The Influence Of Integrated Behavioral Health Primary Care Setting On The Utilization Of Mental Health Services And Depression Treatment Response Among Men

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The 2010-2013 National Health Interview Survey showed that nearly 9% of men had daily feelings of anxiety or depression, yet less than 41% sought help for their symptoms (Blumberg et al., 2016). Men are more reluctant than women to seek help (Angst et al., 2002; Brownhill et al., 2005). The failure to seek help among men is associated with multiple factors related to stigma and gender, yet male suicide rates are approximately 3-5 times higher than their female counterparts. However, they have a higher likelihood of seeking help from a medical provider rather than a mental health provider. If men were able to get mental health treatment in a primary care setting in which they already receive physical care, would it improve their use of services and depression treatment response? This study sought to determine whether integrated behavioral health primary care setting improves the utilization and/or treatment participation and outcomes among male patients compared to a non-integrated primary care setting.

The study used secondary data of male patients who received care from 12 clinics of a large healthcare provider organization in the Pacific Northwest. Six clinics were integrated behavioral health primary care practices and the other six were non-integrated primary care practices. A retrospective cross-sectional study was utilized to investigate the influence of integrated behavioral health primary care on two outcomes among men: (a) mental health services utilization and (b) depression treatment response. The investigator developed two models for the two outcomes. The
analysis involved a descriptive cross-tabulation analysis followed by a binary logistic regression analysis of both models.

Results of the binomial logistic analysis indicated that the multivariate model predicted mental health services utilization among men at a statistically significant level, \( \chi^2(20, N = 648) = 93.398, p < 0.01 \). Men were 3.437 times (CI = 2.917, 6.748) more likely to use behavioral health services in an integrated care setting as in a non-integrated primary care setting. The results also revealed that Baby Boomers (1955-1964) and older adults were 67.8\% (CI = 0.134, 0.771) less likely than Generation Z (born 1997-2012) to use mental health services. Generation Z patients included in the study were 18 years or older.

The second model predicting depression treatment response was also statistically significant, \( \chi^2(20, N = 648) = 32.134, p = 0.042 \). Firstly, the integrated behavioral health primary care setting was approximately 68.2% (CI = 1.11, 2.547) more likely than a non-integrated primary care setting to have men respond to depression treatment while adjusting for other variables. Secondly, men who used psychotherapeutic medications were 91.8\% (CI = 1.294, 2.842) more likely than those who did not use medication to respond to depression treatment. Thirdly, men who did not disclose their relational supports in this sample were 4.334 times (CI = 1.394, 11.436) more likely to respond to depression treatment as the group that were married or lived with a significant other or domestic partner.
THE INFLUENCE OF INTEGRATED BEHAVIORAL HEALTH PRIMARY CARE SETTING ON THE UTILIZATION OF MENTAL HEALTH SERVICES AND DEPRESSION TREATMENT RESPONSE AMONG MEN

by

Tendai Masiriri

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Tendai Masiriri
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CHAPTER I
INTRODUCTION

The 2010-2013 National Health Interview Survey showed that nearly 9% of men had daily feelings of anxiety or depression, yet less than 41% sought help for their symptoms (Blumberg et al., 2016). Although men experience these symptoms, most studies have consistently shown that men are more reluctant than women to seek help (Angst et al., 2002; Brownhill et al., 2005; Call & Shafer, 2018; Haddad, 2013; Krumm et al., 2017; Marcus et al., 2008; Martin et al., 2013; Oliffe et al., 2012; Rice et al., 2011; Sagar-Ouriaghli et al., 2019; Seidler et al., 2016; Sigmon et al., 2005; Yousaf et al., 2015). Given the appropriate opportunity to report symptoms, men and women do not differ in their willingness to report depression, which indicates no significant difference between the rate of depression in men and women when using a gender inclusive depression scale that includes symptoms, such as rage and risk-taking (Martin et al., 2013; Padesky & Hammen, 1981). A 2013 study showed that 30.6% of men, compared to 33.3% women, had suffered from a period of depression in their lifetime when measured with a gender inclusive depression scale (Martin et al., 2013). Furthermore, some studies have confirmed no gender differences in the degree of depression measured by the Beck Depression Inventory (Hedegaard, et al., 2018; Martin et al., 2013; Oquendo et al., 2002). While these studies have indicated no difference in the rate and degree of depression between men and woman, men are four times as likely to die by suicide than women (Angst et al., 2002; Call & Shafer, 2018; Magovcevic & Addis, 2008), which suggests that men have mental health conditions that go undiagnosed at a higher rate than women (Padesky & Hammen, 1981). Differences in the self-presentation and help-seeking behaviors between the genders do exist (Brownhill et al., 2005; Cochran et al., 2000). Qualitative studies have shown a process of distress management among men that involves an initial avoidance of thinking about
problems, followed by emotional distress suppression mechanisms, such as drug and alcohol use, other reckless, antisocial behaviors and outbursts of anger (Padesky & Hammen, 1981a), sometimes an actual inability to cry, and somatization (Brownhill et al., 2005). The process often ends with hostility towards others and the self, including suicide (Call & Shafer, 2018; Seidler et al., 2016b; Sullivan et al., 2015). The failure among men to seek help is associated with multiple factors related to stigma and gender socialization (Angst et al., 2002; Call & Shafer, 2018; Chowdhury & Chakraborty, 2017; Sagar-Ouriaghli et al., 2016; Sigmon et al., 2005; Sullivan et al., 2015). However, men with male-typical symptoms did have an overall higher likelihood of seeking help from a medical provider rather than a mental health provider (Bridges et al., 2014; Call & Shafer, 2018), which suggests that care setting could make the difference in men seeking help for a mental health condition.

The integration of behavioral health into a primary care setting could be promising for increased service utilization and treatment response for males suffering from depression. Integrated Behavioral Health Primary Care (IBHPC) is a model of mental health care service delivery that has proven successful in reducing the utilization barrier related to stigma among minority groups by embedding mental health professionals into primary care teams (Emery & Hayflick, 2001). In the United States, primary care provides a wide scope of care for various conditions for patients of all ages, all socioeconomic and geographic origins, and with all manner of acute, chronic, social issues (Pingitore et al., 2001). Since primary care is not associated with any one specific health condition, primary care settings are more likely reduce the stigma for a patient seeking mental healthcare compared to stand-alone mental health specialty settings (Wang et al., 2005). It would be difficult to single out a mental health patient entering a primary care clinic. As a result, primary care behavioral health integration becomes far more acceptable and,
therefore, accessible for most patients who need mental health services. Assuming that this care setting reduces the psychological barrier of stigma for individuals seeking mental health services, this study sought to demonstrate the influence of IBHPC on service utilization among men.

**Background**

**Distribution of Mental Healthcare in the United States**

In 2019, the National Institute of Mental Health estimated that 20.6% (51.5 million) adults in the United States live with a mental illness (National Institute of Mental Illness, 2021). In addition, Centers for Disease Control and Prevention (CDC) also estimates that 1 in 5 American adults are diagnosed with a mental illness or disorder at some point in their lifetime (CDC, 2021). The distribution of mental healthcare upends the perception about care setting for the treatment of mental health conditions in the United States. Historically, an estimated 20% of those with a diagnosable problem received care from a specialty mental health or substance abuse clinic, 21% sought treatment in primary care (PC) settings, and approximately 59% received no care at all (Bindman & Majeed, 2003; Forrest, 2003; Shi et al., 2008). The statistic above shows that, while most people with mental health conditions in the United States do not receive care for their conditions, many who do receive care do so from their primary care physician (PCP). Fewer people utilize the specialty mental health services provider (SMHSP), such as a counselor or psychiatrist. The use of primary care for treatment of mental health conditions, such as depression, continued to grow with emergency of managed care. The emergency of managed care, in the 1980s through 1990s, placed a greater emphasis on the gatekeeping role of primary care to involve the widest scope of healthcare for a wide range of population groups and all manner of physical and mental and social health conditions (Wang et al., 2006). The results of gatekeeping meant that “only the
more difficult” mental health cases were triaged to specialty mental health professionals (SMHP) (Robinson & Reiter, 2007).

Along with managed care, the introduction of the Patient Protection and Affordable Care Act (ACA) continued the promotion of primary care for screening and treatment of a wide range of conditions including mental illness. In addition to an increased use of mental health services in primary care settings, the ACA has also increased use in specialty clinics (Howell et al., 2019). Overall, the ACA was able increase access and use of health services by most Americans. A study by Howell et al. (2019) indicated that, following ACA implementation, the share of individuals with criminal justice history in the previous year who had Medicaid insurance increased significantly from “25.4% to 37.4%, a difference of 12.0 percentage points (95% CI=7.2–16.7)” (Howell et al. 2019, p. 3) between 2011–2013 and 2014–2017 (Howell et al., 2019). Another significant, although smaller, increase in the percentage of individuals with criminal justice history who had private insurance also increased “from 24.0% to 28.7%, a difference of 4.7 percentage points (95% CI=0.5–8.9)” (Howell et al. 2019, p. 3) during the same period (Petterson et al., 2012). As a result, primary care (PC) clinics have seen an influx of new patients who previously did not have healthcare, and Petterson et al. (2012) has projected the United States needing about 52,000 additional primary care physicians (PCPs) by 2025 to meet the new demand (Vogel et al., 2017). While most mental healthcare has been known to historically happen within the primary care context, making it a de facto mental health system (Olfson, 2016), the introduction of ACA has made PCPs the main source of treatment for patients with mental health conditions (Robinson & Reiter, 2007).
Primary Care and Population Health

In addition to the increased volume of behavioral health patients seeking treatment in primary care, the ACA will shift primary care focus from the intermittent, fee-for-service model of care delivery and towards a model that coordinates services and prevent and/or manage disease state (Tikkanen et al., 2020). Emerging models will change the organization of care toward team-based approaches (DeVoe et al., 2016) to include interdisciplinary teams working together to deliver population health and value-based care rather than the traditional face-to-face visits with the primary care physician (Robinson & Reiter, 2007; Shi, 2012; Stange et al., 2010). Therefore, universal screening for mental health and substance use disorders has become a standard part of any primary care practice in the United States. Overall, primary care is known to be the patient’s first point of contact with the healthcare system and the central point for future healthcare needs for people of all ages, cultures, and socio-economic statuses, including individuals with mental health and substance use disorders (Starfield et al., 2005; Strite & Madison, 2006). In this regard, research has indicated that countries with strong primary care foundations realize improved population health outcomes, more equitable care, and greater efficiency of health services than those with a weak primary care system (Bruhn, 1999).

Primary Care Behavioral Health Integration

According to the Institute of Medicine, “primary care refers to the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community” (Campbell et al., 2016, pp. 2-3). There are three components that stand out from this description of primary care by the Institute of Medicine: (1) accessibility of (2) integrated services (3) with accountability and focus on population health. Following the
definition of primary care by the Institute of Medicine, it would require multiple approaches for primary care to achieve its goals. First, it requires the removal of barriers to access, which include economic and structural barriers. In mental healthcare, an added psychological barrier is stigma associated with the utilization of mental health services. A study that sought to test whether stigma predicted patients’ preference of mental health treatment was able to establish that patients with high stigma were less likely to prefer treatment from mental health specialists than those with low stigma (Robinson & Reiter, 2007). Delivery of mental health services from primary care settings will go a long way to reduce this psychological barrier to accessing care. Second, to account for the biopsychosocial etiology of health conditions and the complex interaction of biology, psychological, and social factors in the origin and treatment of disease state, an interdisciplinary integration will be required to address complex health conditions of patients that enter primary care. Third, primary care requires accountability through value-based care that focuses on population health. While some might conclude that referral to specialty mental healthcare would likely lead to better outcomes at an individual level, it should also be acknowledged that overall population health would be best improved with the more limited care made available from within primary care because of increased access and utilization. From a population health perspective, “community or population interventions succeed by making small changes in a large number of people rather than large changes in a small number of people” (Robinson & Reiter, 2007, p. 52). Due to its population health approach, primary care would be able to achieve this goal for behavioral health patients.

The emergence of primary care behavioral health integration is a result of multiple forces transforming the landscape of healthcare delivery. Robinson and Reiter (2007) were able to succinctly identify a few factors that drove the development of IBHPC (Robinson & Reiter, 2007).
Lifestyle and behavior challenges are related to the rise in the rates of physical and mental health conditions and associated high healthcare costs. Robinson and Reiter (2007) attribute the lifestyle and behavior challenges to the influence of the pharmaceutical industry, which has successfully moved our attention away from basic behavior change approaches (Robinson & Reiter, 2007). Integrating behavioral health in primary care would allow the healthcare system to refocus back to basic behavioral changes that promote health. As more people live with poor health, primary care providers are pressured to work faster and harder, due to the shortage of physicians trained to provide primary care services (Mark et al., 2009; Mojtabai, 2008). Primary care providers see the full spectrum of psychiatric disorders, from depression to substance abuse to psychosis. They prescribe around 60% of the psychotropic medications (Olfson, 2016). Therefore, one reason to integrate behavioral health services into primary is to meet the demand for care in a primary care setting (Knaak et al., 2017).

