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Safety-Net Medical Clinic Behavioral Health Integration

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SAFETY-NET MEDICAL CLINIC
BEHAVIORAL HEALTH INTEGRATION

PROFESSIONAL DISSERTATION

SUBMITTED TO THE FACULTY

OF

THE SCHOOL OF PROFESSIONAL PSYCHOLOGY
WRIGHT STATE UNIVERSITY

BY

MELANIE K. STEPHENSON, PSY.M.

IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE
OF
DOCTOR OF PSYCHOLOGY

Dayton, Ohio

July, 2019

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**WRIGHT STATE UNIVERSITY
SCHOOL OF PROFESSIONAL PSYCHOLOGY**

May 17, 2018

I HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER MY SUPERVISION BY **MELANIE K. STEPHENSON** ENTITLED **SAFETY-NET MEDICAL CLINIC BEHAVIORAL HEALTH INTEGRATION** BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PSYCHOLOGY.

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Abstract

The purpose of the study is to obtain an improved understanding of behavioral health needs and social determinants of health among the patient population at the safety-net clinic Reach Out of Montgomery County (ROMC). The aims of the study include: 1) identify valid and reliable screening tools that are appropriate for use in primary care to measure behavioral health concerns, 2) identify valid and reliable screening tools that are appropriate for use in primary care to measure social determinants of health, 3) administer the developed survey to a representative sample of patients served by ROMC, 4) conduct statistical analysis of survey findings, and 5) prepare a report with summary of findings and recommendations to address behavioral health concerns and social determinants of health for ROMC. The overall goal of the study is to provide ROMC leadership with data that will inform the development and maintenance of tailored integrated health care services.

Keywords: integrated care, primary care, safety-net, behavioral health consultant, behavioral health concerns, social determinants of health

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Chapter I

Statement of the Problem

Utilizing an integrated team approach within traditional medical care can better address patient's overall health needs (Glueck, 2015). Integrated teams of medical and behavioral professionals can create an opportunity to offer behavioral health skills and expertise to patients in the primary care medical setting where they already receive care (Hunter, Goodie, Oordt, & Dobmeyer, 2009). About half of Americans will meet criteria for a mental health disorder in their lifetime and most patients seek and receive care in the primary care setting for mental health disorders (Kessler, Bergland, et al., 2005; McDaniel & deGruy, 2014). Therefore, it is essential to provide patients with access to behavioral health services within primary care and safety-net medical settings.

In order to better address patient's overall health, it is important to collect information from the population served about their needs. Information that is useful to know about the population includes prevalence of specific behavioral health concerns (e.g., depression, anxiety, trauma, substance abuse) and social determinants of health (e.g., socioeconomic status, health literacy, transportation, social support). The data obtained through this research will help in preparing to tailor integrated services based on the needs of the population. Further, the data obtained through this research will help support efforts to reduce barriers to care.

The patients who were assessed are underserved individuals of low socioeconomic status, without health insurance or underinsured, and international. The

medical facility, Reach Out of Montgomery County (ROMC), is a safety-net clinic that offers primary care and acute services to patients for free and is staffed by mostly volunteers and students.

Chapter II

Literature Review

Biopsychosocial Model

Health and disease have traditionally been explained using the biomedical model that focuses on biological causes of patient concerns. Engel (1980) was among the first to point out the flaw of the biomedical model is that it does not consider the patient's attributes as an individual person. The biomedical model does not account for the person as a whole and disregards both psychological and social aspects of the individual that can influence physical health status. McDaniel and deGruy (2014) reported patient concerns that cannot be explained biologically have often been considered unimportant, leaving the patient without an explanation for his or her experience and the provider with a limited understanding of the patient.

The biopsychosocial model is a "scientific model constructed to take into account the missing dimensions of the biomedical model" (Engel, 1980, p. 535). The biopsychosocial model is a systems approach to health care that considers the patient in context of his or her environment and offers professionals a more comprehensive way to attempt to understand patient concerns. Talen and Burke Valeras (2013) stated that the future of health care includes holistic patient care with a biopsychosocial foundation, which involves treating a patient as a whole person and addressing psychological/behavioral, social, and biological factors.

In the early 1990s, researchers explored the extent to which behavior and social barriers relate to health. McGinnis and Foege (1993) conducted a review of research that studied the factors contributing to mortality and morbidity. The factors that contributed most to mortality were behavioral and related to tobacco use, diet and activity levels, and alcohol use. The review also identified social factors as major contributors to mortality. The most prevalent social factors were socioeconomic status and access to medical care. Evidence of behavioral/psychological and social factors contributing to medical disease and death underscores the relevance of practicing from a biopsychosocial model of care.

According to Baird, Peek, Gunn, and Burke Valeras (2013), the importance of considering psychological and social factors within medicine is highlighted among patients who frequently visit emergency rooms and who have significant mental health, social, and medical needs. These complex patient presentations involve social and system variables in addition to mental health and medical diagnoses. Additionally, complex patients often do not have health insurance and can cost hospitals several million dollars (Baird et al., 2013). Benefits exist for integrated care teams that operate from a biopsychosocial model to identify and address patients with combined medical, mental health, and social barriers. For example, by addressing social barriers (i.e., housing, safety, transportation, etc.), patient's medical health improved, and annual cost of care decreased (Baird et al., 2013).

Primary Care Setting

Primary care is the health care setting where patients often develop a sense of community and partnership with their care givers (Institute of Medicine, 2014). The majority of individuals in the United States (U.S.) who seek treatment for mental

disorders, substance use disorders, and health behavior problems present to the primary care setting (McDaniel & deGruy, 2014). According to Kessler, Chiu, Demler, and Walters (2005), about one third of patients receiving services in primary care settings have a mental health disorder. Additionally, several common medical problems treated in primary care involve health behaviors that contribute to the onset and maintenance of medical illness, such as chronic pain, weight management, and insomnia (Hunter et al., 2009).

There are a number of barriers within primary care settings that prevent patients from receiving holistic care. For example, physicians often lack the training and time to appropriately identify and treat behavioral health problems (Hunter et al., 2009). By analyzing data from a nationally representative sample of adults who visited community-based primary care sites for treatment, Harrison, Miller, Schmitt, and Touchet (2010) concluded behavioral health and social concerns often go unrecognized within primary care. The study focused on screening for depression due to the identified link between depression and medical care burden. Primary care patient data from 2005 to 2007 was analyzed and depression data was only documented for a low 2.29% of the estimated 1.7 billion adult physician visits. Harrison et al. posited the low rate of depression screenings was likely associated with uncertainty of screening guidelines (e.g., how frequently to screen patients) and lack of clearly defined implementation strategies was noted as a barrier to adequately identify patients with depressive symptoms.

A clinical review conducted by Goldman, Nielsen, and Champion (1999) reported barriers to diagnosing and treating depression based on reviewing 10 years of published articles related to depression in medical settings. Goldman et al. found only about half of

patients with depression were identified and diagnosed. Stigma was a common reason for depression to go unrecognized or undiagnosed. For example, both patients and physicians were reluctant to identify distress due to negative, stigmatizing beliefs (e.g., depression reflects a personal deficit). Also, physicians' inadequate knowledge about depression and the diagnostic criteria often deterred them from considering or treating depression. Both physicians and patients may feel more comfortable discussing physical disease and thus, psychological symptoms may not be emphasized.

Incorporating behavioral health consultants into primary care can help reduce barriers. Torrence et al. (2014) assessed 73 primary care medical provider's attitudes toward behavioral health clinicians at a primary care setting by using a survey tool. Patients at the primary care setting were mostly low-income and ethnically diverse. The medical providers (e.g., physicians, nurse practitioners, and physician assistants) collaborated with the behavioral health consultants, psychology trainees, and psychiatrists regularly within an integrated care model. The results indicated medical providers believed that behavioral health clinicians were valuable to the health care team. Medical providers also reported their ability to address patient's physical health problems, behavioral health problems, and deliver care was enhanced by working with behavioral health clinicians. Of all providers who completed the survey, physicians reported the highest rates of belief that behavioral health clinicians addressed mental health problems and psychosocial aspects of health care.

