapy
- b) ___Mental health community support services (MHCSS)
- c) ___Psychosocial rehabilitation (PSR)
- d) ___Psychiatric inpatient hospitalization
- e) ___No referral needed

Appendix I

Mental Health Intervention Decision Tree

Identification of Mental

Health Symptomology

Mild
- Watchful waiting with close follow up and encourage utilization of coping skills
- Counseling Referral
- Support Group Referral
- **PSR Referral**
- Psychiatrist referral if not followed

Moderate
- Medications
- **MHCSS Referral**
- Case Management Referral
- Psychiatrist referral if not followed

Severe
- Psychiatrist referral if not followed
- Medications
- Crisis Stabilization/Intervention
- **Hospitalization**

Appendix J

Quick Reference Sheet

Service Quick Reference

| MHCSS	PSR
Finding and using community resources	Decrease isolation
Training to reduce risks of hospitalization or incarceration	Increase positive social contacts/peer support
Medication management training	Health education training
Training on activities of daily living (hygiene, food prep, safety)	Safety/personal care training
Training on basic living skills (managing finances, cleaning, time management, organization)	Medication management training
Symptom management	Independent living skills education
Training to establish and maintain interpersonal relationship	Training to establish and maintain interpersonal relationship

Eligibility Quick Reference

MHCSS	PSR
Medicaid	Medicaid
Followed by a psychiatric provider or referral	Followed by a psychiatric provider or referral
Prescribed a psychotropic medication in the last 12 months	Prescribed a psychotropic medication in the last 12 months
Clinical need for the service	Clinical need for the service
MHCSS worthy diagnosis (MDD, Schizophrenia, Schizoaffective d/o, Bipolar I or II)	PSR worthy diagnosis (MDD, Schizophrenia, Schizoaffective d/o, Bipolar I or II, ID/DD)
Past history of psychiatric hospitalization or another qualifying event	

MHCSS and PSR Providers in Roanoke, Virginia

(Additional services offered by each provider are listed in italics)

Mental Health Community Support Services (MHCSS)	**Psychosocial Rehabilitation (PSR)**
Blue Ridge Behavioral Healthcare, CSB 611 McDowell Avenue Roanoke, VA 24016 PH: (540) 266-9200 *(Psych Services, IOP, CM, children, SUD)*	Blue Ridge Behavioral Healthcare, CSB 611 McDowell Avenue Roanoke, VA 24016 PH: (540) 266-9200
Embrace Healthy Solutions (EHS) 601 Campbell Avenue SW Roanoke, VA 24016 PH: (540) 793-4678 *(Crisis Services, IOP, counseling)*	Embrace Healthy Solutions (EHS) 601 Campbell Avenue SW Roanoke, VA 24016 PH: (540) 793-4678
Hall Community Services 846 Campbell Avenue SW Roanoke, VA 24016 PH: (540) 344-6411 *(Rep payee services)*	Hall Community Services 846 Campbell Avenue SW Roanoke, VA 24016 PH: (540) 344-6411
Mainstream Mental Health Services 7211 Cloverdale Road Roanoke, VA 24019 PH: (540) 966-5808 *(Crisis Services and Counseling)*	Mainstream Mental Health Services 7211 Cloverdale Road Roanoke, VA 24019 PH: (540) 966-5808
New Hope Support Services 711 5th Street NE Roanoke, VA 24016 PH: (540) 777-2777 *(Therapeutic Mentoring with kids)*	New Hope Support Services 711 5th Street NE Roanoke, VA 24016 PH: (540) 777-2777
Roanoke Resource 402 Campbell Avenue SW Roanoke, VA 24016 PH: (540) 400-7431 *(Pending Psych Services and Crisis Services)*	Roanoke Resource 402 Campbell Avenue SW Roanoke, VA 24016 PH: (540) 400-7431
Transformed Support Services 3959 Electric Road Roanoke, VA 24018 PH: (540) 685-2582 *(SUD counseling and CM)*	

Appendix K
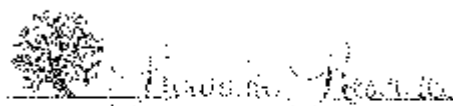
January 20, 2020

Radford University
801 E. Main Street
Radford, VA 24141

Celia McCauley-Wird
6821 Mason Knob Trail
Roanoke, VA 24018

RE: Financial Support of Final DNP Capstone

To whom it may concern,

    This letter serves as notice of financial support of the final DNP Capstone Project, The Effect of Education on Provider Knowledge of Non-traditional Mental Health Services. Roanoke Resources pledges to cover the cost of this project not covered by funding from Sigma Theta Tau.

    If you have questions, please free to contact me at (540) 400-7431.

Sincerely,

Courtni Sandras-Gray, LCSW
Clinical Coordinator
Roanoke Resources

Appendix L

RADFORD
UNIVERSITY

Radford University Cover Letter for Internet Research

You are invited to participate in an online research webinar, entitled "Improving Nurse Practitioner Awareness and Utilization of Mental Health Community Support Services and Psychosocial Rehabilitation Services." The study is being conducted by Celia L. McCauley-Wittl (cmccauleywitt@radford.edu), the student researcher, and Dr. Iris Mullins (imullins@radford.edu), the primary investigator, of the School of Nursing. Radford University Waldron 308, P.O. Box 6964 Radford, VA 24142.

The purpose of this study is to improve access to care for patients in Virginia living with serious mental illness through the provision of nurse practitioner education of mental health community support services and psychosocial rehabilitation services. Your participation in the webinar will contribute to a better understanding of the purpose and eligibility criteria of mental health community support services and psychosocial rehabilitation services. We estimate that it will take about 52 minutes of your time to complete a pre-education survey questionnaire, watch the pre-recorded webinar, complete the post-education survey questionnaire, and finally evaluate the educational webinar. You are free to contact the investigator at the above address and email address to discuss the study.

This study has no more risk than you may find in daily life.

The research team will work to protect your data to the extent permitted by technology. It is possible, although unlikely, that an unauthorized individual could gain access to your responses because you are responding online. This risk is similar to your everyday use of the internet.

Nursing faculty members who are nurse practitioners and nurse practitioner students at Radford University and Radford University Carilion, as well as individuals that voice interest from the social media advertising, will receive an emailed request to participate in the webinar and study. No email addresses or IP addresses will be recorded. Celia L. McCauley-Wittl and Dr. Iris Mullins will have access to the data during data collection.

Your participation in this survey is voluntary. You may decline to answer any question and you have the right to withdraw from participation at any time without penalty. If you wish to withdraw from the study or have any questions, contact the investigator listed above. If you choose not to participate or decide to withdraw, there will be no impact on your current or future relationship with Radford University or Roanoke Resource or for students, your grades/academic standing.

If you have any questions or wish to update your email address, please call Celia L. McCauley-Wittl at 1-540-765-8696 or send an email to cmccauleywitt@radford.edu You may also request a hard copy of the survey from the contact information above.

This study was approved by the Radford University Committee for the Review of Human Subjects Research. If you have questions or concerns about your rights as a

research subject or have complaints about this study, you should contact Dean Ben Caldwell, College of Graduate Studies and Research, Radford University, bcaldwell13@radford.edu, 1-540-831-5724.

If you agree to participate, please **press the arrow button at the bottom right of the screen**. Otherwise use the X at the upper right corner to close this window and disconnect.

Thank you.