**Stigma as Psychosocial Barrier to Access and Utilization**

According to Knaak et al. (2017), “stigma is conceptualized as a complex social process of labeling, othering, devaluation, and discrimination involving an interconnection of cognitive, emotional, and behavioral components” (Knaak et al., 2017; Koumaki et al., 2019, p. 111). Stigmatization occurs on multiple levels simultaneously. At an intrapersonal level, it involves self-stigma including a patient’s reluctance to seek care, which is often a result of the internalization of perceived prejudices and the development of negative feeling about themselves (Knaak et al., 2017; Koumaki et al., 2019). Public stigma includes both interpersonal and structural stigmas. Interpersonal stigma involves relations with others where discriminatory behaviors and/or negative attitudes are present. Structural stigmas consist of discriminatory and/or exclusionary policies, laws, and systems (Knaak et al., 2017). The ACA might have put in place instruments to address
the structural stigma in mental healthcare. However, intrapersonal and interpersonal stigmas persist regardless of structural changes related to the policies, laws, and systems. Conformity to dominant masculine gender norms, such as “boys don’t cry,” is a major component of intrapersonal stigma often referred to as “self-stigma” in depressed men who feel as though they should be able to cope with their illness without professional help (Haddad, 2013; Seidler et al., 2019; Knaak et al., 2017). Masculinity, as understood in most Western societies, represents a stoic endurance of suffering and suppression of emotion, self-reliance, and unwillingness to seek help (Oliffe et al., 2012). Such notions of masculinity can reach an unhealthy psychological state. For example, Oliffe et al. (2012) conducted interviews with 24- to 50-year-old Canadian men, who described suicide as an “escape” because they had not reached certain masculine ideals and standards (Knaak et al., 2017).

This gender role learned early in life and later enhanced by experiences is often difficult to change (Genuchi, 2019). Research has established a clear association between conformity to masculine gender role norms and the externalization of depression symptoms (Gold et al., 2017). However, as mentioned above, the effect of gender role on resistance to help-seeking is mediated, at least to some extent, by self-stigma, in that a person with mental illness believes themselves to be inferior or weak for needing to seek treatment (Pingitore et al., 2001).

Since primary healthcare services are not associated with any specific health conditions, it would be logical to assume that men would experience less stigma when seeking mental healthcare from a primary healthcare provider (compared to a stand-alone specialized service), making this level of care far more acceptable—and therefore accessible—for most patients who need mental health services (Robinson & Reiter, 2007; Shim & Rust, 2013).
Among other important goals, ACA aimed to ensure all Americans have access to affordable health insurance, including coverage for mental healthcare. However, removing the financial barriers to care by itself may not guarantee greater access or utilization of mental health services and better health outcomes for all people. Researchers have long documented nonfinancial barriers to health, and models of access to care have shifted from a focus on affordability to a framework that accounts for the dynamic ways in which individuals interact with providers and the healthcare system (Ramanuj et al., 2019; Martinez et al., 2012). Lack of treatment and under treatment of mental health conditions are attributed to stigma, including patients’ self-imposed and perceived stigma (Fripp & Carlson, 2017; Magaña et al., 2007; Masuda et al., 2012; Sagar-Ouriaghli et al., 2016; Xu et al., 2017). While several studies have explored mental health stigma related to culture among minority populations, such as African Americans, Latino Americans, and Asian Americans (Padesky & Hammen, 1981a; Seidler et al., 2016), other studies have also revealed that conformity to traditional masculine norms has had a significant effect on how men experience mental health symptoms, specifically depression, thereby impacting their expression and management of symptoms, attitudes, intentions, and actual help-seeking behaviors (Allen et al., 2014). While historical economic barriers to access and use of mental health services have been significantly reduced through the implementation of the ACA, stigma for people with mental health and substance abuse disorders remain a huge psychological barrier to the use of mental health services.

**Theoretical Framework**

**Biopsychosocial Systems Framework**

Rather than a prescribed model of health service delivery, integrated care is a conceptual framework that can be implemented using a variety of organizational team structures and
collaboration models (Havelka et al., 2009; Curtis et al., 2012). The concept of integration is based on a biopsychosocial systems perspective of health and wellness (Curtis et al., 2012). Effective integration is associated with a set of common elements including team-based care delivery, a patient-centered orientation, care coordination, and a population-based approach (Hanson & Gluckman, 2011; Havelka et al., 2009). While the most common application of integrated care incorporates behavioral health services into primary care settings, effective healthcare reform will include a variety of specialty and locally tailored models developed to serve the needs of specific patient populations (Curtis et al., 2012).

When George Engel (1977) introduced the biopsychosocial systems model in 1977, it was set to change the practice of medicine. Until then, the biomedical model was the predominant model for the assessment and treatment of disease. According to the biomedical model, either the external or internal injury of organs is viewed as the origins of diseases with genetic variants as the most important determinants of variation in predisposition to diseases between individuals (Hanson & Gluckman, 2011; Havelka et al., 2009). However, by not considering wider psychosocial aspects of diseases, as with the organ-oriented approach, there is little to guide the kind of preventive efforts that are needed to reduce the incidence of chronic diseases by changing health beliefs, attitudes, and behaviors (Engel, 1977). The biopsychosocial model aligns with the model shift and accounts for the dynamic ways in which individuals interact with providers and the healthcare system beyond just the biological and medical nature of chronic disease states. The biopsychosocial systems model is especially important for the study of healthcare-seeking behaviors among men experiencing depression symptoms or/and other behavioral health symptoms. Although behavioral disorders are confirmed as brain diseases, there is a strong interaction among the biological, psychological, and societal systems that should be considered in
successfully assessing and treating behavioral health disorders. This is especially true for depression and stigma as indicated in the preceding section on stigma as a barrier to service utilization. The biopsychosocial systems model as postulated by Engel (1977) makes it clear that simple biological determinants of diseases are strongly influenced by cultural, social, and psychological conditions and states (Havelka et al., 2009). Interactions between psychological stress and the nervous, endocrine, immune, and other organ systems support the biopsychosocial systems models, leading to the development of interdisciplinary studies in psychoneuro-endocrinology and psychoneuro-immunology (Addis, 2008; Brownhill et al., 2005; Call & Shafer, 2018). Figure 1 below illustrates the interaction of the biopsychosocial model components.

**Figure 1. Biopsychosocial Model | Adopted from the Serafino Biopsychosocial Model (Havelka, et al., 2009)**

The biopsychosocial framework provides an understanding of how men experience, express, and respond to depression. Addis (2008) conceptualizes the role of gender in the way men experience, express, and respond to depression through four theoretical frameworks. The sex differences framework assumes that, while there might be minor phenotypic variation between
men and women, depression exists as the same illness between the two sexes (Addis, 2008). The sex difference theoretical framework does not assume gender as the theoretical construct but rather sex difference, such as men being more likely to experience anger and somatic symptoms and less likely to experience sadness (Addis, 2008).

The masked depression framework presupposes that depression in men can be hidden by externalizing presentations, such as substance and alcohol abuse, domestic violence, aggression, violence-related deaths, sexual encounters, road rage, and suicide (Addis, 2008). Under this framework, men’s experience, expression, and response to depression is associated with gender socialization practices common to Western countries, such as the United States (Addis, 2008). The gendered sociocultural symbols and socialization practices are thought to create restrictive norms that emphasize antifemininity, competitiveness, homophobia, emotional stoicism, self-reliance, physical toughness, and power over women (Addis, 2008). Norms like these tend to shape the emotional, cognitive, and behavioral responses of men.

The gendered responding framework theorizes that gender norms affect how different men respond to negative effects in general. A key assumption is that the way individuals respond to a depressed mood has a strong influence on the likelihood of developing an episode of major depression and the length and severity of episodes once they begin (Addis, 2008). Consistent with the theory, nondepressed individuals who ruminate in response to depressed mood are more likely to become depressed and to have longer and more severe episodes of depression (Addis, 2008).

The masculine depression framework hypothesizes that gender norms affect the presentation of depression and create a phenotypic variant of the disorder (Addis, 2008). The masculine framework borrows from the gender-role strain model that assumes men experience forms of developmental and intrapsychic strains due to restrictive norms of socialization (Addis,
2008). As a result, boys and men struggle to meet unattainable and contradictory standards of masculinity and, therefore, are at risk of emotional difficulties, such as externalization (Addis, 2008). The masculine framework postulates that, rather than experiencing a truly masked depression, men experience a phenotypic variant of prototypic depression characterized by psychological distress created by overly rigid adherence to traditional gender-role norms (Barry et al., 2001; Engel, 1977).

While the prevailing biomedical model of earlier times emphasized linear, cause-and-effect thinking, and a singular focus on disease, the biopsychosocial systems model made psychosocial factors an important part in the study of medicine (Havelka, et al., 2009; Hanson & Gluckman, 2011). The biopsychosocial systems model provides a perspective to fully understand and treat medical problems, such as chronic conditions, by focusing on other factors that interact with the biology of disease because factors, such as culture, family, community, environment, personality, and emotions, have a significant interactive influence on health and disease (Barry et al., 2001; Havelka et al., 2009; Curtis et al., 2012).

However, despite the emergence of the biopsychosocial framework, studies suggest the biomedical model had remained a dominant influence on physician communication styles and, therefore, exerts a negative impact on patient outcomes (Delaney et al., 2013). A multistate survey showed that having a severe mental disorder decreased life expectancy by 25 years and chronic medical illness accounted for more than 80% of life years lost (Havelka et al., 2009), which accelerates integrated care wherein both medical and behavioral health needs get addressed within the primary care structure. The biopsychosocial model serves as catalyst for understanding how psychological and social factors influence the development, course, and outcome of a disease, giving rise to the development of interdisciplinary practice (Havelka et al., 2009). Interdisciplinary
organizational structure is the preferred mode of team collaboration in integrated care practice. It strives to provide all necessary services that a patient may need. Services include medical and social services, such as counseling, advocacy, and ongoing coordination and monitoring with the goal of ongoing prevention of the progression of the diseased state (Shi & Singh, 2008). As with most paradigm shifts, there are terms developed to describe the usual evolution towards full integration on a continuum that start with coordinated, co-located, and integrated work structure (American Hospital Association, 2014). Figure 2 below represents the continuum of the integration services approach from a coordinated to fully integrated service model.

The description of stages of behavioral health integration organizational structure by the Agency for Healthcare Research and Quality above aligns with the commonly accepted continuum of disciplinary collaboration. According to Fong et al (2020), first comes a multidisciplinary team approach with multiple professionals working independently and separately without a common goal, and there is little exchange among disciplinary members. This is followed by the second stage on the continuum, which is an interdisciplinary team approach that involves team members sitting together, discussing, and working towards a common goal for the patient. The third is a transdisciplinary team approach with core and extended team members (Fong et al., 2020). In the
third model, a key worker, acting as the case manager, applies basic skills of other disciplines as first-tier work with the patient. If the task is beyond his or her ability, the individual discipline is called in to assist in patient care as needed (Fong et al., 2020).

**Statement of the Problem**

Depression alone will be one of the three leading causes of disability in the developed world by 2030 (Mathers & Loncar, 2006). The disease burden of depression is so staggering that a great deal of attention in suicide research is devoted to the relationship between suicidality and depressive disorders. For instance, approximately 12–19% of people who experience suicidal ideation and 18–27% of suicide attempters have a history of Major Depressive Disorder (MDD) (Nock et al., 2009). In 2015 suicide was the tenth leading cause of death in the United States and the seventh leading cause of death in men (CDC, 2015). The same CDC report revealed that, from 2000 through 2015, the rate suicide for males was approximately 3–5 times higher than the rate for females throughout the study period (CDC, 2015). While this high frequency of suicide in men is certainly impacted by men’s greater tendency to use more violent and, therefore, lethal means of suicide, this discrepancy may also be due to difficulties recognizing and reluctance to treatment of depressive symptoms, primarily in men who adhere to hegemonic masculine gender-role norms (Coleman et al., 2011; Magovcevic & Addis, 2008).

**Purpose of the Study**

This study uses data from patients from a large healthcare system that spans across the Pacific Northwest and the Southwest of the United States to investigate the influence of Integrated Behavioral Health Primary Care (IBHPC) on the use of mental health services and depression treatment response among men. The burden of disease from behavioral health disorders is
overwhelming and costly; and behavioral health disorders continue to be a significant public health challenge (Lubotsky & Ardis, 2020).