Safety-Net Primary Care Setting

Free safety-net health clinics, such as ROMC, are private, nonprofit organizations that provide a range of medical, dental, medication, or mental health services to

“economically disadvantaged patients who are predominately uninsured” (Association of State and Territorial Health Officials, 2011, p. 1). Safety-net clinics in the U.S. provide care to patients who are underserved and underinsured or uninsured. Patients utilizing safety-net clinics are often vulnerable due to limited resources, minority status, low socioeconomic status, and limited access to health care (Sadock, Perrin, Grinnell, Rybarczyk, & Auerbach, 2017). According to the Association of State and Territorial Health Officials (2011), free safety-net clinics provide services that are not readily available to low-income patients due to inability to pay for services at for-profit medical facilities. A combination of paid and volunteer health care providers serve patients at safety-net health clinics.

Funding for free safety-net health clinics comes from donations, civic groups, churches, foundations and corporations (Association of State and Territorial Health Officials, 2011). Specific to ROMC, the organization is primarily funded through grants and donations (Reach Out, 2017). Patients utilize services at ROMC for a variety of reasons; they are: unable to afford insurance offered through their employer, not offered insurance through their employer, between jobs, have out-of-state insurance that is not applicable in Ohio, awaiting insurance renewals, not eligible for health insurance, immigrant status, on a fixed income and insurance co-pays are unmanageable, or not qualified for Medicaid but cannot afford other insurance. Safety-net clinics were initially used for acute care services but have been increasingly utilized for chronic disease management as the need grows for uninsured and low-income populations (Association of State and Territorial Health Officials, 2011).

Minimal research has been conducted about safety-net clinic behavioral health integration. However, recently published research indicates feasibility and benefits of integrating behavioral health services into safety-net primary care settings (Chwastiak et al., 2017; Lanoye et al., 2017; Sadock et al., 2017). Within safety-net settings, behavioral health integration played a role in improved chronic care management for diabetes, decreased rates of inpatient care, and decreased rates of both depression and anxiety. Each of the following research studies exemplifies the triple aim of health care reform: “providing the best care, at the lowest cost, for the whole population” (Sadock et al., 2017, p. 1478).

Chwastiak et al. (2017) evaluated an integrated multidisciplinary team approach to diabetes care in a safety-net clinic. The multidisciplinary team consisted of a primary care provider, care manager, psychiatric consultant, medical consultant, and a medical assistant. A comprehensive health assessment was administered to participants and a treatment plan with specific goals was developed. Education was provided to the patients related to chronic illness self-management and brief evidence-based behavioral interventions were delivered. Providers were allotted time to engage in care coordination and weekly caseload review with medical and psychiatric consultants.

Patients were referred to the multidisciplinary care team by their physician and patients were most often referred if diagnosed with comorbid depression, anxiety, or bipolar disorders. Of the 634 eligible patients, physicians referred 151 to the multidisciplinary care team. No patients were excluded from participating in the care team; therefore, patients exhibited high rates of mental illness, substance use, and homelessness. Compared to patients who were not referred to the multidisciplinary

diabetes care team, referred patients had larger statistically significant decreases in diabetes symptoms (e.g., blood glucose and blood pressure). Although funding is a barrier to providing care in safety-net settings, the research indicated it is feasible to integrate an effective multidisciplinary care team without additional funding (Chwastiak et al., 2017).

Lanoye et al. (2017) identified integrated behavioral health as especially important within safety-net settings because of disproportionate barriers to access to behavioral health care as well as chronic diseases among low-income populations. Lanoye et al. conducted a retrospective study to examine the effects of brief behavioral and mental health treatment on medical utilization in safety-net clinics. Patients (n = 713) were referred to behavioral health services for depression, chronic pain, anxiety, smoking cessation, insomnia, weight loss, diabetes adherence, and substance abuse. Psychology doctoral students provided empirically supported treatments to the patients for an average number of 2.5 visits with a median of three weeks between visits.

The retrospective data analysis indicated significant decreased rates of inpatient utilization among integrated behavioral health patients. The psychology doctoral students provided interventions that focused on treatment adherence, improving health behaviors, and treating mental health symptoms, which likely contributed to the reductions in inpatient utilization. Also, the presence of behavioral health consultants within the safety-net clinic improved care by increasing opportunities for detecting and addressing behavioral health and social concerns. A provisional cost savings was evaluated at \$166,667 per year (Lanoye et al., 2017).

Sadock et al. (2017) conducted two studies to examine the effectiveness of

psychological primary care treatment strategies for depression and anxiety symptoms in a safety-net clinic. The first study (Study 1) assessed depression and anxiety scores of patients who engaged in psychological interventions compared to scores of a demographically-similar clinic without integrated behavioral health care. The second study (Study 2) evaluated the long-term effects of brief psychological treatment services for depression and anxiety symptoms (Sadock et al., 2017).

Study 1 patients were all administered the Generalized Anxiety Disorder-7 (GAD-7) and the Patient Health Questionnaire-9 (PHQ-9) to assess symptoms of anxiety and depression. Following initial assessment, unstandardized brief treatment was administered to the patient by a psychology doctoral student. Although the interventions were not standardized, they consisted of empirically-supported strategies. Patients who received services at the comparison clinic were administered the GAD-7 and PHQ-9 over the telephone if they agreed to participate in the study. Comparison analysis for Study 1 indicated an overall decrease in both depression and anxiety scores, which was primarily accounted for by patients who received integrated behavioral health care. Therefore, patients who received integrated care experienced significantly greater symptom decreases for both depression and anxiety (Sadock et al., 2017).

Study 2 evaluated the long-term effects of depression and/or anxiety treatment received for six to 18 months at the safety-net clinic. Patients were contacted by telephone, completed the GAD-7 and PHQ-9, and rated the psychological services they received. Results indicated lower scores on measures of depression and anxiety at final visit and at follow-up compared to their initial score at their first visit. Additionally, larger effect sizes were found with follow-up scores, rather than final visit scores, which

could suggest “it may take time for the full benefit of brief treatment for mood disorder to emerge in a safety-net primary care setting” (Sadock et al., 2017, p. 1473).

In sum, safety-net clinics present opportunities to provide a range of services to underserved populations. Utilization of behavioral health services within safety-net clinics improved symptoms of both medical and mental health disorders (e.g., diabetes, depression, and anxiety). Brief behavioral mental health treatment can decrease utilization of inpatient services and reduce health care costs for communities. Also, providing behavioral health care services in a safety-net clinic is possible without additional funding.

Models of Collaborative Care

Many primary care patients who are referred to non-collaborative mental health treatment do not arrive to the appointment or attend treatment briefly to return to the primary care provider with the same symptoms (Robinson & Strosahl, 2009). Models of collaborative care address gaps in primary and behavioral health care and interruptions in holistic care (Satcher & Rachel, 2017). The effort to provide collaborative services for patients includes an approach to treatment with teams of physicians, nurses, nurse practitioners, physician assistants, psychologists, social workers, psychiatrists, pharmacy staff, and other professionals. Collaborative care has been accomplished in several different ways, often ranges in style among different medical settings, and through different strategies (Hunter et al., 2009; Strosahl & Robinson, 2008).

Coordinated care model. The collaboration between primary care providers and behavioral health consultants who work in different facilities is known as the coordinated care model (Hunter et al., 2009). A coordinated care model may involve the medical

provider making a referral to specialty mental health by working from a list of referral options. The medical provider and specialty mental health provider do not typically discuss the patient or develop a treatment plan together.

Co-located care model. The term co-located care model is used to describe collaboration between primary care providers and behavioral health consultants who work in the same facility and keep separate records (Hunter et al., 2009). The co-located care model provides patients with separate care from their primary care providers and behavioral health consultants in the same building. According to Strosahl and Robinson (2008), the co-located model is a common strategy for collaborative care. The behavioral health consultants in this model typically provides traditional therapy and may have differing treatment goals than the primary care provider.

Integrated care model. The integrated care model involves primary care providers and behavioral health consultants who work together in the same facility and keep records in the same system (Hunter et al., 2009). The behavioral health consultant is a member of the team of professionals to address the patient's needs in a holistic manner. Integrated care models involve one treatment plan with both behavioral and medical components to deliver the highest quality of care.

A goal of integrated care programs is to bridge the gap of access to behavioral health services. According to Strosahl and Robinson (2008), integrated care offers the best opportunity to reach the greatest number of patients. Additionally, it empowers the primary care provider to address a variety of behavioral health concerns because this model offers the most support from a behavioral health consultant. Further, integrated care models lead to better health outcomes and cost savings. Previous research shows

improvements in patient care and patient satisfaction, increased satisfaction of primary health care providers, and reduced cost when utilizing an integrated care model (Blount, 1998). Additionally, more recent advantages of integrated care models have been published. Integrated care has been shown to improve quality of life for patients with chronic conditions and promote mental health equity (Flanagan, Damery, & Combes, 2017; Satcher & Rachel, 2017).