IBHPC has been studied to demonstrate outcomes with communities of color (Bridges et al., 2014; Martinez et al., 2019). Other studies have focused on the broad clinical, financial, and operational outcomes of IBHPC (Vogel et al., 2017). Behavioral health integration in primary care has long been shown to be an essential part of improving healthcare and, more recently, of achieving the “triple aim” as part of national reform (Wood et al., 2020). However, there has not been any known study that examined the influence of IBHPC in help-seeking behaviors among male patients living with depression. IBHPC is intended to improve the overall wellness of people with mental health conditions by providing integrated healthcare services in a setting in which the population already receives care (Chapman et al., 2017). If men were able to get mental health treatment in a primary care setting in which they already receive physical care, would it improve their use of services and depression treatment response? Does the IBHPC setting improve utilization or treatment participation and outcomes among male patients compared to non-integrated Primary Care (non-IPC) settings?

**Research Questions**

The study seeks to answer the following questions:

1. Does the IBHPC setting improve the use of mental health services among men diagnosed with depression compared to non-IPC setting?

2. Does IBHPC setting improve depression treatment response among men compared to non-IPC setting?
Hypotheses

**Question One H₀**: IBHPC setting does not improve utilization of mental health services among men diagnosed with depression.

**Question One H₁**: IBHPC setting improves utilization of mental health services among men diagnosed with depression.

**Question Two H₀**: IBHPC setting does not improve depression response outcomes among men diagnosed with depression.

**Question Two H₁**: IBHPC setting improves depression response outcomes among men diagnosed with depression.

Significance of the Study

The gender gap in seeking help for behavioral health conditions has been a challenge. Conformity to traditional masculine gender norms has been widely noted to deter men’s help-seeking and/or impact the services that men engage (Seidler et al., 2016; Sullivan et al., 2015). Men are four times more likely to die by suicide than women (Oquendo et al., 2002), which also suggests a higher rate of undiagnosed mental health conditions (Angst et al., 2002; Call & Shafer, 2018; Magovcevic & Addis, 2008; Potts et al., 2004). This study will have far reaching consequences in identifying effective service models that promote the use of mental health services among men, with the ultimate goal of reducing suicide within the same population. Less than 41% of men seek help for their depression symptoms (Hedegaard et al., 2018; Padesky & Hammen, 1981; Sigmon et al., 2005). In comparison, between 49% and 57% of women experiencing depression symptoms do receive mental health treatment (Sanmartin et al., 2019). Improving utilization may not only reduce chances of suicide, but it may significantly improve productivity among working men (Wang et al., 2016; Woo et al., 2011). Depressive disorders are associated
with socioeconomic burden at both individual and organizational levels. However, it has been confirmed that this loss can be reduced with psychiatric intervention after a time period as short as eight weeks (Woo et al., 2011). Identifying a care setting that optimize the use of mental health services and depression treatment response among men will go a long way in addressing the disease burden.

**Definition of Terms**

- **Primary Care** is “the provision of integrated, accessible health care services by clinicians who are accountable for addressing the large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community” (Bruhn, 1999, p. 1).

- **Integrated Behavioral Health Primary Care** is “care that results from a practice team of primary care and behavioral health clinicians, working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population. This care may address mental health and substance use conditions, health behaviors (including their contribution to chronic medical illnesses), life stressors and crises, stress-related physical symptoms, and ineffective patterns of health-care utilization” (Gold & Green, 2019, p. 205).

- **Stigma** is “conceptualized as a complex social process of labeling, othering, devaluation, and discrimination involving an interconnection of cognitive, emotional, and behavioral components” (Knaak et al., 2017, p. 111).

- **Biopsychosocial Systems Model** is “an interdisciplinary and multifaceted model that posits the interrelations among the biological, psychological, and socio-environmental
influences on health and disease” first conceptualized by Engel in 1977 (Frazier, 2020, p. 1).

• **Population health** refers to the health status and health outcomes within a group of people rather than considering the health of one person at a time. For public health practitioners, improving population health involves understanding and optimizing the health of a population (Silberberg et al., 2019).

• **Health Access** is the ability to obtain healthcare services, such as prevention, diagnosis, treatment, and management of diseases, illness, disorders, and other health-impacting conditions. For healthcare to be accessible, it must be affordable and convenient (Center for Health Ethics, 2020).

• **Health Care Utilization** is the quantification or description of the use of services by persons for the purpose of preventing and curing health problems, promoting maintenance of health and well-being, or obtaining information about one’s health status and prognosis (National Academies of Sciences, 2018).

• **Psycho-social Barriers to Health Care** are internal and personal barriers that stem from our beliefs, attitudes, values, hang-ups, and inhibitions as individuals or social group, which affects the way individuals or a social group seek health care services (Paduch et al., 2017).

• **Masculinity** is the masculine ideal or hegemonic masculinity, which are characterized by stoicism, invulnerability, and competitiveness (Tang et al., 2014).

• **Warm handoffs** are a common and often recommended feature of programs that integrate behavioral health services into primary care. In a typical warm handoff, primary
care clinicians refer patients to an integrated behavioral health clinician by directly introducing the patient (Pace et al., 2019).

- **Initial consults** begin with the patient’s first encounter with a behavioral health consultant at an integrated primary care clinic or behavioral health specialist at a traditional specialty clinic. The initial consult follows an introduction or referral by the PCP. At an integrated behavioral health primary care clinic, initial consults include both a functional assessment and an intervention, while the follow-up includes only the interventions. At a traditional specialty clinic, initial consults mainly include a comprehensive assessment that often leaves no meaningful time for interventions (Robinson & Reiter, 2007).

### Methodologies

#### Approach

This research uses a quantitative research approach. It seeks to reject or nullify the null hypothesis by examining the relationship between (a) primary care setting and mental health services utilization and (b) primary care setting and depression treatment response. All variables were measured in numbers to allow statistical procedures. The study involves both nominal and scale levels of measurement. Based on the research questions for this study, scale measurements were collapsed into binary level. In testing the two hypotheses, the investigator developed assumptions related to potential confounding variables. These confounders were included in the two models to control for alternative explanations arising from the potential influence of those confounders on both mental health services utilization and depression treatment response.

#### Design

The investigation uses a cross-sectional design to examine the association of between care setting and the two outcome variables of mental health services utilization and depression
treatment response. The investigator designed two models based on known cause-and-effect assumptions between each outcome and identified predictor variable. Using secondary data of male patients and the two care settings, IBHPC and non-IPC are compared to determine the difference in outcomes. IBHPC is the focus group and non-IPC is the comparison reference group. Both groups are selected based on similar factors to allow for a better comparison. **Figure 3** below shows the study’s procedures of inquiry to answer the first research question. The procedure below seeks to determine the influence of care setting on mental health services utilization among men. The design carefully considers potential confounding variables and adjusts for their influence on the outcome.

**Figure 3. RQ1 Research Design for Mental Health Services Utilization**
Figure 4 below demonstrates the procedures that the investigation takes to answer the second research question. The design assumes a pre-to-post approach for measurement of depression. Patients are screened for a baseline score that is treated as an index measure at initial screening for depression using the Patient Health Questionnaire Depression Scale (PHQ-9) instrument. A follow-up screening is conducted at the next primary care consultation. The latest screening score is considered the posttest for depression symptoms.

![Diagram of study design]

**Figure 4. RQ2 Research Design for Depression Treatment Response**

**Methods**

The study uses secondary data from patients from a large healthcare system that spans across the Pacific Northwest and the Southwest of the United States. The healthcare system developed IBHPC practice teams across multiple states. At each practice site, members of the team
have clearly defined roles for the care of both the physical and behavioral healthcare of their patients. The study uses data from 12 practice sites within the same metropolitan area to investigate the research questions. At both IBHPC and non-IBHPC care settings, patients are screened for depression using the Patient Health Questionnaire Depression Scale (PHQ-2) and the PHQ-9. The PHQ-2 is used to screen patients for depression at the initial screen. The PHQ-2 inquires about the frequency of depressed mood and anhedonia over the past two weeks. Patients who screen positive for PHQ-2 are then asked for further evaluation with PHQ-9 to determine whether they meet criteria for a depressive disorder. Other diagnostic tools, such as the DSM V, are used to diagnose patients for mental health disorders.

The independent variable of interest is care setting. Covariates will include generational groups, race and ethnicity, chronic diseases, such as atherosclerotic cardiovascular disease (ASCVD), also defined as acute coronary syndrome, diabetes mellitus, and hypertension, supportive relationship status, employment, insurance type, substance use (alcohol and illicit drugs), and nicotine use. These medical conditions are considered highly comorbid with depression (Blasco et al., 2020; Faith et al., 2002; Kang et al., 2015; Luppino et al., 2010; Rubio-Guerra et al., 2013; Simon et al., 2008).

The study considers two outcome variables of interest. They include use of mental health services (patients’ behavioral health encounters) and depression treatment response measured by PHQ-9 scores. The first outcome variable, behavioral health service utilization, is considered as categorical. Categorical measure determines whether patients had a behavioral health encounter for depression treatment after an initial PHQ-9 screening. The two categories include non-utilizers and utilizers (one or more encounters). The second outcome variable of depression treatment response is measured as continuous variable. Pretest and posttest on PHQ-9 scores from both care
settings is compared after at least three months to determine depression treatment response. The study uses logistic regression to determine the likelihood of increased utilization of mental health services and depression treatment response among men receiving primary care from IBHPC settings compared to non-IPC settings.

**Limitations**

The study uses a convenient sample of individual patients who sought treatment in the two different care settings. Since it is secondary data, the individual patients were not randomly assigned to the two treatment groups (IBHPC and non-IPC). There are multiple confounding factors to consider that the analysis might miss.

**Organization of Dissertation**

The introductory chapter discussed background information related to the study purpose, rationale for research, and its significance. The chapter articulated the hypothesis and research questions that the study attempts to answer. The theoretical foundation of the research was included together with the practical implication of the foundation to primary care integration and stigma related to help-seeking behaviors for depression treatment among men. The rest of the dissertation includes the following chapters:

- Chapter II: Review of Literature
- Chapter III: Research Methodology
- Chapter IV: Research Findings and Results
- Chapter V: Discussion and Recommendations


CHAPTER II
REVIEW OF LITERATURE

Primary Care Model Assumptions and Organization of Service Delivery

Definitions of primary care often focus on the type or level of services, such as prevention, diagnostic and therapeutic services, health education and counseling, and minor surgery. Traditionally, primary care has been the cornerstone of ambulatory care services. During the 1978 Alma-Ata International Conference on Primary Care, The World Health Organization (WHO) described primary health care as

Essential health care based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in the community by means acceptable to them and at a cost that the community and the country can afford to maintain at every stage of their development in a spirit of self-reliance and self-determination. It forms an integral part of both the country’s health system of which it is the central function and the main focus of the overall social and economic development of the community. It is the first level of contact of individuals, the family, and the community with the national health system, bringing health care as close as possible to where people live and work and constitutes the first element of a continuing health care process. (Declaration of Alma-Ata International Conference on Primary Health Care, Alma-Ata, 1978. (2004).

Since the 1978 WHO Alma-Ata International Conference on Primary Care, there have been advances in promoting primary health in the United States. The Institute of Medicine (IOM) Committee on the Future of Primary Care recommended that primary care be the usual and preferred, but not the only, route of entry into the healthcare system. To emphasize this, the IOM
defined primary care as “the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community” (Institute of Medicine, 2012, pp. 2-3).

The term “integrated” represents the concepts of comprehensive, coordinated, and continuous services that provide a seamless process of care (Institute of Medicine, 2012; Singer et al., 2020). Primary care is comprehensive because it addresses any health problem at any given stage of a patient’s life cycle. Coordination ensures the provision of a combination of health services to best meet the patient’s needs, which means it is person- rather than disease-focused. Continuity refers to care over time by a single provider or a team of healthcare professionals. The IOM definition goes on to further emphasize accessibility and accountability as the key characteristics of primary care. Accessibility refers to the ease with which a patient can initiate an interaction with a clinician for any health problem, which speaks to primary care scope of the population served (Robinson & Reiter, 2007). It includes efforts to eliminate barriers, such as those posed by geography, financing, culture, race, and language (Institute of Medicine, 2012). The IOM Committee recognizes that both clinicians and patients have accountability. The clinical system is accountable for providing quality care, producing patient satisfaction, using resources efficiently, and behaving in an ethical manner (Institute of Medicine, 2012). Three key assumptions emerge from the preceding description by WHO and IOM to guide the organization and delivery of primary care services: point of entry, coordination of care, and essential care.

**Point of Entry**

Primary care is the point of entry into the health services system in which healthcare delivery is organized around primary care (Starfield et al., 2005). Primary care is the first contact
a patient makes with the healthcare delivery system. This first contact feature is closely associated with the “gatekeeper” role of the primary care practitioner. Gatekeeping implies that patients do not visit specialists and are not admitted to a hospital without being referred by their primary care providers (Forrest, 2003; Shi, 2012; Shi et al., 2003). However, gatekeeping comes with its challenges for PC. “Owing to its place as the gatekeeper for the healthcare system, PC also treats a wide variety of [health conditions], among all ages. Whereas the role of a specialist is to ‘know a lot about a little,’ the PCP must be a generalist who ‘knows a little about a lot’” (Robinson & Reiter, 2007). PCPs must be familiar with a wide scope of healthcare conditions. However, with increased access to care after the ACA, PC clinics have seen a flood of new patients who previously did not have healthcare (Petterson et al., 2012), making an already stressed PC system even more so. The challenges have also created new opportunities for behavioral integration into PC to assist the PCPs to become more efficient and effective while easing the strain of PCP shortage (Robinson & Reiter, 2007).

**Coordination of Care**

One of the main functions of primary care is to coordinate the delivery of health services between the patient and the myriad of delivery components of the system (Phillips & Bazemore, 2010; Leiyu Shi, 2012). The coordination function of PC can be regarded as the hub of the healthcare delivery system wheel (van Olmen et al., 2010). As visualized by WHO, the various components of the healthcare delivery system are located around the rim, and the spokes signify the coordination of continuous and comprehensive care (Gauld et al., 2012; Leiyu Shi, 2012). When done well, the hub and spoke model of service coordination enables primary care to achieve population health outcomes. Countries whose health systems are oriented more toward primary care achieve better health outcomes including mortality rates, rates of premature death and
avoidable hospitalization, higher infant birth weight, life expectancy, higher satisfaction with health services among their populations, and lower expenditures in the overall delivery of health care (Leiyu Shi, 2012; Starfield et al., 2005). Similar outcomes are also evident in states with higher ratios of PCPs and better availability of primary care in the United States (Macinko et al., 2007; L. Shi, 1994; L. Shi & Starfield, 2000; Leiyu Shi et al., 2002).

**Essential Care**

According to WHO, primary healthcare is regarded as essential healthcare (Gauld et al., 2012). The goal of the healthcare delivery system is to optimize population health, not just the health of individuals who have the means to access health services. Using the 1996 Community Tracking Study household survey, the authors examined whether income inequality and primary care, measured at the state level, predict individual morbidity as measured by self-rated health status, while adjusting for potentially confounding individual variables (L. Shi & Starfield, 2000). Reaching this goal requires that inequalities across population subsections be minimized to guarantee equal access. Because financing of healthcare is a crucial part in determining access, universal access to primary care services is better achieved under a national healthcare program (Shi & Singh, 2008). The ACA aimed to achieve the goals of equity, affordability, and access to primary care, including the integration of behavioral health into primary care.

On the one hand, the clinical system is accountable for providing quality care, producing patient satisfaction, using resources efficiently, and behaving in an ethical manner. On the other hand, patients are responsible for their own health to the extent that they can influence it. Patients are also responsible for judicious use of resources when they need healthcare. Partnership between a patient and a clinician is based on mutual trust, respect, and responsibility.
The Intersection of Individual and Population Health

Typical emphasis on the treatment of acute illness in hospitals, biomedical research, and high technology has not significantly improved the population’s health (Shi & Singh, 2008). Subsequently, the biopsychosocial model that blends the biological and the psychosocial dimensions of medicine to promote disease-prevention health outcomes by addressing chronic disease might make a difference. Society will continuously need the benefits of modern science and technology for the treatment of disease, but disease prevention, health promotion, and primary care can prevent certain health problems, delay the onset of disease, and prevent disability and premature death. An integrated approach will improve the overall health of the population, enhance people’s quality of life, and conserve healthcare resources (Shi & Singh, 2008). The real challenge for the healthcare delivery system is to incorporate the medical and wellness models within the holistic context of health, as some have argued the biopsychosocial model as an ideal representation of science and humanism in medical practice that is difficult to implement (Borell-Carrió et al., 2004).

The biopsychosocial model assumes that the nature of health is complex, as it comprises the interrelationships among the physical, mental, social, and spiritual dimensions of the patient. Therefore, another equally important challenge for the healthcare delivery system is to focus on both individual and population health outcomes. The challenge that the current healthcare system faces is how to translate this multidimensional framework of health into practice activities that are proficiently organized to achieve better individual and community health. Shi and Singh (2008) suggest that “for an integrated approach to become reality, resource limitations make it necessary to deploy the best American ingenuity toward health-spending reduction, elimination of wasteful
care, promotion of individual responsibility and accountability for one’s health, and improved access to basic services” (Shi & Singh, 2008., p. 68-69).

The Rise of Primary Care Behavioral Health Integration

According to the American Hospital Association, there were three driving factors for behavioral health integration: (1) increasing health coverage that includes behavioral health; (2) decreasing the total cost of care; and (3) managing a population’s health (American Hospital Association, 2014).

Healthcare Coverage

Expansion of healthcare coverage increased access and utilization of healthcare in the United States. Mazurenko et al. (2018) conducted a meta-analysis of 304 articles that showed improvement in coverage, utilization, and other access-related measures (Mazurenko et al., 2018). Among those articles that focused on access to care included 134 that examined insurance coverage (44.1%), 134 that examined the use of health services (44.1%), 15 that examined appointment availability or wait times (4.9%), and 21 that examined other access-related measures (6.9%) (Mazurenko et al., 2018). Three-fourths of the analyses reported improvements in insurance coverage following Medicaid expansion (Mazurenko et al., 2018). Upon a more detailed review of articles, Mazurenko et al. (2018) were able to associate that expansion with increased insurance coverage among all potentially eligible individuals, including major racial/ethnic groups, with largest coverage gains for adults without a college degree (Mazurenko et al., 2018). Additionally, Marurenko et al. (2018) discovered that Medicaid expansion led to a decrease in short- and long-term uninsured rates in the general population (Mazurenko et al., 2018). On the utilization front, the meta-analysis showed that more than half of the analyses that examined the use of health services reported improvements following Medicaid expansion (Mazurenko et al., 2018). Forty
percent of the analyses of appointment availability or wait times reported improvements in these outcomes following Medicaid expansion (Mazurenko et al., 2018). The conclusion was that expansion was associated with increases in the use of primary care mental health and preventative visits (Mazurenko et al., 2018), which makes primary care behavioral health integration essential.

The ACA designated mental health and substance use services as an essential health benefit in Marketplace plans and extended parity protections to the individual and small-group markets (Cowell et al., 2018). The ACA also required that coverage for behavioral healthcare be at parity with coverage for medical/surgical care, based on the parity protections defined previously by the Mental Health Parity and Addiction Equity Act of 2008, which required that employee-based insurance health plans have mental health coverage that is comparable to medical coverage in terms of treatment limits (i.e., number of visits) and financial requirements (i.e., comparable deductibles, coinsurance, and cost-sharing) (Cowell et al., 2018; Robertson-Preidler et al., 2020). Saloner & Maclean (2020) compared data between 2011-2013 and 2014-2015, which led them to attribute the decrease in the uninsured rate among individuals with behavioral health disorders to the ACA (Saloner et al., 2017). The uninsured rate among individuals with mental health disorders reduced by 6.8% and by 5.1% among those with substance use disorders, with new insurance coverage being largest among low income individuals (Saloner et al., 2017). In their 2021 publication, Saloner & Maclean (2020) revealed that admissions to specialty treatment for substance disorders steadily increased in the four years after Medicaid expansion, with 36% more people entering treatment by the fourth expansion year in expansion states compared to non-expansion states (Saloner & Maclean, 2020). Changes were largest for people entering intensive outpatient programs and for those seeking medication treatment for opioid use disorder. The share of admissions paid for by Medicaid increased 23 percentage points
in expansion states compared to non-expansion states, largely displacing treatment paid for by state and local governments (Saloner & Maclean, 2020). Saloner et al. attributed the gradual increase in specialty substance use disorder treatment admissions after Medicaid expansion to improving capacity and access to care (Saloner & Maclean, 2020).

**Cost of Care**

Cost of care is expected to continue to increase as more people can access healthcare, including behavioral healthcare, due to the implementation of the ACA. Mental health disorders are estimated to affect 18-21% of adults in the United States (Robertson-Preidler et al., 2020; NIMH, 2020) and top the list of the most expensive conditions in the United States, accounting for $201 billion in direct health care spending and $467 billion in direct and indirect cost due to lost earnings and public disability insurance payments (Roehrig, 2016). Mental health disorders are known to account for 23-32.4% of years lived with disability (YLDs) (Stewart & Wild, 2014; Vigo et al., 2016).

In a 2003 report on the Global Burden of Disease (GBD), depression was the leading cause of years lived with disability throughout the world (Chwastiak & Von Korff, 2003). The 2018 GBD report showed depressive disorders still ranking as the third leading cause of years lived with disability, which was higher than 351 other diseases and injuries assessed for 195 countries and territories in 2017 (Lubotsky & Ardis, 2020). A closer look by a large WHO primary care study revealed depression was associated with 6.1 disability days per month, more than any other chronic medical condition except advanced coronary artery disease (Chwastiak & Von Korff, 2003).

**A Population Health Approach**

A population health approach to conceptualizing and treating behavioral health will go a long way in mitigating cost and overall impact of behavioral health disorders. Nearly one in five
adults in the United States live with a mental illness (51.5 million in 2019) (NIMH, 2019). The burden of mental illness is particularly concentrated among those who experience disabilities due to serious mental illnesses (SMI). The National Institute of Mental Health defines 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” (NIMH, 2020, para. 4). Persons with serious mental illnesses die 25-30 years earlier than the general population due to health conditions that are modifiable through lifestyle changes (Pratt et al., 2019).

Notably, the clear and consistent association between depression and suicide makes it necessary to incorporate suicidal ideation in the formal diagnostic criteria for major depressive disorder (MDD) (Genuchi, 2019). From 1999 through 2018, the suicide rate increased 35% from 10.5 per 100,000 to 14.2 (CDC, 2015). From 2017 through 2019, suicide remained the tenth leading cause of death in the United States, accounting for 47,511 deaths (CDC, 2015), with a ranking of eighth for males and tenth among females in 2017 (CDC, 2015). The proportion of age-adjusted suicide deaths from 2018 through 2019 was 3.7 times higher among males than females in all age groups (Sagna et al., 2020). While suicide and injury account for about 30%-40% of excess mortality, 60% of premature deaths in persons with schizophrenia are due to medical conditions, such as cardiovascular, pulmonary, and infectious diseases (Sagna et al., 2020).

In the broadest use of the term, “integrated behavioral health care” can describe any setting or process in which behavioral health and physical health providers work together (Klein & Hostetter, 2014). In other words, this process represents the kind of care that results from a practicing team of primary care and behavioral health clinicians working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population. This care may address mental health, substance abuse conditions, health
behaviors (including their contribution to chronic medical illnesses), life stressors and crises, stress-related physical symptoms, and ineffective patterns of healthcare use (American Hospital Association, 2014). At the highest stage of behavioral health integration, the focus of care is not merely improving medical outcomes but managing population health and reducing the total cost (American Hospital Association, 2014).

These forces of the behavioral health disorder epidemic, disease burden that include indirect cost of care and indirect cost, and the increasing access to care mainly in primary care settings are pressuring primary care and behavioral health services to shift the landscape of healthcare service delivery towards IBHPC (Robinson & Reiter, 2007). Essentially, IBHPC simply is a model designed to improve population health by promoting more effective and efficient management of behavioral issues in primary care settings, which are in alliance with the goals of the ACA.

**Population Health and Primary Care Behavioral Health Integration**

The financial and delivery model of healthcare in the United States has historically emphasized specific services provided with maximum efficiency in specialized settings, which neglects the larger goals for care of a population of patients with multiple chronic and comorbid conditions, such as behavioral health disorders. Most likely, patients’ conditions are often unresponsive to treatment in a specialty care system that focuses on fixing or managing a single condition. Behavioral health conditions usually co-occur along with chronic and complex physical health conditions, such as diabetes, BMI, cardiovascular disease, and hypertension (Ma et al., 2017; McGinty et al., 2016; Ryu et al., 2016; Stockbridge et al., 2019). These conditions often have a bidirectional and cyclical interaction and, therefore, should be treated in concert. The use of a biopsychosocial model allows the interdisciplinary team in an integrated primary care setting
to conceptualize the diagnostic formulation of these comorbid conditions and pursue the proper treatment plan. Therefore, separate physical and behavioral health systems can lead to fragmented care delivery, poor health outcomes, higher healthcare costs, and duplication of services. Integrating behavioral health in primary care aligns with the original mission of primary care as defined by the Institute of Medicine in 1996 (Bruhn, 1999).