According to Satcher and Rachel (2017), “when primary care providers and mental and behavioral health specialists team up, access to mental health care and substance abuse treatment when needed is greatly improved” (p. 185). Social determinants of health are better addressed within an integrated model that focuses on the patient’s cultural and social factors. Therefore, integrated care models with training, education, and implementation of cultural competence influences the ability to impact both physical and mental health.

A review article by Flanagan et al. (2017) outlined the improvement of quality of life for patients with chronic conditions based on the effectiveness of integrated care models. Chronic conditions in the study included hypertension, depression, diabetes, coronary heart condition, stroke, transient ischemic attacks, chronic obstructive pulmonary condition, cancer, heart failure, dementia, and arthritis. The main findings suggest specific interventions improved quality of life for patients in regard to their condition. The integrated interventions with the most positive outcomes included case management, discharge management, and specialist input.

When specific interventions were combined, quality of life was enhanced. For example, discharge planning and ongoing post-discharge follow-up lead to greater quality

of life increases. Overall, interventions that focused on multiple factors influencing the patient's care as well as their specific condition needs were most related to positive relationships with quality of life. Flanagan et al. (2017) suggested the particular way to incorporate such interventions should be tailored to the specific medical setting.

Behavioral Health Concerns in the Medical Setting

Empirical evidence suggests that behavioral factors contribute to functional status, the onset of disease, and the progression of disease (Institute of Medicine, 2014). For example, previous research indicates that smoking, diet, activity levels, and alcohol use have strong relationships with medical disease and mortality (Institute of Medicine, 2014). Tobacco use, poor diet, and sedentary behavior are the leading causes of death in the U.S. (Mokdad, Marks, Stroup, & Gerberding, 2004). Also, people with mental health disorders experience higher rates of poor physical health and have 25 years less life expectancy than those without mental health concerns (Satcher & Rachel, 2017). Berghöfer, Roll, Bauer, Willich, and Pfennig (2014) reported that patients who experience mental health problems appear to use health resources at higher rates than those who do not.

Although behavioral health concerns are prevalent, traditional primary care providers have not been equipped to evaluate and treat such difficulties within primary care settings (McDaniel & deGruy, 2014). Research indicates that behavior has become a central concern related to health care problems. The importance of addressing patient's behavioral health needs in addition to biological needs has been shown in the literature. Several behavioral health concerns have been identified as important areas of focus

within primary care settings due to prevalence rates and associations with health problems.

Depression. Depression is associated with cognitive, social, and work difficulties and is the third leading cause of disability worldwide (Carey et al., 2014). The lifetime prevalence rate of major depressive disorder is 16.9% (Kessler, Chiu, et al., 2005). The presence of significant depressive symptoms within primary care ranges from 10% to 30% (McQuaid, Stein, Laffaye, & McCahill, 1999; Stein, Kirk, Prabhu, Grott, & Terepa, 1995). Additionally, research indicates that primary care professionals do not recognize depression in about 67% of their patients (Coyne, Schwenk, & Fechner-Bates, 1995; Nisenson, Pepper, Schwenk, & Coyne, 1998; Spitzer et al., 1995). Therefore, there is a need for professionals, such as behavioral health consultants, within the primary care setting to help identify and treat these individuals.

Nicholson, Kuper, and Hemingway (2006) conducted a meta-analysis and found that depression predicted mortality and fatal coronary heart disease and heart attack. Another study reported a relationship between depression and risk of stroke, indicating participants with depression experienced increased risk for development of stroke compared to participants without depression (Dong, Zhang, Tong, & Qin, 2012). Other studies have revealed that experiencing symptoms of depression reduced life expectancy among older adults and predicted mortality rates among patients with cancer (Pinquart & Duberstein, 2010; Reynolds, Haley, & Kozlenko, 2008). Katon (2011) reported individuals who are depressed are less compliant with medical regimens because symptoms of depression such as hopelessness and low energy level may impact a patient's ability to adhere to regimens for medical conditions.

Anxiety. According to Kuehn (2008), anxiety disorders are as common as depression among patients and anxiety impacts patients functioning as well as work and health costs. Kessler, Chiu, et al. (2005) reported the lifetime prevalence of any anxiety disorder is 36.3% for women and 25.3% for men. Kuehn (2008) found that 19.5% of 965 patients recruited from 15 primary care sites had at least one anxiety disorder and 41% of patients who identified having an anxiety disorder were not receiving treatment.

Thurston, Rewak, and Kubzansky (2013) reported anxiety can affect quality of life, functioning, and adherence to medical regimens. Anxiety is a potentially modifiable risk factor related to cardiovascular disease, which may play a role in the development and progression of cardiovascular disease. Anxiety has also been associated with stroke risk, indicating that individuals who experience anxiety also experience higher rates of stroke.

Posttraumatic stress disorder. Recently traumatized individuals may be more likely to present to primary care than to a specialty mental health setting, creating an opportunity to identify and treat the disorder (Gore, Engel, Freed, Liu, & Armstrong, 2008). Han et al. (2016) found that the prevalence of Posttraumatic Stress Disorder (PTSD) in primary care settings ranged between 9% and 23%. Individuals with PTSD often experience chronic medical problems such as diabetes mellitus and chronic obstructive pulmonary disease (COPD). Substance use disorders and poorer treatment outcomes are highly comorbid with PTSD. Also, individuals with comorbid PTSD and substance use disorders experience worsened mental health symptoms (van Dam, Ehring, Vedel, & Emmelkamp, 2010).

Alcohol use. Research indicates that one fifth of U.S. medical outpatients consume alcohol at unhealthy levels (Bradley et al., 2007). Brief alcohol counseling provided to patients in a primary care setting can decrease drinking (Bradley et al., 2007). Throughout the year of 2012, approximately 17 million adults in the U.S. were diagnosed with Alcohol Use Disorder (National Institute on Alcohol Abuse and Alcoholism, n.d.).

There are short- and long-term risks associated with excessive alcohol use such as injury, violence, problems with internal organs, learning and memory problems, and cancer (Centers for Disease Control and Prevention, 2018). Psychomotor abilities are impacted by alcohol consumption resulting in unintentional injuries, which may lead to premature death and disability (Taylor et al., 2010). The higher consumption of alcohol increases the amount of risk associated with types of cancers such as esophageal cancer, colon cancer, rectal cancer, liver cancer, and female breast cancer (World Health Organization, 2014). A child of a mother who consumed alcohol may experience fetal alcohol spectrum disorder, which is directly associated with birth complications and health difficulties (Foltran, Gregori, Franchin, Verduci, & Giovannini, 2011). A child with a fetal alcohol spectrum disorder may experience low birth weight, impaired growth, birth defects, behavioral problems, and cognitive deficits.

Tobacco use. Based on the 2012 National Health Interview Survey (NHIS), 18% of adults in the U.S. are current cigarette smokers and the majority of current smokers meet criteria for nicotine dependence (Institute of Medicine, 2014). Tobacco use and exposure to tobacco can cause many negative health risks as well as death. Greater than 440,000 deaths are attributed to smoking and exposure to smoke annually (Centers for Disease Control and Prevention, 2018). By evaluating the cost of health care and

productivity loss due to smoking, the total economic burden of smoking was calculated to be \$193 billion per year (Centers for Disease Control and Prevention, 2008).

The use of tobacco is related to increased rates of coronary heart disease, stroke, lung cancer, obstructive lung disease, and complications with pregnancy (Institute of Medicine, 2014). According to Centers for Disease Control and Prevention (2008), the three leading causes of death related to smoking tobacco were lung cancer, ischemic heart disease, and COPD. Smoking tobacco can lead to deaths by secondhand smoke and residential fires as well as cancer, cardiovascular diseases, and respiratory diseases. Additionally, perinatal conditions related to smoking can impact an infant's health and may cause death.

Stress. Individuals who are exposed to long-term stressors that are unmanageable and out of their control can create a range of health problems (Seeman, Dubin, & Seeman, 2003). Stress can increase the risk for development of disease and of managing the stressors with negative coping strategies (e.g., substance use; Adler & Stewart, 2010). Chronic levels of stress have been associated with high blood pressure, increased likelihood of infection, and fat buildup around blood vessels and the abdomen (Adler & Stewart, 2010).