As many as 40% of all patients seen in primary care settings have a mental health disorder, with 27% of Americans suffering from substance use disorder during their lifetime (American Hospital Association, 2012). Eighty percent of patients with behavioral health concerns present in the emergency department of primary care clinics where the providers lack the time, training, and staff resources to recognize and treat behavioral health conditions (Klein & Hostetter, 2014). Therefore, an estimated 60% to 70% of patients with behavioral health disorders do not receive the care they need (Klein & Hostetter, 2014). Behavioral health disorders are associated with comorbid chronic conditions with 68% of adults with mental health disorders having comorbid chronic physical health conditions and 29% of adults with chronic physical health conditions having mental health disorders (American Hospital Association, 2014).

As a result of this significant association between behavioral health and physical comorbid conditions, it is not surprising that about three-quarters of the patients on caseload for primary care are likely to have a clinical problem with a significant psychological or behavioral component (Robinson & Reiter, 2007). Most patients with psychological issues seek help from their primary care physician, not from a specialty mental health provider (Mojtabai & Olfson, 2018; P. S. Wang et al., 2005). Furthermore, caring for patients’ emotional well-being plays an important part in preventing, diagnosing, and treating the top leading causes of death in the United States (CDC, 2014). Everywhere in the United States, people of all ages, cultures, and socioeconomic statuses
visit primary care settings, making it the patient’s first point of entry into the healthcare system and focal point for future healthcare needs (Robinson & Reiter, 2007). Thus, of all healthcare settings, primary care involves the widest range of services (Robinson & Reiter, 2007), which makes primary care settings a gateway for many individuals with behavioral health and primary care needs.

**Improved Identification of Undiagnosed Health Conditions**

Improved identification of health conditions is a major goal in population health. Primary care settings are often the gateway to identifying undiagnosed or untreated mental health disorders, particularly for people with comorbid physical health conditions (Sanchez et al., 2017). In addition, a targeted diagnosis formulation is critical given the chronic and complex comorbid conditions among the population. Wang et al. assert that a majority of adults (59%) in the United States do not receive care for behavioral health disorders (Wang et al., 2005). However, CDC National Center for Health Statics shows that 84.3% of adults and 93.6% of children were able to contact their primary care provider in 2018 (Ashman, et al., 2021). An argument could be made that, if most of these adults and children are undiagnosed for behavioral health disorders, they will most certainly be identified through an IBHPC model of care. They might only be seeking help for a sore throat or a physical condition, rather than for psychiatric or substance abuse problems. However, within an IBHPC model, the likelihood of these patients passing in and out of the clinic without the psychiatric problem being detected could be very low. Over the years, there has been an accumulation of evidence regarding the influence of promoting primary care on population health outcomes, such as prevention of illness and death. A review of evidence by Starfield et al. (2005) also shows that, compared to specialty care, primary care was associated with a more
equitable distribution of health in populations—a finding that holds in both cross-national and within-national studies (Starfield et al., 2005).

The Case for Integrated Behavioral Health

While the factors above represented the push factors for behavioral health integration into primary care, there are related pull factors that are driving the rise of behavioral health integration into primary care. Integration of behavioral health into primary care represents a worthwhile investment for the following reasons: (1) reduced overall health care costs, thus, representing the opportunity for shared savings for primary care practices; (2) improved health outcomes and for patients with mental illnesses and/or substance use disorders; (3) improved health behaviors, such as compliance with treatment and recommendations, exercise, and diet; and (4) increased access to behavioral healthcare.

Improved Health Outcomes

A quasi-experimental study by Balasubramanian et al. (2017), which involved patient interviews and was conducted as part of Advancing Care Together—a community demonstration project that created an innovation incubator for practices implementing evidence-based integration strategies—showed health outcome improvement out of a sample of 475 patients from 5 practice clinics. Statistically significant reductions in mean PHQ-9 scores were observed in all practices, ranging from 2.72 to 6.46 points. Clinically, 50% of patients had a >5-point reduction in PHQ-9 score, and 32% had a >50% reduction. This finding was corroborated by patient interviews that demonstrated positive experiences with behavioral health clinicians and acquisition of new skills to cope with adverse situations at work and home (Balasubramanian et al., 2017). A randomized trial by Druss et al. (2017) showed health outcomes for comorbid conditions, such as diabetes and hypertension, improved under an integrated behavioral health setting compared to a regular
primary care setting. For RAND quality measures for individual conditions, there was a significant difference in improvement for diabetes care (from 38% to 63% in the behavioral health home group and from 41% to 44% for the usual care group; p,0.001 for the group-by-time interaction) and hypertension care (from 71% to 84% for behavioral health home group, compared with a drop from 71% to 66% for the usual care group; p,0.001) (Druss et al., 2017).

**Improved Healthy Behaviors**

Physical health and behavioral health are intimately interrelated with one another, and it is estimated that currently at least 50% of all diseases are affected by behavioral factors, e.g., poor nutrition and exercise patterns, substance abuse, lack of adherence to prescribed medications, and sexual activities (Johnson et al., 2014; Lubotsky & Ardis, 2020). Surveys of physicians and residents show that only around 32% or less feel effective when counseling patients on smoking cessation, diet, exercise, and weight management (Foster et al., 2003). The integration of a behavioral health clinic into primary care enables the primary care clinic to engage patients to quit smoking, make healthy diet and exercise changes, or engage in safe sex.

**Reduced Healthcare Cost**

Several mechanisms have been suggested for the possible financial benefit of primary care behavioral health integration. These include improved clinical efficiency and overall cost reduction (medical cost offset). Improved clinical efficiency may occur when PCPs can hand off a patient who has a time-consuming (and potentially less reimbursable) behavioral health issue to the behavioral health clinician embedded in the practice, thereby increasing their availability for other patients who have other medical concerns with greater reimbursement potential (Vogel et al., 2017). Reduction in total health care costs realized with integrated primary care results in a decreased use of high cost/low value services, such as unnecessary emergency room services and
unwarranted use of diagnostic imaging (Vogel et al., 2017). The University of Washington’s Advancing Integrated Mental Health Solutions (AIMS) Center has reported that the care management model results in savings of 6:1 per dollar spent on healthcare (Vogel et al., 2017). Similarly, data from the IMPACT study demonstrated this intervention led to lower healthcare costs over a four-year period (Öztekin Long & Badre, 2008). Washington State Institute for Public Policy (WSIPP) published a more recent benefit-cost analysis, which determined that the benefits from care management of depression, either alone or accompanying medical conditions, exceeded the costs, suggesting a $7.21 – $8.73 benefit-to-cost ratio (WSIPP, 2015). Applying primary care behavioral health integration within a capitated system within the U.S. Air Force was found to reduce pharmacy costs by 13%, ancillary health costs by 6%, and pharmacy expenditures per member per quarter total costs by 9% (Vogel et al., 2017).

**Increased Access to Behavioral Healthcare**

Roughly 30%-50% of patient referrals from primary care to an outpatient behavioral health clinic do not make the first appointment (Fisher & Ransom, 1997). A study by Auxier et al. (2012) demonstrated that primary care integration of behavioral health improved the rates of initial contact for behavioral health services, with 81% having their initial contact and 71% of the participants securing a visit with the behavioral health clinician on the same day as their medical appointment, which generated the referral (Auxier et al., 2012). In order to maximize the chances of higher rates of behavioral health treatment initiation than what is commonly achieved through referral to specialty mental healthcare, primary care practices should integrate on-site behavioral health services.
Barriers to Access and Stigma

Most definitions of care access often include factors that influence a person’s contact and use of services. Penchansky and Thomas (1981) described access to care as consisting of five dimensions: availability, accessibility, accommodation, affordability, and acceptability (Penchansky & Thomas, 1981). Levesque et al. (2013) also define access in five dimensions of accessibility: approachability, acceptability, availability and accommodation, affordability, and appropriateness (Levesque et al., 2013). The *Canadian Oxford Dictionary* (2nd ed.) presents the etymological definition of access as “a way of approaching, reaching, or entering a place, as the right or opportunity to reach, use or visit.” In the context of healthcare, access is always defined as the opportunity or ease with which “consumers or communities are able to use appropriate services in proportion to their needs” (Daniels, 1982; Whitehead, 1992). Mooney sees access as a function of both supply and demand (Mooney, 1983). Therefore, access to healthcare is a product of supply factors, such as the location, availability, cost, and appropriateness of services, as well as demand factors, such as the burden of disease and knowledge, attitudes and skills, and self-care practices (Aday & Andersen, 1974; Gulliford et al., 2002).

While the ACA Medicaid expansions were associated with increased utilization of healthcare (Wherry & Miller, 2016), improving the ability to pay through expanded insurance coverage may not automatically create demand for and access to healthcare. The health market demand curve reflects an individual’s willingness to pay for healthcare benefits, not just the ability to pay (Mooney, 1983). A study by the WHO revealed that attitudinal barriers were much more critical than structural barriers to both initiating and continuing treatment (Andrade et al., 2014). These attitudinal barriers are based on social predisposing factors, such as gender, ethnicity, and education levels. A systematic review of studies showed evidence of linking increased likelihood
of service use with female gender; Caucasian ethnicity; higher education levels; and being unmarried (Roberts et al., 2018). Removing structural barriers, such as cost of care, by improving the system of finances for healthcare benefits should be accompanied by improving access to care. However, help-seeking attitudes among men still poses a barrier for access to mental health services.

**Masculinity and Help-Seeking Attitudes and Behaviors**

Being male is negatively associated with one’s willingness to seek mental health support (Gonzalez et al., 2011; Sagar-Ouriaghli et al., 2019) and is a significant predictor of help-seeking attitudes (Benuto et al., 2020; Nam et al., 2010; Picco et al., 2016). Findings of a systematic review suggest conformity to traditional masculine norms has a threefold effect on men experiencing depression, impacting: (1) their symptoms and expression of symptoms; (2) their attitudes to, intention, and, actual help-seeking behavior; and (3) their symptom management (Seidler et al., 2016).

**Attitudes**

Attitudes are reflected in low service use, which is consistently observed across Western countries (Sagar-Ouriaghli et al., 2019). Traits associated with traditional masculinity include stereotypes of stoicism, invulnerability, and self-reliance, which are frequently discussed as they do not fit comfortably with psychological help-seeking (Lynch et al., 2018; Parent et al., 2018; Tang et al., 2014). Negative emotions are often perceived as a sign of weakness, discouraging men from reaching out to friends (Pirkis et al., 2017). A systematic review by Yousaf et al. (2015) revealed that the need for independence and emotional control by men were prevalent in the literature. Also, these traits fit well within the themes of masculinity because men often see these traits of being in control and independent as central to their masculine self-concept (Yousaf et al.,
This negatively impacts men’s overall help-seeking behaviors and their expression of symptoms (Seidler et al., 2016). Instead of seeking help, men engage in other coping skills related to symptom externalization.

**Differences in Coping with Symptoms of Mental Health Conditions**

Men cope with mental health difficulties differently as compared to women, demonstrating an increased tendency to self-medicate with alcohol and drugs to alleviate emotional distress (Sagar-Ouriaghli et al., 2019). This is supported by higher prevalence rates of substance use disorders in men (Nolen-Hoeksema, 2004; Sagar-Ouriaghli et al., 2019), which is generally considered as a function of externalization of depression symptoms alongside other behaviors, such as irritability and hostility and aggression towards others and self, including suicide (Brownhill et al., 2005). An externalization of depression symptoms goes on while patients underreport other typical symptoms of depression (Sagar-Ouriaghli et al., 2019). Globally, males are 1.8 times more likely to take their own lives compared to women (Chang et al., 2019; WHO, 2019). However, in Western countries, the male-to-female suicide ratio is notably higher. Men in Western countries are four times more likely to commit suicide compared to their female counterparts (Sagar-Ouriaghli et al., 2019). Another explanation for poor service use relates to differences in coping strategies.

The systematic review by Yousaf et al. (2015) revealed gender role conflict—the distress caused by the clash between the gender roles that one is trying to follow, and one’s need to behave contrary to those norms—was also identified as a barrier to seeking help in significant articles. The research also discovered that men’s restricted emotional expression (also referred to as “emotional control,” “guarded vulnerability,” and “negative attitudes towards emotional expression”), which is a view that men should not express negative emotions, was identified as a
barrier to seeking help (Yousaf et al., 2015, p. 271). Furthermore, men expressed a reluctance to seek professional help with their depression, despite their high distress, because they did not want to talk about their emotions (Yousaf et al., 2015). In addition, men were shown to have a tendency of non-disclosure of emotion with participants, commenting that men are not “supposed to” talk about their emotions and that they should be able to cope with problems on their own (Yousaf et al., 2015). Embarrassment was found to be the strongest predictor of male non-help-seeking for mental health. Embarrassment functioned at multiple stages of the help-seeking process: (1) men felt embarrassed and out of place already at the clinic reception due to the lack of familiarity with the system, (2) they also reported being embarrassed to mention personal issues to the provider, and (3) they were not comfortable getting undressed in front of the provider (Yousaf et al., 2015).

However, another systematic review has revealed many studies that address traditional masculine ideals, including expectations, such as being strong, successful, self-reliant, in control and capable, along with an emphasis on avoiding emotions (Krumm et al., 2017). Male gender norms were frequently described as a consequence of traditional masculine gender socialization, and many respondents were aware of the adverse effects on their mental health of these often unrealistic male role expectations and social pressures to perform well as family providers, fathers, partners or “good workers” (Krumm et al., 2017; Staiger et al., 2020).

**Symptoms, Attitudes, and Behaviors Across the Lifespan**

Bromley et al. (2016) noted that “depression is experienced as located within and inextricable from relational space and that the self is experienced as relational, rather than autonomous, in depression.” (Bromley et al., 2016, para. 1). They further explain that “relational space marks the contours of the valued social context where one’s most intimate interactions and interdependence occurs” (Bromley et al., 2016, para. 4). In this study, this kind of space would
include relationships indicated as married, living with a significant other or domestic partner, and living as single, divorced, legally separated, or widowed as the social contexts of intimate interactions.

Consistent with prediction, cross-sectional data reported that conformity to masculine norms attenuated throughout the lifespan. Further, both samples indicated that the relationship between masculinity and depression increased with age. Findings are interpreted within the context of men resolving gender-role–related conflicts across the lifespan (Rice et al., 2011). Conformity to masculine norms decreased significantly with age. However, models predicting depression generally showed that a higher conformity to masculine norms was associated with an increased risk of current depressive symptoms, especially in the oldest age group. Conversely, higher conformity was associated with a decreased likelihood of a self-reported 12-month depression history, although nuances were present between age groups, such that this trend was not evident in the oldest age group (Herreen et al., 2021). Since men with male-typical symptoms had an overall higher likelihood of seeking help from a medical provider rather than a mental health provider (Bridges et al., 2014; Call & Shafer, 2018), there is a high likelihood that integrating behavioral health services into primary care clinics could make a difference in men seeking help for behavioral health conditions.

**Approaches to the Integration of Primary Care and Behavioral Health**

**Figure 5** represents an elaborate description of the stages or evolution of integration. The illustration also describes the three essential functions of interdisciplinary teams for each stage of integration across the continuum.
There two main approaches to integrating behavioral health and primary care. The first approach seeks to integrate behavioral health services into primary care clinics. The second approach seeks to integrate basic primary care into specialty behavioral health clinics.

**The first approach** is a multifaceted healthcare delivery approach that is geared towards addressing behavioral health concerns in primary care clinics. Under the approach that integrates behavioral health into primary care clinics, there are five commonly used models for behavioral health services.

<table>
<thead>
<tr>
<th>Function</th>
<th>Stage of Integration</th>
<th>Coordinated</th>
<th>Co-located</th>
<th>Integrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-centered Care Team</td>
<td>• Care is referral triggered with periodic exchanges between behavioral health and physical staff. Treatment plans are mostly separate. Clinic workflows usually exist without common information tools such as registries. • Most physical and behavioral care services are delivered in separate settings.</td>
<td>• Physical and behavioral care services are delivered in the same setting, promoting communication and spontaneous, interdependent consultations. • This model reduces barriers to patient access and follow through but does not consistently coordinate treatment by the care team. Often, information tools such as registries or automated coordinating functions are used.</td>
<td>• A patient-centered care model exists, integrating the treatment plans developed by behavioral health clinicians and other medical staff. Capacity is developed by building consultations as needed for total care. Patients are tracked in a registry.</td>
<td></td>
</tr>
<tr>
<td>Shared Population and Mission</td>
<td>• Physical and behavioral health clinicians understand the concepts of the whole person model of care and total health outcomes but take responsibility primarily for their own aspect of a patient’s care.</td>
<td>• All clinicians embrace the goal of the whole person care model and understand that it is their responsibility for the total health outcomes of their patients. Additionally, some systems monitor and report treatment plans and total health outcomes to providers and staff.</td>
<td>• All clinicians understand and embrace the whole person care model, take responsibility for the total health outcomes—and carry out and adjust care for their entire patient population. This model has expanded connections within the community.</td>
<td></td>
</tr>
<tr>
<td>Systematic Clinical Approach</td>
<td>• There are some protocols and shared workflows, but they are mostly informal or driven differently from provider to provider.</td>
<td>• Many protocols and shared workflows are established, but not for all processes of integrated care, and they are not consistently</td>
<td>• Protocols and shared workflows are established for nearly all processes of integrated care and, in most cases, are implemented consistently.</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5. Approaches to the Integration of Primary Care and Behavioral Health
Adapted from the Agency for Healthcare Research and Quality
Behavioral Health Lexicon (2011)
health integration with components that can be conceptualized as structures of care, processes of care, or principles of care. The first of five models under this approach is the AHRQ Framework for Primary Care.

Based on nine components, the AHRQ Framework for Primary Care model integrates care team expertise, clinical workflow, patient identification, patient and family engagement, treatment monitoring, leadership alignment, operation reliability, business model sustainability, and data collection and use (American Hospital Association, 2014). Although integrated behavioral health in primary care has spread rapidly over the past three decades, significant questions remain unanswered regarding best practices. As with many paradigm shifts, the Agency for Healthcare Research and Quality (AHRQ) developed a Lexicon for Behavioral Health and Primary Care Integration that describes the three stages of integration continuum. These include coordinated care, co-located care, and integrated care across the three functions of (1) Patient-centered Care Team, (2) Shared Population and Mission, and (3) Systematic Clinical Approach (American Hospital Association, 2014). Patients receive a standardized screening upon entering the care site. A primary care physician or behavioral health specialist conducts the screening. Other models within the first approach to integration include the IMPACT, Three-Component Model (TCM), Co-located Collaborative Care, and the 6P Framework.

**IMPACT**

IMPACT is a collaborative care model designed to treat chronic diseases in older adults who also have depression. The term IMPACT originates from the IMPACT study of the first large randomized controlled trial of depression treatment, which demonstrated that collaborative care more than doubled the effectiveness of depression treatment for older adults in primary care settings (Unützer et al., 2002). Using a team-based approach that includes care manager, primary
care provider, and behavioral health specialists, depression is managed from the primary care setting. The care team uses a three-step, evidence-based approach in which consultations and care plans are jointly created and monitored by the primary care provider and the behavioral health specialist (American Hospital Association, 2014; Unützer et al., 2002). Patients receive routine screening for depression, as well as more intensive care during the acute and maintenance phases. A care manager, nurse, or psychologist provides education, care management, and medication support or psychotherapy, with regular telephone follow-ups for a year (weekly at first, and then less frequently as depression lessens) (American Hospital Association, 2014; Unützer et al., 2002). If the hospital or care system has decided to target depression, IMPACT specifically addresses screening for this illness.

**Three-Component Model (TCM)**

TCM is care management provided from a centralized location in an organization or a local practice, with a spectrum of services provided (American Hospital Association, 2014; Auxier et al., 2016). Critical to the success of this model is patient education, counseling for treatment adherence, and communication with other clinicians involved with the patient’s care (American Hospital Association, 2014; Auxier et al., 2016; Gerrity, 2016). The behavioral health specialist supervises and provides guidelines for the care manager, provides consultation services to the primary care physician, and facilitates appropriate use of additional behavioral health resources (American Hospital Association, 2014; Vogel et al., 2017). The physician conducts screening based on a referral provided to a behavioral health specialist. Screening may be standard or catered to the setting (American Hospital Association, 2014; Auxier et al., 2016).
Co-Located Collaborative Care

A co-located collaborative care model has behavioral health specialists located on-site within a care setting, who provides services to the patients at the clinic in a collaborative manner with the other clinicians (American Hospital Association, 2014; Dundon et al., 2011). Co-located behavioral health specialists provide more traditional psychotherapy regimens (American Hospital Association, 2014; Dundon et al., 2011). Another key feature of this model is triage, during which the level of care is increased depending on the patient’s need, risk, or severity, and ranges from behavioral health consultation, to specialty consultation, to fully integrated care (American Hospital Association, 2014). Patients may receive standardized screening upon entering the care site. A primary care physician or behavioral health specialist conducts the screening. (Dundon et al., 2011).

The 6P Framework

The 6P Framework incorporates six group stakeholders: (1) patients/consumers, (2) providers, (3) practice/delivery systems, (4) plans, (5) purchasers, and (6) populations/policies (American Hospital Association, 2014). This framework includes economic considerations and innovative financial incentive arrangements, which encourage the collaboration between care providers and payers (Auxier et al., 2016). This model provides a framework for treating depression in the primary care site by outlining several care components (American Hospital Association, 2014; Auxier et al., 2012). These components include the leadership team, decision support to enhance adherence to evidence-based treatment guidelines, delivery system redesign (e.g., use of patient registries), clinical information systems, patient self-management support, and community resources (American Hospital Association, 2014).
The second approach is often regarded as Reverse Integration. The approach is specifically designed for patients with severe behavioral illnesses, wherein primary care is provided within a specialty behavioral setting through co-location, or care coordination (American Hospital Association, 2012). Certified Community Behavioral Health Clinics (CCBHC) established by the Excellence in Mental Health Act of 2014 (Hu et al., 2021) could be seen as representing a true Reverse Integration approach. The Excellence in Mental Health Act of 2014 envisioned CCBHCs as behavioral health specialty clinics that provide whole-person care by integrating physical health with a comprehensive range of mental health and substance use disorder services to vulnerable individuals (Chung, et al, 2020). Whole-person care means considering all aspects of a person’s health, including their physical, mental, and behavioral health, as well as their socioeconomic status, housing situation, and other social determinants of health that can exacerbate health issues. (National Council for Behavioral Health, 2020). The approach seeks to provide nine categories of behavioral health services, either directly or by contracting with partner organizations. The service categories include

1) Screening, assessment, and diagnosis
2) Primary care screening and monitoring
3) Crises care mental health services
4) Patient-centered treatment planning
5) Outpatient mental health and substance use services
6) Targeted case management
7) Psychiatric rehabilitation services
8) Peer support, counseling, and family support services
9) Veteran services (Substance Abuse, 2016a)

The expectation for this approach is that all patients are screened for behavioral health at the beginning of an appointment, and a full spectrum of services from primary care to specialized care is provided under a single roof or is contracted through a close partnership (National Council for Behavioral Health, 2020). The CCBHCs represent an opportunity for states to improve the behavioral health of their citizens by providing community-based mental and substance use disorder services, advancing integration of behavioral health with physical healthcare, assimilating and utilizing evidence-based practices on a more consistent basis, and promoting improved access to high quality care (Substance Abuse, 2016b). Care coordination is the linchpin holding these aspects of CCBHC care together and ensuring that CCBHC care is, indeed, an improvement over existing service (Substance Abuse, 2016b). Enhanced federal matching funds made available through this demonstration for services delivered to Medicaid beneficiaries offer states the opportunity to expand access to care and improve the quality of behavioral health services (Substance Abuse, 2016b).

**Operational Structures of an Integrated Behavioral Health Primary Care Clinic**

This study focuses on the practice of integrating behavioral health into primary care clinics. Several books and articles describe the processes and structures of an integrated primary care clinic (Auxier et al., 2012; Duckworth & O'Donohue, 2018 p. 3-8; Gold et al., 2017; Gold & Green, 2019 p. 14-29; Hodgson et al., 2020; Martinez et al., 2019; McGough et al., 2016; Vogel et al., 2017), but Robinson and Reiter (2007) present the most practiced processes in behavioral health integration. While there are many models with multiple variations within this approach, as noted above, a fully integrated model has similar operational structures and processes designed to assess conditions and treatment responses. Some key elements include the following: periodic population
screening to catch undiagnosed illness; warm handoffs to reduce barriers to transitioning into mental healthcare; guidance from behavioral health specialists acting as consultants rather than direct service providers; assessment and triage to short-term therapy or coaching, which provides individual benefits while enabling access by freeing up professionals from long-term engagements; and coaching for substance use disorder (American Hospital Association, 2014; Chapman et al., 2017; Eaves et al., 2020; Miller et al., 2009; Ramanuj et al., 2019). All of this requires design input and clinical backup from psychiatric specialists, but, for the most part, may be delivered by non-physician professionals, such as psychologists, clinical social workers, or master-level mental health counselors (McGough et al., 2016; Robinson & Reiter, 2007). Clearly the more specialized services required for moderate to severe mental illness go well beyond what the typical integrated primary setting can offer.