Sleep. From a review of population-based studies, MacGregor, Funderburk, Pigeon, and Maisto (2012) reported prevalence rates of 30% for insomnia reporting and 10% for chronic insomnia. Sleep disturbances were linked to medical and psychiatric comorbidity, higher rates of health care utilization and accidents, decreased occupational performance, and poor quality of life. Patients might experience insomnia or sleep difficulty as a symptom of another condition, such as depression.

Social Determinants of Health in the Medical Setting

There is an increasing recognition of the importance of understanding social determinants of health. Social determinants of health include difficulties with finances (e.g., low socioeconomic status), health literacy, transportation, and social support. Research indicates that compared to the general population, patients at a low-income community clinic experience higher rates of major stressors, are higher users of medical services, and are more likely to qualify for diagnoses of depression and anxiety (Sadock, Auerbach, Rybarczyk, Aggarwal, & Lanoye, 2014). Empirical evidence suggests that social factors contribute to functional status, the onset of disease, and the progression of disease (Institute of Medicine, 2014). For example, previous research indicates that socioeconomic status and social support have strong relationships with medical disease and mortality (Institute of Medicine, 2014).

Researchers indicate that social determinants of health are often addressed from a policy or population-level, which overlooks individual and clinical intervention opportunities (Gottlieb, Sandel, & Adler, 2013). Identification of social determinants of health at a medical clinic increases the opportunity to support individuals who experience those barriers. Several social determinants of health have been identified as important areas of focus within a primary care setting due to prevalence rates and associations with health problems.

Financial strain and food insecurity. Financial strain is comprised of insecurity of basic recourses such as food, housing, and income. According to the Institute of Medicine (2014), financial strain may indicate lack of sufficient resources as well as absence of skills and/or knowledge that are necessary to manage resources. The

development of certain skills may alleviate challenges related to financial strain. For example, research suggests a relationship between the use of financial management skills, confidence in those skills, and food insecurity (Gundersen & Garasky, 2012). Therefore, households in poverty with greater financial management skills are less likely to be food insecure (Gundersen & Garasky, 2012). Cutts et al. (2011) found that individuals or families that are food insecure may experience housing insecurity as well.

Financial strain has been associated with health difficulties and patient's financial concerns are relevant to their health (Bisgaier & Rhodes, 2011). Cutts et al. (2011) reported housing insecurity is linked with poor health, growth, and development among young children. Older adults experiencing food insecurity often have poorer quality of life, physical health, mental health, and nutrition (Lee, Fischer, & Johnson, 2010). A cross-sectional study conducted by Bisgaier and Rhodes (2011) suggested financial concerns were positively related to symptoms of depression, illicit drug use, smoking, stress, and poor health.

Health literacy. Health literacy is known as the ability to understand health information and services necessary to make health care decisions (Nielsen-Bohlman, Panzer, & Kindig, 2004). Health care is a complex institution to navigate for anybody and can be increasingly difficult for patients who experience limited health literacy. With health literacy categories of below basic, basic, intermediate, and proficient, Kutner, Greenberg, Jin, Paulsen, and White (2006) reported 53% of adults have intermediate literacy, 36% have below basic or basic health literacy, and 12% are considered proficient in health literacy. Implications of limited health literacy include increased hospitalization rates, higher use of emergency rooms, higher risk of misidentifying

medications, lower overall health status among older adults, higher rates of depression, and higher mortality rates in older adults (Hersh, Salzman, & Snyderman, 2015).

Transportation. Syed, Gerber, and Sharp (2013) reviewed 61 empirical studies with ranges of 3% to 67% of transportation barriers impacting health care. A specific investigation found that transportation difficulties accounted for 55% of patients who missed their appointments or were late. Further results of the review suggested transportation difficulties (e.g., unable to access transportation or lack of transportation) were associated with missed medical appointments and lack of routine medical care. The overall evidence suggested transportation barriers are related to problems with health care access, especially for patients who are underinsured or uninsured and with lower incomes.

Social support. Previous research indicates social support is a protective factor for medical and psychological difficulties. A review conducted by Wright (2016) indicated that studies have found associations between interpersonal relationships and physical and psychological health. Positive social network support can reinforce health behavior change. Pantell et al. (2013) reported increased levels of isolation were associated with greater risk of mortality for both men and women. Specifically, higher mortality rates were associated with men who were unmarried, infrequently participated in religious activities, and lacked club associations. Higher mortality rates for women were associated with being unmarried, infrequently interacting with friends and family, and infrequently participating in religious activities. Seeman et al. (2003) reported religiosity/spirituality as a support network is linked to better health including immune function and cardiovascular processes.

Identification of Concerns

Identifying patient's health care needs—including demographic variables, behavioral health concerns, and social determinants of health—within primary care is an essential initial phase to better understand the population served (Talen & Burke Valeras, 2013). Then, services can be tailored to the needs of the population of patients served. Patient care informed by the population needs is usually accomplished through the use of screening tools and surveys in primary care settings (Carey et al., 2014). For example, screening tools have been used in primary care to detect patients who may be at risk for behavioral health problems and to identify gaps in resources (e.g., social determinants of health; Talen & Burke Valeras, 2013). When primary care settings use a brief screener for depression, they often find high prevalence of undiagnosed depression (McGrady, Lynch, Nagel, & Tamburrino, 2010). Similarly, researchers indicate high prevalence rates of other mental health disorders related to stress, anxiety, and substance use (Bradley et al., 2007; Kroenke, Spitzer, Williams, & Löwe, 2009; Prins et al., 2003).

Previous researchers have concluded that various types of screening instruments are useful within primary care to identify and treat patients more appropriately (Carey et al., 2014; Gore et al., 2008; Institute of Medicine, 2014; McNeely et al., 2015). For example, there is evidence that early identification and intervention can improve outcomes for individuals with PTSD (Gore et al., 2008). The Institute of Medicine (2014) suggests that providers following up with patients regarding their reported tobacco use on a survey can be helpful for the patient to take steps toward stopping tobacco use. Identifying and assessing patient's stress can provide meaning and context to the biological, psychological, and social difficulties he or she experiences.

According to Gottlieb et al. (2013), necessary steps required to address social determinants of health within a clinical setting includes screening for social needs, applying social needs data to practice, adjusting individual disease risk, and addressing social determinants of health. Screening for social determinants of health includes routinely collecting social information just as individual and family medical histories are collected. Data on patient's social circumstances should be collected and tracked. Once that occurs, applying those social needs to practice involves informing interventions and recommendations based on the data. Adjusting individual disease risk means including social needs to determine risk of disease. For example, poverty is a risk factor for heart disease and including patients' socioeconomic status could help to better predict risk for developing heart disease. Addressing social determinants of health involves using social information as a guide to make appropriate referrals.

Summary and Hypotheses

The relationship between physical health, behavioral health, and social factors has been well-established. To better address patients in a holistic way, many primary care medical settings have integrated behavioral health services. Although behavioral health and social needs are more prevalent within safety-net medical settings, there is minimal research to guide integration efforts within safety-net medical settings. Based on established models of integration, a key activity involves conducting a needs assessment of the patient population to determine behavioral health needs and social determinants of health needs as well as various potentially useful interventions.

The purpose of the present study is to obtain an improved understanding of behavioral health concerns and social determinants of health among the patient

population at the safety-net clinic ROMC. Prevalence rates of demographic variables, Behavioral Health Concerns, and Social Determinants of Health will be established for the ROMC population. Interrelationships are expected among Behavioral Health Concerns and Social Determinants of Health. By identifying how those interrelationships cluster together, patient needs will be better understood, and interventions can be tailored to their needs.

Based on the predicted relationships among variables, statistical analyses were conducted to assess the following hypotheses:

Hypothesis 1: A significant proportion of participants will endorse Behavioral Health Concerns and Social Determinants of Health.

Hypothesis 2: Significant associations will exist within and between Behavioral Health Concerns and Social Determinants of Health.

Chapter III

Method

Participants

Participants were recruited from the population of patients seeking assistance at ROMC. ROMC is open to adults for their walk-in clinic beginning at 5pm on Wednesdays and Thursdays. According to ROMC statistics, 2,974 patients visited the clinic in the 2016-2017 fiscal year (Reach Out, 2017). ROMC served about 57 patients per week. For the 2016-2017 fiscal year at ROMC, 55% of patients were female, 41% African American, 35% White, 10% Hispanic, and 14% other. Patients primarily spoke English (77%) followed by Other (12%) and Spanish (8%). Additionally, 77% of ROMC patients were reportedly unemployed.

Fifty patients from ROMC participated in the present study. Participants were at least 18 years of age and English speaking, unless someone was available to interpret, such as staff or a family member. Although patients were randomly approached in the waiting area at ROMC and could decline participation, efforts were made to acquire a representative sample of the population. For example, patients who appeared to represent different diversity variables were approached and asked to participate.

Measures

Participants engaged in a comprehensive semi-structured interview that addressed several areas of mental health and social needs. Participation in the research was anonymous and no identifying information was gathered although some demographic

information was collected. The questions asked in the patient interview were largely derived from established measures that have been used in similar studies.

Behavioral health measures. The following measures have been used to assess behavioral health concerns in primary care populations. The measures were utilized to establish prevalence rates of Behavioral Health Concerns for patients at ROMC.

Patient Health Questionnaire-4 (PHQ-4). The PHQ-4 is the combination of two brief two-item screeners for depression and anxiety (Kroenke et al., 2009). PHQ-4 scores were strongly associated with functional impairment, disability days, and health care use. The introduction to the tool reads, “Over the last 2 weeks, how often have you been bothered by the following problems?” and proceeds to ask questions related to depression and anxiety such as, “Feeling nervous, anxious, or on edge” and “Feeling down, depressed, or hopeless.” Participants select answers ranging from “Not at All” (0) to “Nearly Every Day” (3). This scale is supported by its internal reliability (>0.80) and construct validity ($p<0.001$; Kroenke et al., 2009).

Patient Health Questionnaire-9 (PHQ-9). Sleep difficulty was measured using item 3 from the PHQ-9, which reads, “Over the last 2 weeks, how often have you been bothered by the following problems?” and asks the participant to rate “Trouble falling or staying asleep, or sleeping too much” on a scale ranging from “Not at All” (0) to “Nearly Every Day” (3) (MacGregor et al. 2012). When correlated with a longer and validated measure of insomnia, item 3 of the PHQ-9 showed a significant positive correlation ($r=0.75$, $p<0.0001$; MacGregor et al. 2012).

Primary Care Posttraumatic Stress Disorder Screen (PC-PTSD). The PC-PTSD is a brief 4-item screener for PTSD in primary care settings (Prins et al., 2003). The

screen reads, “In your life, have you ever had any experience that was so frightening, horrible, or upsetting that, in the past month, you...” followed by four questions that are answered with a yes or no response. An example of a question is, “Were constantly on guard, watchful, or easily startled?” The PC-PTSD had good test-re-test reliability with a correlation coefficient of 0.83 (Prins et al., 2003).

Alcohol Use Disorders Identification Test Consumption (AUDIT-C). The AUDIT-C is a 3-item tool to screen for alcohol consumption (Bradley et al., 2007). Participants indicate how often they consume alcoholic beverages and how many alcoholic beverages they consume by selecting one answer option. One item reads, “How often do you have a drink containing alcohol?” and the answer options include “Never,” “Monthly or less,” “two to four times a month,” “Two to three times a week,” and “Four or more times a week.” The AUDIT-C has shown to identify 90% of patients currently experiencing alcohol dependence and 98% of patients who are consuming alcohol heavily (Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998).

National Health Interview Survey (NHIS). NHIS utilizes two items to determine levels of cigarette smoking (Adsit & Fiore, 2013). One of those items reads, “Have you smoked at least 100 cigarettes in your entire life?” The participant selects “Yes,” “No,” “Refused,” or “Do not know.” If the participant answered yes, then he or she responded to the next item.

Single-Item Measure of Stress Symptoms. The single-item measure of stress symptoms is a valid measure for drawing group-level conclusions about mental well-being and long-term stress (Elo, Leppänen, & Jahkola, 2003). The item reads, “Stress means a situation in which a person feels tense, restless, nervous, or anxious, or is unable

to sleep at night because his/her mind is troubled all the time. Do you feel this kind of stress these days?” and participants selected one of the answer options, “Not at all,” “A little bit,” “Somewhat,” “Quite a bit,” and “Very much.” The single-item measure of stress symptoms showed satisfactory content, criterion, and construct validity.

Demographics. Demographic information was obtained from participants, including age, gender, employment, race/ethnicity, highest level of education completed, country of origin, length of time in the U.S., languages spoken, primary language spoken, and language spoken in home.

Qualitative measurements. Several questions throughout the interview were semi-structured. Those questions include “What concerns bring you to ROMC today?,” “What is your biggest challenge to improving your health?,” “Have you ever received mental health treatment?,” “In general, are you open to receiving treatment for mental health difficulties?,” “Do you currently use other types of drugs?,” and “If so, what type(s)?”

Measures of social determinants of health. The following measures have been used to assess social determinants of health in primary care populations. The measures were utilized to establish prevalence rates of Social Determinants of Health for patients at ROMC.

National Health and Nutrition Examination Survey (NHANES-III). NHANES-III assessed food insufficiency and one of the items for the survey has been used to measure restricted food supplies or food intake in a household (Siefert, Heflin, Corcoran, & Williams, 2001). The question reads, “Which of the following describes the amount of food your household has to eat” and the participant responds by selecting one of the

options “Enough to eat,” “Sometimes not enough to eat,” and “Often not enough to eat.” A review of literature conducted by the Institute of Medicine (2014) indicated this single question to identify food insufficiency has external and face validity.

The Berkman-Syme Social Network Index. The Berkman-Syme Social Network Index consists of four questions that measure social isolation. As an example, one question reads, “How often do you attend church or religious services?” and is scored with 0 points if the participant responded by stating less than four times per year and 1 point if the participant responded by stating four or more times per year (Pantell et al., 2013).

Transportation Difficulty Survey Tool. Two questions were used from the Transportation Difficulty Survey Tool to assess participant’s transportation barriers. One of those questions reads, “Have you ever missed an appointment or been unable to obtain needed health care because of problems with your transportation?” and the participant indicated either yes or no (Shook, 2005).

Health literacy identification. Researchers assessed several questions that attempt to recognize health literacy difficulties and selected the three questions that best identified them (Chew, Bradley, & Boyko, 2004). The three items that presented with 95% confidence interval adequately identified individuals with poor health literacy. An example of one of the questions is, “How often do you have problems learning about your medical condition because of difficulty understanding written information?” and the participant selected an option from a likert-type scale ranging from “All of the time” to “None of the time.” The three items were effective at detecting inadequate health literacy when compared to a longer and more established measure.

Single-Item Measure of General Financial Resource Strain. The single-item question to assess financial resource strain is a valid measure (Kahn & Pearlin, 2006). Participants were asked, “How hard is it for you to pay for the very basics like food, housing, medical care, and heating? Would you say it is...” and the participant selected an answer from the options “Very hard,” “Somewhat hard,” or “Not hard at all” (Institute of Medicine, 2014). A review of literature conducted by the Institute of Medicine (2014) indicated the single-item question is a valid measure of general financial resource strain.

Procedure

The study was briefly introduced to the participant while he or she was in the waiting area of the clinic before they met with the physician. Since the patients typically wait longer than 20 minutes, participating in the study did not interfere with their medical appointment. ROMC providers were made aware of the study to account for patients who were not in the waiting area. The study was introduced by the following script, “Hello, I’m a psychology doctoral student, part of the team here at ROMC. We’re interested in understanding different kinds of problems that exist from a patient’s perspective, which will help us figure out what services to provide to patients. While waiting to see your doctor, would you be willing to meet with me for about 15-20 minutes and answer questions to help us get a better understanding of those problems?” When they agreed to participate in the Institutional Review Board approved research, they were taken to a private room to sign the consent form (Appendix A). The researcher asked the participant if they had any questions regarding the study. Participants engaged in a 15-20-minute semi-structured interview (Appendix B) conducted by a research assistant. The researcher conducted the interview and answered questions as needed. After the participants

completed the interview and questionnaire, they returned to the waiting area to be seen by the medical provider. Participants were able to decline participation in the study at any time.