Warm Handoffs

One of the key practices of integrated behavioral health care is a warm handoff. Integrated behavioral health programs often encourage primary care physicians to refer patients by means of a personal introduction (warm handoff). Notably, data are limited regarding the benefits of warm handoffs. However, Pace et al. (2018) conducted a retrospective multivariate analysis of data for patients referred to behavioral health clinicians via warm handoffs. Data was from adult primary care patients referred to behavioral health clinicians in an urban, safety-net hospital to investigate the association between warm handoffs and attendance rates at subsequent initial behavioral health appointments (Pace et al., 2018). In multivariable analyses, patients referred via warm handoffs were not more likely to attend initial appointments. A prospective study is necessary to confirm the role of warm handoffs (Pace et al., 2018).
Initial Consults

After the warm handoffs come the initial consult with the behavioral health clinician (BHC) who might be a psychologist, clinical social worker, or master-level mental health professional. According to Robinson and Reiter (2007), the BHC provides two basic services: brief consultative interventions and pathway-related services (Robinson & Reiter, 2007). Brief interventions serve at least one of three purposes: preparation for a Primary Care Provider (PCP) appointment (PCP-prep), medication assistance, or care augmentation (Robinson & Reiter, 2007). Initial consults are always brief consultative interventions and may be pathway related when the BHC refers the patient to specialty care. The components of the initial consult or visit are illustrated in Figure 6 below.

![Figure 6](image_url)

**Figure 6.** Components of Behavioral Health Initial Consult/Visit | Sources: Robinson & Reiter (2007)

The initial consult involves an introduction, questions about the patient’s life context, a functional analysis of the target problem for the consult, and, of course, charting and feedback to the team (Robinson & Reiter, 2007). The amount of time available for the initial visit determines...
how much detail the BHC goes into, but each component is addressed regardless of the visit length. If the visit lasts the usual 30 minutes, then completion of an outcome measure is also included (Robinson & Reiter, 2007).

Each initial consult begins with an introduction (often by the PCP) to the BHC service to ensure the patient understands the BHC’s role and what to expect from the visit. Experts identify this as particularly important given the differences between a BHC visit and what patients might have experienced with more traditional mental health visits (Robinson & Reiter, 2007). At both initial and follow-up BHC visits, the BHC usually asks patients to complete a routine self-report measure. For clinics that target the treatment of depressive disorders, only patients who screen positive for PHQ-2 are referred for the initial consult with a BHC. Lipson et al. (2019) used the standard PHQ-2 cutoff of ≥3 as a positive screen for depression. Different clinics may use different cutoff scores. A PHQ-9 is often administered during the initial BHC consult.

**Life Context Questions**

An effective BHC asks brief, friendly, straightforward questions about family, social, work/school, recreation, and selfcare. Experts recommend closed rather than open-ended questions in order to promote efficiency, while delivering questions in a conversational style and curbing the urge to document the patient’s whole psychosocial history as is the practice in specialty mental health clinics (Robinson & Reiter, 2007).

**Functional Analysis**

The second task during the initial consult is completing the functional analysis. Robinson and Reiter (2007) identify three components of functional analysis during the initial interview: (1) problem specification, (2) problem conceptualizations, and (3) identification/teaching of alternative behaviors. In problem specification, the goal is to identify or negotiate the target
behavior for the consult. Problem conceptualization involves generating one or more hypotheses based on the results of problem specification information. Functional analysis concludes with identification/counseling of alternative behaviors (Robinson & Reiter, 2007).

**Follow-Up Consult Versus New Initial Consult**

Follow-up and new initial consults might not be clearly distinguishable. According to Robinson and Reiter (2007), patients will sometimes be referred for one problem, only to return a couple of months later with a different problem. Alternatively, patients may be referred back to the BHC numerous times over a period of years and always for the same problem, as it waxes and wanes (Robinson & Reiter, 2007). Therefore, deciding whether to classify a visit as a new initial or follow-up makes a difference because it informs the BHC’s goals during the visit; in turn, visit goals affect the content and the amount of time required (Robinson & Reiter, 2007). Differentiating also makes a difference from a program evaluation standpoint, since tracking the number of new versus follow-up appointments provides a measure of model fidelity (Robinson & Reiter, 2007).

*Figure 7* represents the components of a behavioral health follow-up visit.

Robinson and Reiter (2007) recommend that, regardless of time elapsed since an initial visit, when a patient returns to the BHC with a new reason for referral, it is usually best to treat this consult as a new initial visit. This means defining a new target behavior in relation to the new referral reason and conducting a new functional analysis and plan (Robinson & Reiter, 2007). Practitioners assume that patients returning with a new referral problem more than six months after an initial visit with the BHC may have experienced changes in life context, so at least a quick check on the patient’s life context is warranted (Robinson & Reiter, 2007). When a patient is referred back to the BHC six months or more after an initial consult for the same problem, the
BHC will likely need to update both life context and functional analysis information (Robinson & Reiter, 2007).

Although over half of PC consultations are usually single consults, a significant number of patients come for planned follow-up visits with the BHC (Robinson & Reiter, 2007). Most planned follow-ups occur within 1–2 months of the initial consultation (and maybe much sooner if the patient is considered high risk). Some patients may return to the BHC without having made plans for a follow-up visit due to worsening stress that interferes with implementing the initial plan, having relapsed after initial improvement, or having a new problem (Robinson & Reiter, 2007). Whether a patient visits the clinic for the initial time or returns for follow-up consultation, BHC should measure outcomes, assess improvement, and implement a plan that follows problem specification, conceptualization, and coaching/counseling of new behaviors. This requires consistent measurement of both individual patient condition and progress.
Integrated Behavioral Health Primary Care Practice Measures

Behavioral Health Disorders Screening

Screening for behavioral health conditions, such as depression, substance use disorders, or counseling for smoking, has become the most prominent and public health practice model that demonstrates the effectiveness of integrated behavioral health care (Talen & Burke Valeras, 2013). Within medical settings, “screening is the systematic application of a test or inquiry to identify individuals at sufficient risk of a specific disorder to warrant further investigation or direct preventive action, amongst persons who have not sought medical attention on account of symptoms of that disorder” (Wald, 2001).

According to Duckworth and O’Donohue (2018), a key building block to the viability of integrated care is the development and implementation of reliable, valid, and realistic screening protocols for behavioral health problems so as to allow for adequate detection and informed clinical decision-making. Different tools are commonly used for different behavioral health conditions.

Substance use screening in integrated primary care is accomplished through a Screening, Brief Intervention, and Referral to Treatment (SBIRT) approach. SBIRT is a comprehensive, integrated, public health approach for the delivery of early intervention and treatment services for persons with substance use disorders, as well as those who are at risk of developing these disorders. Primary care centers, hospital emergency rooms, trauma centers, and other community settings provide opportunities for early intervention with at-risk substance users before more severe consequences occur (SAMHSA).

- Screening quickly assesses the severity of substance use and identifies the appropriate level of treatment.
• Brief intervention focuses on increasing insight and awareness regarding substance use and motivation toward behavioral change.

• Referral to treatment provides those identified as needing more extensive treatment with access to specialty care (SAMHSA).

The CAGE is a 4-item brief screener for alcohol abuse and dependence that may be a useful addition to brief primary care practitioners in settings serving potentially vulnerable populations (Ewing, 1984). CAGE is an acronym for the focus of the questions:

C – Cutting down: Have you ever felt you should cut down on your drinking?

A – Annoyance by criticism: Have people annoyed you by criticizing your drinking?

G – Guilty feeling: Have you ever felt bad or guilty about your drinking?

E – Eye openers: Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover?

Each of the four questions of CAGE questionnaire can be answered with a simple yes or no response. The CAGE is efficient and simple to score with only the four items listed above. The CAGE has demonstrated adequate sensitivity and specificity in adult primary care settings, and its brevity makes it ideal for fast-paced healthcare delivery (Pilowsky & Wu, 2012).

The Patient Health Questionnaire (PHQ-9 or PHQ-2) is not only the most commonly used instrument for screening depression but, for good reason, is considered the gold standard of broad and general screeners (Duckworth, 2018). The PHQ is a brief, self-report screening instrument for prevalent psychopathology in an integrated or primary care setting (Spitzer et al., 1999). Besides screening for major depressive disorders and other depressive disorders, it assesses for the symptoms of mental health conditions, such as panic disorder, other anxiety disorders, bulimia nervosa, alcohol use or dependence, somatization, and binge eating disorders (Duckworth, 2018).
However, since the assessment is based upon patient self-report only, the PHQ cannot be used as a diagnostic tool.

On the other hand, the PHQ offers the added benefit of having additional associated diagnosis-specific screening questions (Duckworth, 2018). Although the PHQ cannot be considered a diagnostic instrument, the structure of the instrument clearly supports clinical decision-making with regard to differential diagnoses (Duckworth, 2018). It takes under five minutes to administer, which makes it easier to mainstream usage in primary care settings (Spitzer et al., 1999). In addition, the PHQ has been validated for use in primary care settings, as well as in detecting depression in specific clinical populations including prenatal women, individuals with high-risk anxiety, cancer, stroke, and ischemic attack (Muntingh et al., 2013; Prisnie et al., 2016; Randall et al., 2013; Sidebottom et al., 2012).

According to PRIME-MD, a score of 1-4 on PHQ-9 represents minimal depression; 5-9 represents mild depression; 10-14 represents moderate depression; 15-19 represents moderately severe depression; and a score of 20-27 represents severe depression (Spitzer et al., 1999). Since the questionnaire relies on patient self-reporting, all responses should be verified by the clinician, and a definitive diagnosis is made on clinical grounds, taking into account how well the patient understood the questionnaire, as well as other relevant information from the patient. Diagnoses of major depressive disorder or other depressive disorder also require impairment of social, occupational, or other important areas of functioning (Question #10) and ruling out normal bereavement, a history of a manic episode (bipolar disorder), and a physical disorder, medication, or other drug as the biological cause of the depressive symptoms (Spitzer et al., 1999). Other tools that have been less frequently studied for use in screening are the Duke Health Profile (DUKE),
the General Health Questionnaire (GHQ), and Behavioral Health Questionnaire (BHQ) (Duckworth, 2018).

The integrated primary care setting is designed to provide not just a stopgap between referral and receipt of specialty mental healthcare services, but to provide appropriate and adequate screening and intervention when and where care is initially sought, reserving specialty mental healthcare for situations or cases that exceed the short-term model of care in IPC either because of duration or severity of clinical presentation (Duckworth, 2018).

**Behavioral Health Utilization Measures**

In addition to addressing mental health and substance use disorders, health behaviors, life stressors and crises, and stress-related physical symptoms, integrated behavioral health is designed to address ineffective patterns of healthcare utilization (Gold & Green, 2019). Important to the study of mental health services utilization is the variety of professionals that provide services utilized by mental health providers. These providers include psychiatrists, psychologists, licensed clinical social workers, psychiatric mental health nurses, licensed mental health counselors, and primary care physicians trained specifically to manage mental health disorders. These professionals possess varied educational and training backgrounds and may provide highly individualized or more generalized support and treatment.

There is a wide range of utilization measures used to capture improvement in mental health services utilizations among the professionals. Depending on the research questions, goals, and/or data sources, the most applied utilization-variable attributes included therapy or counseling appointments, emergency, and inpatient and outpatient psychiatric service episodes. These variables can either be reported as a nominal level of measurement indicating service utilization or no service utilization or as a discrete interval level of measurement indicating number of
appointments or episodes (Broadbent et al., 2008; Chaput & Lebel, 2007; Graca et al., 2013; Hundt et al., 2014; Lindamer et al., 2012; Morlino et al., 2011; Pasic et al., 2005; Roick et al., 2004; Vandyk et al., 2014).

Several studies reported mental health services utilization by quantifying how many mental health service episodes occur in a period ranging from three months to 15 years (Broadbent et al., 2008; Chaput & Lebel, 2007; Graca et al., 2013; Hundt et al., 2014; Lindamer et al., 2012; Morlino et al., 2011; Pasic et al., 2005; Roick et al., 2004; Vandyk et al., 2014). The studies reported the number of discrete utilization events within a defined time period.

Other studies measure utilization at nominal level with an attribute of Yes/No for use of mental health services (Lipson et al., 2018; Deen et al., 2012; Cooper-Patrick et al., 1999). Use of mental health services included inpatient and outpatient services that involved medication or consultation or talking to a mental health professional, such as a psychiatrist, psychologist, social worker, and/or a counselor (Lipson et al., 2018; Deen et al., 2012; Cooper-Patrick et al., 1999). Of note was the fact that the nominal measurement level was time bound and varied. Study outcomes were often related to mental health service utilization in the past six months, past-year therapy or counseling, past-year psychotropic medication use, past-year treatment (therapy or counseling and medication use), and lifetime diagnosis of a mental health condition (Deen et al., 2012; Lipson, et al., 2018; Goodwin et al., 2002; Cooper-Patrick et al., 1999).