Data Analyses

Data was entered into a Microsoft Excel file as it was collected. Following the completion of data gathering, Statistical Package for Social Science (SPSS) was used to analyze the data. Descriptive statistics were used to determine the prevalence rates of Behavioral Health Concerns and Social Determinants of Health (Hypothesis 1). Relationships among variables were analyzed using Spearman's rho bivariate correlation measures (Hypothesis 2). Spearman's rho was used because relationships were evaluated between variables that are both nominal and ordinal data. Relationships were assessed within Behavioral Health Concerns, within Social Determinants of Health, and between Behavioral Health Concerns and Social Determinants of Health. To determine the strengths of associations, Cohen (1988) was referenced; a correlation of 0.10 to 0.29 was considered small, 0.30 to 0.49 was considered medium, and a strong association was 0.50 or greater.

Chapter IV

Results

A total of 50 participants were interviewed and no participant data was removed. The results are divided into sections based on data within demographic variables, Behavioral Health Concerns, and Social Determinants of Health. Results are further reported based on data between Social Determinants of Health and Behavioral Health Concerns.

Demographics

Over half (52%) of the 50 participants were male. Most participants were unemployed (56%). The average participant age was 40.2 years with a range from 19 to 65 years. Based on self-report of ethnicity, the following results were found: 40% Caucasian, 32% African American, 8% African, 6% Middle Eastern, 6% did not respond, 4% Hispanic, 2% Pacific Islander, and 2% Ecuadorian. Sixty-six percent of participants reported their country of origin as the United State of America (USA), 24% reported countries other than the USA, and 10% did not respond. The following education level results were found: 34% graduated from high school, 22% attended some college, 14% obtained a bachelor's degree, 10% did not complete high school, 10% earned a General Equivalency Diploma, 6% earned a graduate degree, 2% earned an associate's degree, and 2% did not answer the question related to education.

Behavioral Health Concerns

Hypothesis 1 predicted that a significant proportion of participants would endorse Behavioral Health Concerns. The prevalence rates of Behavioral Health Concerns are shown in Table C1 (See Page 49). Thirty-two percent of participants reported feeling “quite a bit” of general stress and the majority of participants (54%) scored positive on the screening tool for symptoms of PTSD. Twenty-eight percent of participants scored positive on the screening tool for depression and 32% scored positive on the screening tool for anxiety. Twenty percent of participants reported sleep difficulty “nearly every day” and 36% reported no problems with sleep. Twenty-six percent of participants reported daily cigarette use and 62% reported they do not smoke cigarettes at all. The majority of participants (82%) scored negative on the screening tool for alcohol use disorder.

Hypothesis 2 predicted that there would be significant associations within Behavioral Health Concerns; these results are displayed in Table C2 (See Page 50). Results indicated significant positive associations between sleep difficulty and depressive symptoms, anxiety symptoms, and cigarette use. Additionally, results showed a significant negative association between sleep difficulty and symptoms of PTSD. Results indicated significant positive associations between general stress and anxiety symptoms, depressive symptoms, sleep difficulty, and cigarette use. Significant negative associations were found between PTSD and general stress, depression, and cigarette use. Results indicated significant positive associations between cigarette use and both sleep difficulty and anxiety symptoms. Finally, a significant positive association between depression symptoms and anxiety symptoms was identified.

Social Determinants of Health

Hypothesis 1 predicted that a significant proportion of participants would endorse Social Determinants of Health. Results for prevalence rates of Social Determinants of Health are displayed in Table C3 (See Page 51). In regard to financial strain, the majority of participants (56%) reported it was “somewhat hard” to pay for the very basics like food, housing, medical care, and heating. The majority of participants (64%) reported they have “enough to eat” when asked about the amount of food in their household; 14% reported “often not enough to eat.” In regard to transportation difficulty, 78% of participants reported they have not missed an appointment or been unable to obtain needed health care because of problems with transportation. Results to another question that assessed transportation difficulty indicated a mean score of 2.939 on a scale of 1 to 10 where 1 means transportation is “not difficult at all” and 10 means “extremely difficult.” Health literacy was measured using a total score from three questions that could range from 3 to 15, with higher scores indicating better health literacy; the mean score for health literacy was 12.22. The social support score ranges from 0 to 4 and a lower score indicates less social support. Thirty-six percent of participants were “most socially isolated” with scores of either 0 or 1. The most participants (44%) scored a 2 and no participants had a score of 4.

Hypothesis 2 also proposed there will be significant associations within Social Determinants of Health; the results are displayed in Table C4 (See Page 52). Results indicated a significant positive association between food insecurity and financial strain. Results also indicated a significant positive association between food insecurity and

transportation difficulties. The two items that measured transportation difficulties were significantly correlated with each other.

Social Determinants of Health and Behavioral Health Concerns

Hypothesis 2 also proposed significant associations between Behavioral Health Concerns and Social Determinants of Health; the hypothesis was analyzed, and the results are displayed in Table C5 (See Page 53). Results indicated positive associations between food insecurity and sleep difficulty, anxiety, depression, and general stress. There were negative associations between food insecurity, financial strain, and transportation problems with symptoms of PTSD. Results indicated positive associations between financial strain with sleep difficulty, anxiety, and general stress. Finally, social support was positively related to symptoms of PTSD.

Chapter V

Discussion

The present study was based on 50 ROMC patient interviews about Behavioral Health Concerns and Social Determinants of Health. The objective of the study was to gain an improved understanding of the patient population to better inform integrated health care services. The study aimed to provide information for both the behavioral health consultants integrating into the safety-net medical clinic as well as ROMC as an organization. Based on the data, specific recommendations were developed to address Behavioral Health Concerns and Social Determinants of Health for ROMC.

Behavioral Health Concerns

As reported by Kessler, Chiu, et al. (2005), about one third of patients receiving services in primary care settings have a mental health disorder. The results of this study are comparable; of the behavioral health concerns screening tools administered, scores ranged from 18% to 54%. Therefore, the results suggest that patients at ROMC are experiencing behavioral health concerns at a similar rate as, or higher than, patients in primary care settings. Intervention strategies to address the most prevalent behavioral health concerns should be learned and utilized by the behavioral health consultants. Behavioral health intervention strategies should also be utilized to reach a larger number of patients.

General stress was significantly related to the most Behavioral Health Concerns. Participants who reported high levels of general stress also scored positive or reported

high rates of anxiety symptoms, depressive symptoms, sleep difficulty, and cigarette use. The identification of general stress as related to other mental health symptoms can inform the focus of treatment on addressing stress management. Behavioral health consultants should be familiar with stress management techniques and effective coping strategies that can be utilized within brief individual and group intervention sessions. A group-style stress management intervention could be offered to patients in the waiting area. Additionally, behavioral health consultants should be familiar with behavioral strategies to address sleep difficulty because it was significantly correlated with both anxiety and depressive symptoms.

The most common Behavioral Health Concern reported by patients was PTSD symptoms (54%), which indicates a need to specifically address such experiences. The high rate of endorsement of PTSD symptoms could be interpreted as patients' misunderstanding the questions or gathering data that includes false positives. PTSD did not correlate with other variables in a way that would be expected. For example, participants who screened positive for PTSD reported less general stress and more social support. A concrete reason for the unexpected findings was not determined but explanations can be speculated. The participants could be accurately or over reporting their experience of PTSD symptoms and underreporting their experience with other variables. It is possible that participants perceive the other variables as less prevalent because they experience day-to-day or insidious traumas (i.e., systemic racism) that they consider a normal part of their lives. Also, the PC-PTSD measure is designed as a pen and paper survey but was administered interview style, which could have impacted the results. One recommendation could be that the PC-PTSD be administered at ROMC

during the clinic check-in process. The data gathered can be compared with the unexpected findings. Utilizing the PC-PTSD regularly could better identify patients with symptoms of PTSD to provide appropriate services.

Behavioral health consultants at ROMC should become knowledgeable about screening for and treating PTSD within this type of medical setting. All providers at ROMC should be knowledgeable about addressing patients from a trauma-informed lens. The PC-PTSD could be used to identify patients who may benefit from behavioral health services. The PC-PTSD should be administered to each patient upon check-in and behavioral health services should be offered if the patients' score is positive. Behavioral health consultants should utilize a semi-structured interview to assess PTSD symptoms during the initial appointment. Empirically-supported treatment techniques for PTSD should be learned and utilized during the initial and subsequent sessions. Further, because of the high number of reported PTSD symptoms among participants, it would be beneficial to develop a PTSD group to reach a larger number of patients.

Resources for additional treatment related to Behavioral Health Concerns should be readily available at ROMC. For example, pamphlets and brochures should be accessible to patients in the waiting area. Providers should be knowledgeable about community treatment options for patients with Behavioral Health Concerns to make appropriate recommendations. Due to the reported prevalence of depression and PTSD symptoms, providers, especially behavioral health consultants, should be well trained and knowledgeable with risk assessment.

Social Determinants of Health

Participants reported high prevalence of Social Determinants of Health. To address the social barriers to care, all providers at ROMC should be familiar with community resources. A binder of updated and current community resources should be made available in a central location for all providers. Providers should be educated about the types of resources that are available within the community (e.g., legal aid, food pantries, employment services). It may be beneficial to screen patients for specific Social Determinants of Health. For example, patients who reported high levels of general stress also reported high levels of food insecurity and financial strain. If patients were screened for food insecurity and provided resources to obtain access to food, it is possible that their levels of general stress may decrease. Similarly, rates of unemployment were high (56%) and unemployment was significantly positively related to financial strain. Given the high rates of unemployment, it could be useful to offer all patients assistance with employment at each visit. A connection with local employment resources could be established to target job attainment and maintenance. Additionally, providers could become familiar with Social Security Disability to provide information to guide patients if they believe they might qualify for assistance.

A provider could be specifically assigned to address social determinants of health as part of the ROMC team (e.g., a case manager). ROMC could connect with local universities to offer volunteer clinical experience for social work students. Also, similar to the physicians who volunteer at ROMC, individuals who are familiar with local resources should be sought out to volunteer to provide case management services. Ultimately, hiring a consistent employee who focuses on case management may provide

needed continuity of care. Patients could be contacted via telephone to inquire about resources ROMC could connect them with. This type of follow-up care could help to bridge the gap between service availability and service utilization. One-on-one conversations with patients about their social barriers to care and needed resources could create trust among patient and provider.

Overall, providers at ROMC should be familiar with the patient population in relation to Social Determinants of Health, Behavioral Health Concerns, and demographic variables. Because those variables inform patient access and adherence to health care, it is possible that the enhanced understanding of the patient population can increase patient-centered care from a biopsychosocial model. The results from this study can help inform ROMC leadership and providers about the specific complexities of the patient population with congruent interventions to address those complexities.

Limitations

The present study has several limitations. Data was collected from a convenience sample of participants; only patients who happened to be at the clinic on Thursday evenings were approached to participate. The sample of participants may not be accurately representative of the clinic population. For example, ROMC offers a children's clinic on another night of the week and Thursday evenings only provided access to adult patients. The surveys were conducted in a semi-structured interview style although they were designed for pen and paper. Participants may have been less likely to disclose certain information due to the face-to-face contact. However, face-to-face contact was recommended by ROMC leadership to gain trust from the patients and increase participation. The feasibility of the previously stated recommendations may be

limited due to the inconsistent nature of the patient population; patients often do not arrive for follow-up appointments. Therefore, it is essential to attempt to provide resources and intervention during the initial appointment. Finally, the social support measure may not have captured updated avenues of support. The measure did not ask about social media or connecting with people via text message, which means it is possible social support went underreported based on the questions.

Future Directions

Future considerations for ROMC include continuing to implement behavioral health services within an integrated care model. Specifically, services offered should be tailored for the patient population at ROMC and in accordance with the data provided. Examples of tailored services include implementing the suggested recommendations (See Discussion section and Appendix D).

To provide consistent behavioral health services at ROMC, it may be beneficial to offer a year-round practicum opportunity to psychology trainees. Behavioral health trainees are currently volunteers at ROMC once weekly. The development of an official practicum site at ROMC should be explored to provide consistent clinical and research services. Behavioral health trainees could potentially provide assistance in implementing the suggested recommendations.

ROMC outcome data could be continually gathered and analyzed. Integrated behavioral health care at ROMC provides opportunities to reach patients who may not receive behavioral health services otherwise. Data should be collected and analyzed to determine if integrated behavioral health care at ROMC is filling the gap in services as planned. For example, patient's behavioral health concerns and social determinants of

health should be addressed and improved through utilization of integrated care. Continual data collection related to Social Determinants of Health and Behavioral Health Concerns can create a database to determine if outcomes improve. After implementation of integrated care, rates of behavioral health concerns and social determinants of health could be compared to similar patient populations at clinics who do not provide those services. Additionally, patient satisfaction could be monitored to provide supplemental data about overall health care services provided.

Chapter VI

Conclusions

This study illustrates the importance of identifying behavioral health concerns and social determinants of health within a safety-net medical clinic. The study also describes specific recommendations for behavioral health integration into a safety-net medical clinic based on the patient population needs. The process of integration includes 1) assessing the patient population; 2) becoming familiar with the patient demographics, behavioral health concerns, and social determinants of health; and 3) implementing tailored intervention strategies for the patient population. The ongoing identification of particular concerns will guide tailored treatment to address patient health from a biopsychosocial perspective.

Several main findings emerged. The Behavioral Health Concerns that tended to cooccur were sleep difficulty, anxiety, depression, and general stress. The Social Determinants of Health that tended to cooccur were financial strain, food insecurity, and transportation. When relationships between Behavioral Health Concerns and Social Determinants of Health were examined, food insecurity and financial strain were significantly associated with sleep difficulty, anxiety, depression, and general stress. Based on those findings, there are multiple opportunities to intervene that could potentially impact each variable. For example, addressing stress management could have a positive impact on sleep difficulty and anxiety. Similarly, addressing financial strain could have a positive impact on food insecurity and general stress.

The ability to identify social and behavioral concerns among patients can help design interventions to improve the health care system and health-related outcomes. Future research should focus on implementing interventions that target behavioral and social concerns and collecting the resultant outcome data. Also, behavioral health consultants should continue to be integrated into the team at ROMC and case management should be sought after. The study emphasized the importance of integrated health care that relies on multidisciplinary expertise to provide holistic patient-centered care.

Appendix A

Participant Consent Form

The purpose of this research study is to survey behavioral health (mental health) needs of patients at Reach Out of Montgomery County (ROMC) to better inform the types of services offered.

During the study, you will be asked to complete a 15-20 minute interview and a brief pen and paper survey. You will be asked questions about medical, mental health, and other types of difficulties you may or may not experience. There is minimal risk anticipated as part of or as a result of this research study. The primary risk is possible discomfort discussing the topics during the interview. Benefits of participation in the study include an increased understanding of patient needs at ROMC to allow providers to better advocate for resources to reduce barriers to health for patients served. Also, participation may increase awareness of needs at ROMC and allow patients an opportunity to be a part of the development of integrated care. Any information about you from this study will be kept private. We will not ask you for your name and you will not be identified in any report or publication.

Checking the box below shows you agree to participate. You are free to refuse to participate in this study or to withdrawal at any time. Your decision to participate or not participate will not affect the services you receive at Reach Out of Montgomery County. There is no penalty of any kind for non-participation or withdrawal at any time. Information gathered from the interview will not be shared with other staff members at Reach Out of Montgomery County unless information reveals concern for at-risk of harm to self or others.

A summary of the results of this study may be requested by contacting the researchers listed below. The summary will show only combined data (answers from the entire group of people interviewed). No individual results will be available. If you have questions or concerns about this study, you can contact the researcher Melanie Stephenson at stephenson.45@wright.edu or Dr. Jeffrey Cigrang at jeffrey.cigrang@wright.edu. If you have general questions about giving consent or your rights as a research participant in this research study, you can call the Wright State University Institutional Review Board at 937-775-4462.

Please indicate your agreement to participate in this study.

I agree to participate in this study

Appendix B

Participant Survey

Age:		Country of Origin:	
Gender:		Length of time in the United States:	
Currently Employed:	Yes	No	Languages Spoken:
Race/Ethnicity:		Primary Language Spoken:	
Highest Level of Education:		Language Spoken in Home:	
What concern brings you to Reach Out of Montgomery County today?			
What is your biggest challenge to improving your health?			
Have you ever received mental health treatment?		Yes	No
In general, are you open to receiving treatment for mental health difficulties?		Yes	No
How hard is it for you to pay for the very basics like food, housing, medical care, and heating?		Very hard Somewhat hard Not hard at all	
Which of the following describes the amount of food your household has to eat?		Enough to eat Sometimes not enough to eat Often not enough to eat	
How often do you have someone (like a family member, friend, hospital/clinic worker or caregiver) help you read hospital materials?		Always Often Sometimes Occasionally Never	
How often do you have problems learning about your medical condition because of difficulty understanding written information?		All of the time Most of the time Some of the time A little of the time None	

How confident are you filling out forms by yourself?	All of the time Most of the time Some of the time A little of the time None
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On a scale of 1-10, with 1 = “not difficult at all” and 10 = “extremely difficult,” how difficult is it for you to get to the health center?	1 2 3 4 5 6 7 8 9 10
--	----------------------

Within the past year, have you missed an appointment or been unable to obtain needed health care because of problems with your transportation?	Yes	No
--	-----	----

Stress means a situation in which a person feels tense, restless, nervous or anxious, or is unable to sleep at night because his/her mind is troubled all the time. Do you feel this kind of stress these days?	Not at all A little bit Somewhat Quite a bit Very much
---	--

Over the last two weeks, how often have you been bothered by the following problems?	Not at All	Several Days	More than Half the Days	Nearly Every Day
Feeling nervous, anxious, or on edge	0	1	2	3
Not being able to stop or control worrying	0	1	2	3
Feeling down, depressed, or hopeless	0	1	2	3
Little interest or pleasure in doing things	0	1	2	3
Trouble falling or staying asleep, or sleeping too much	0	1	2	3

Have you smoked at least 100 cigarettes in your entire life?	Yes No Refused Do not know
--	-------------------------------------

Do you NOW smoke cigarettes every day, some days or not at all?	Every day Some days Not at all Refused Do not know
---	--

How often do you have a drink containing alcohol?	Never Monthly or less 2-4 times a month 2-3 times a week 4 or more times a week
How many standard drinks containing alcohol do you have on a typical day?	1 or 2 3 or 4 5 or 6 7 to 9 10 or more
How often do you have six or more drinks on one occasion?	Never Less than monthly Monthly Weekly Daily or almost daily

Do you currently use other types of drugs?	Yes	No
If so, what type(s):		

In your life, have you ever had any experience that was so frightening, horrible, or upsetting, that in the past month, you:

Have had nightmares about it or thought about it when you did not want to?	Yes	No
Tried hard not to think about it or went out of your way to avoid situations that reminded you of it?	Yes	No
Were constantly on guard, watchful, or easily startled?	Yes	No
Felt numb or detached from others, activities, or your surroundings?	Yes	No

Are you married or living with a romantic partner?	
In a typical week, how many times do you talk on the telephone with family, friends, or neighbors?	
How often do you get together with friends or relatives?	
How often do you attend church or religious services?	
How often do you attend meetings of the clubs or organizations you belong to?	

Appendix C

Tables

Table C1

Prevalence Rates of Behavioral Health Concerns

Variables	Percentage	Descriptor
Sleep Difficulty	20%	Reported “Nearly every day”
Anxiety	32%	Screened Positive
PTSD	54%	Screened Positive
Depression	28%	Screened Positive
General Stress	32%	Reported “Quite a bit”
Cigarette Use	26%	Reported “Daily use”
Alcohol Use	18%	Screened Positive

Table C2

Correlation Coefficients Within Behavioral Health Variables

Variables	1	2	3	4	5	6	7
1 Sleep Difficulty	--						
2 Anxiety	.548**	--					
3 PTSD	-.381**	-.227	--				
4 Depression	.655**	.623**	-.318*	--			
5 General Stress	.565**	.732**	-.307*	.588**	--		
6 Cigarette Use	.344**	.247*	-.257*	.324*	.333**	--	
7 Alcohol Use	.134	.046	-.156	.087	-.026	-.007	--

Note. * indicates significance at the .05 level (1-tailed). ** indicates significance at the .01 level (1-tailed).

Table C3

Prevalence Rates of Social Determinants of Health

Variables	Rate	Descriptor
Food Insecurity	14%	“Often not enough to eat” in their household
Financial Strain	56%	“Somewhat hard” to pay for very basics
Health Literacy	12.22	Mean score from possible range of 3 to 15 (higher score indicates better health literacy)
Social Support	36%	“Most socially isolated”
Transportation 1	22%	Did not receive health care due to transportation problems in the past year
Transportation 2	2.939	Difficulty scale of 1 to 10 (10 being “extremely difficult”)

Table C4

Correlation Coefficients Within Social Determinants of Health Variables

Variables	1	2	3	4	5	6
1 Food Insecurity	--					
2 Financial Strain	.519**	--				
3 Health Literacy	-.009	-.042	--			
4 Social Support	-.137	.151	-.060	--		
5 Transportation 1	.143	.001	-.113	.116	--	
6 Transportation 2	.513**	.202	-.021	-.075	.409**	--

Note. ** indicates significance at the .01 level (1-tailed).

Table C5

Correlation Coefficients Between Social Determinants of Health and Behavioral Health Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Sleep Difficulty	--												
2 Anxiety	.548**	--											
3 PTSD	-.381**	-.227	--										
4 Depression	.655**	.623**	-.318*	--									
5 General Stress	.565**	.732**	-.307*	.588**	--								
6 Cigarette Use	.344**	.247*	-.257*	.324*	.333**	--							
7 Alcohol Use	.134	.046	-.156	.087	-.026	-.007	--						
8 Food Insecurity	.494**	.436**	-.443**	.518**	.515**	.179	.178	--					
9 Financial Strain	.263*	.269*	-.280*	.290	.436**	.028	.154	.519**	--				
10 Health Literacy	.106	.114	-.004	.039	.130	.250	-.028	-.009	-.042	--			
11 Social Support	-.133	.069	.278*	-.112	.045	-.199	-.157	-.137	.151	-.060	--		
12 Transportation 1	.175	-.085	.014	.039	.039	.159	.056	.143	.001	-.113	.116	--	
13 Transportation 2	.205	.153	-.479**	.206	.170	.064	.027	.513**	.202	-.021	-.075	.409**	--

Note: * indicates significance at the .05 level (1-tailed). ** indicates significance at the .01 level (1-tailed).

Appendix D

Recommendation List

- 1) All ROMC providers should be familiar with the provided patient population data related to Social Determinants of Health, Behavioral Health Concerns, and demographic variables.
- 2) Psychology/behavioral health trainees should learn and utilize assessment and intervention strategies to address the most prevalent behavioral health concerns. Specific recommendations include:
 - a. Learning stress management techniques and effective coping strategies that can be utilized within brief individual and group intervention sessions.
 - b. Learning behavioral strategies to address sleep difficulty.
 - c. Utilizing a semi-structured interview to assess PTSD symptoms during the initial behavioral health appointment.
 - d. Familiarization with both individual and group treatment for PTSD.
 - e. Being knowledgeable and able to conduct risk assessment.
 - f. Development of both stress management and PTSD groups at ROMC.
- 3) Psychology/behavioral health trainees should develop skills related to interacting with physicians and other providers who are part of the integrated team.
- 4) ROMC may benefit from offering a year-round practicum opportunity to psychology/behavioral health trainees.
- 5) The PC-PTSD could be administered during the clinic check-in process and behavioral health services could be offered if the patient's score is positive.
- 6) All providers at ROMC should be knowledgeable about addressing patients from a trauma-informed lens.
- 7) All providers at ROMC should be familiar with community resources to make appropriate recommendations.
 - a. A binder of updated and current community resources should be made available in a central location for all providers.
 - b. Providers should be educated about the types of resources that are available within the community (e.g., legal aid, food pantries, employment services).
- 8) All patients could be screened for food insecurity and financial strain upon check-in and provided resources as needed.
- 9) All patients could be offered assistance with employment at each visit.
 - a. A connection with local employment resources could be established to target job attainment and maintenance.

- 10) ROMC could explore ways to include a team member who is specifically assigned to address social determinants of health (e.g., case manager).
 - a. ROMC could connect with local universities to offer volunteer clinical experience for social work students.
 - b. Individuals who are familiar with local resources should be sought out to volunteer to provide case management services.
 - c. Hiring a consistent employee who focuses on case management may provide needed continuity of care.

- 11) Continual data collection related to Social Determinants of Health, Behavioral Health Concerns, and patient satisfaction could create a database to determine patient outcomes and information about overall health care services provided.

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