**Review of Literature Summary**

The historical primary care model assumption of preventative care that is universally accessible to the community has been a major driver of how primary care services are organized and delivered. Primary care services in most developed countries, including the United States, are organized so that primary care is the point of entry into the healthcare system and also provides a
point of service coordination between patient and various services within the healthcare system, delivering essential care that focuses on population health. To achieve the goals of population health while working with individual patients, primary care was challenged to adopt the biopsychosocial model that incorporates the medical and wellness models within the holistic context of health. The adoption of the biopsychosocial model contributed to a practice of integration of behavioral health in primary care clinics alongside other factors, such as improved outcomes and care cost among behavioral health patients.

The stigma of a mental health disorder diagnosis has been a major challenge in patients seeking treatment for such diagnoses. This challenge is most significant among men. Male gender norms were frequently described as a consequence of traditional masculine gender socialization, and many respondents were aware of the adverse effects on their mental health of these often unrealistic male role expectations and social pressures to perform well as family providers, fathers, partners, or “good workers” (Krumm et al., 2017; Staiger et al., 2020). Integrating behavioral health service with primary care is more likely to change men’s attitude toward the uptake of mental health treatment.
CHAPTER III

METHODOLOGY

Rationale for Methodology

This study is designed to examine the influence of integrated behavioral health in a primary care setting on the use of mental health services and depression treatment response among men. The study uses quantitative methods to understand the influence of integrated behavioral health primary care setting on mental health services use and depression treatment response among men. The investigation applies a retrospective cross-sectional design in examining the association between care setting and the two outcome variables. Secondary data on 648 male patients from the two care settings, which included six integrated behavioral health primary care clinics and another six non-integrated primary care clinics, are represented in the study sample. Both sample groups were selected from the same metropolitan service area in the state of Washington. To answer the two research questions, the investigation designed two models, as illustrated in Figures 3 and 4. Based on evidence from the literature review, specific covariates were included in each model in order to control for their confounding effect on each outcome. Figure 8 shows a list of covariates included in each model based on the outcome variable of interest.

Integrated behavioral health primary care clinics were considered the focus group, while the non-integrated primary care clinics were included as the reference group. In this study, integrated clinics included behavioral health clinicians who provide behavioral health consultation with patients. The non-integrated clinics did not have behavioral health clinicians and tended to refer behavioral health patients to other providers outside the practice clinics. These two care settings were compared to determine mental health services use and depression treatment response among men.
Conceptual Framework

Medical practice integration is based in a biopsychosocial systems perspective of health and wellness (Curtis et al., 2012). Effective integration is associated with a set of common elements, including team-based care delivery, a patient-centered orientation, care coordination, and a population-based approach (Hanson & Gluckman, 2011; Havelka et al., 2009). While the most common application of integrated care incorporates behavioral health services into primary care settings, effective healthcare reform includes a variety of specialties and locally tailored models developed to serve the needs of specific patient populations (Curtis et al., 2012).

The biopsychosocial systems model is especially important for the study of healthcare-seeking behaviors among men experiencing depression symptoms or other behavioral health symptoms. Although behavioral disorders are confirmed as brain diseases, there is a strong interaction among the biological, psychological, and societal systems that should be considered when successfully assessing and treating behavioral health disorders. This is especially true for depression since stigma is often a barrier to service utilization among certain population groups.
including men (Addis, 2008; Blumberg et al., 2016; Call & Shafer, 2018; Knaak et al., 2017; Koumaki et al., 2019; Magaña et al., 2007; Masuda et al., 2012; Rice et al., 2011). Therefore, the study is designed to measure the utilization of mental health services among men to determine if integrated primary care settings can minimize the barrier related to stigma among men in seeking mental health services compared to non-integrated primary care settings. Closely associated with services utilization would be treatment response. The study also focuses on treatment response to determine which integrated primary care clinics have better outcomes compared to non-integrated clinics.

**Participant Criteria**

Study participants are male patients, 18 years or older, who had been treated at 12 primary care clinics located within the same metropolitan services area in the state of Washington from July 2019 through March 2020. The participants came to the primary care clinics for primary care needs within or without a depression diagnosis on their presenting problem list. They were screened and tested positive for depression using PHQ-9 as a routine protocol while they received services at the clinics. The participants must have had an initial PHQ-9 score of 10 or greater to be part of the current study.

In order to allow enough time for depression treatment response, participants who were enrolled after December 31, 2019, were excluded from the sample. Participants who had a diagnosis of bipolar disorder, personality disorders, schizophrenia and psychotic disorders, or pervasive development disorders at any point in the patient’s history were excluded from the sample.
Data Collection and Instrumentation

The study uses secondary data of 648 male patients who received care from July 2019 through March 2020. It is, therefore, a convenient and non-probability sample to which the investigator has access for the purposes of the study.

Ethical Considerations

The study procedure has minimal risk related to potential loss of confidentiality. The primary risk is a potential loss of confidentiality as this study requires the review of protected health information. However, this risk has been minimized by the protections that we have put in place, such as the analysis of data without identifiers plus physical security measures, such as password protected computers and allowing only study personnel to access the data. The principal investigator, Tendai Masiriri, strictly followed Providence St. Joseph Health and Services (PSJHS) protocols for access authorization, password protection, encryption, physical controls, separation of identifiers and data storage, use, and transmission.

The principal investigator has taken CITI Human Subjects Training for both PSJHS and Western Michigan University. Other training modules included: authorization of access, password protection, encryption, physical controls, certificates of confidentiality, and separation of identifiers and data during storage, use, and transmission. For the purposes of handling data throughout the study, all data were stored on a Providence St. Joseph Health and Services computer or PSJHS approved computer and stored for 12 months from the start date to completion of the study. The principal investigator, Tendai Masiriri, has access to study the data. The protocol for disposing data will be strictly in accordance with institutional policies for proper disposal of paper and electronic records and in compliance with HIPAA disposal requirements.
Measurement of Dependent Variables

Outcome measures of the study include utilization and depression treatment response. While they are measured separately, these outcomes are closely associated. There is a chance that, when a male patient uses mental health services through behavioral health clinicians at the integrated primary care clinics outside of networks medical group, they would respond to treatment.

In this study, utilization is measured at a binary/categorical level that indicates whether a patient was able to make it for behavioral health treatment encounter after a referral by a primary care provider. No-utilizers were considered the reference or base group, and those who had at least one encounter were the target or comparison group. A treatment encounter includes all behavioral health clinicians, such as psychiatrists, psychologists, licensed clinical social workers, psychiatric mental health nurses, licensed mental health counselors, and primary care physicians trained specifically to manage mental health disorders. Treatment encounters are either at integrated primary care clinics or mental health specialty clinics.

For depression treatment response, the Patient Health Questionnaire (PHQ) version of the Primary Care Evaluation of Mental Disorders (Kroenke & Spitzer, 2002) diagnostic instrument for common mental disorders was administered for all patients included in this study. The PHQ-9 is the depression module that scores each of the nine diagnostic criteria for major depression in (Diagnostic and Statistical Manual, 5th ed.) as ‘0’ (not at all) to ‘3’ (nearly every day). The nine items cover the experiences of pleasure, feeling down, sleep disruption, energy levels, appetite, feeling a failure, trouble concentrating, speaking slowly or being fidgety, and having negative thoughts around suicide or self-harm over the previous two weeks.
Due to the hectic nature of primary care practice, some clinicians use the first two items of the PHQ-9 (PHQ-2) (“Over the last 2 weeks, how often have you been bothered by any of the following problems? 1) Little interest or pleasure in doing things and 2) Feeling down, depressed or hopeless?”) as an initial screen for depression. If the patient responds affirmatively to either of these two items, the remaining seven items are asked. This can be an efficient way to screen a large number of patients to improve detection of undiagnosed depression. Research has shown that certain scores on the PHQ-9 are strongly correlated with a subsequent diagnosis of major depression, although not everyone with an elevated PHQ-9 is certain to have major depression. The PHQ-9 is intended as a tool to assist clinicians with identifying and diagnosing depression but is not a substitute for diagnosis by a trained clinician.

The PHQ-9 can be self-administered or administered by a clinician. At an initial visit the PHQ-9 is used to assist with diagnosis and identification of problem symptoms. At the follow-up visit, the PHQ-9 is used to measure treatment response and identify specific symptoms that are not responding. The questionnaire is a useful, reliable, and validated tool that assists clinicians in screening, measuring depression severity, and monitoring the response to treatment for different patients groups across the lifespan and a wide range of medical comorbidities (Chen et al., 2006; Kroenke & Spitzer, 2002; Löwe et al., 2006; Mitchell et al., 2016; Razykov et al., 2012; Titov et al., 2011). Depression severity is a scale measure from a score of zero through 27. A patient without depression would have a score of 0-4; mild depression is suggested with a score of 5-9; moderate depression is indicated by a score of 10-14; moderate severe condition is indicated by a score of 15-19; and severe depression is suggested by a score of 20-27 (Titov et al., 2011). However, this study measures depression treatment response at a binary level to indicate whether a patient had a clinically significant depression treatment response. A patient aged 18 years or
older achieves a response to treatment with a reduction in their initially elevated PHQ-9 score (score > 9). Although some studies use a reduction of PHQ-9 score of at least five points within 18 weeks as reliable improvement (Chen et al., 2006; Schueller et al., 2015; Titov et al., 2011), in this study, a drop of >10 points or a drop of 50% after the patient’s initial elevated PHQ-9 score is considered to have achieved depression treatment response. The response is calculated using the last (i.e., most recent) PHQ-9 score during the study period. If a patient’s score does not drop >10 points or drop 50% within six months of the patient’s initial elevated PHQ-9 score, these patients are considered to have not achieved depression treatment response. Patients who did not achieve a response were considered the reference/base group, and those who achieved a response are considered the comparison or target group.

**Measurement of Independent Variables**

The main independent variable in this study is care setting (integrated primary care or non-integrated primary care). The two settings were treated as binary measures. A clinic is an integrated primary care setting when it has a behavioral health provider, such as a psychologist or licensed independent clinical social worker integrated into the team. A clinic is a non-integrated primary care setting when it doesn’t have a behavioral health clinician and refers behavioral health patients to specialty clinics or other behavioral health providers outside the primary care clinic. Integrated primary care clinics were coded as the comparison or target group, while non-integrated primary care clinics were coded as the reference or base group.

**Covariates**

While care setting is analyzed as the main exposure variable of interest, the study controls for covariates that have the potential of confounding the influence of care setting on mental health
services use and depression treatment response among men. These covariates include medical comorbidities, age or generational group, insurance type, race, and ethnicity.

A large and growing body of research shows that mental health is associated with risk factors for chronic conditions, such as atherosclerotic cardiovascular disease, before a diagnosis of a mental health disorder and during treatment. These effects can arise both directly, through biological pathways, and indirectly, through risky health behaviors (Abed et al., 2014; Kang et al., 2015; Lloyd et al., 2015; Meng et al., 2020; Zahn et al., 2016). Chronic disease conditions, such as atherosclerotic cardiovascular disease (ASCVD), hypertension, obesity/overweight, and diabetes have been associated with depressive disorders (Blasco et al., 2020; Faith et al., 2002; Kang et al., 2015; Luppino et al., 2010; Pereira-Miranda et al., 2017; Rubio-Guerra et al., 2013; Silva et al., 2020; Simon et al., 2008; Tovilla-Zarate et al., 2015). Therefore, chronic hypertension, BMI, diabetes, and ASCVD are considered as covariates in the study. There is consistent evidence that being overweight or obese was associated with depression (Blasco et al., 2020; Faith et al., 2002; Kang et al., 2015; Luppino et al., 2010; Pereira-Miranda et al., 2017; Rubio-Guerra et al., 2013; Silva et al., 2020; Simon et al., 2008; Tovilla-Zarate et al., 2015). Hypertension and depression share common pathways because it is possible for each disease to have an influence on the natural history of the other (Rubio-Guerra et al., 2013).

The three conditions are measured at a binary level, indicating whether a patient has the chronic disease condition. Patients who had these three conditions were considered as the target group, while those who did not have the condition were considered the reference group.

Age, race, and ethnicity, as well as patient’s insurance type, are also covariates of interest that could influence the use of mental health services and, therefore, depression treatment response. Age is measured at scale level, as well as categorical to include generational groups.
Previous studies have suggested that there are multiple types of masculinities, each existing in a social web, even though masculinity that espouses emotional stoicism maintained a hegemonic and dominating effect on the others across generational groups (Anderson, 2018; Connell, 1987). In order to control for the potential varying influence of generational age groups, age is also measured at a nominal level with five categories that include the following: Silent Generation, born between 1928 and 1945; Baby Boomers, born between 1946 and 1964; Generation X, born between 1965 and 1980; Generation Y or Millennials, born between 1981 and 1996; and Generation Z (who are 18 years or older) born between 1997 and 2015. Classifying age via generations is critical since research has shown that conformity to masculine norms attenuated throughout the lifespan with evidence indicating conformity to masculine norms decreased significantly with age (Rice et al., 2011). Findings are interpreted within the context of men resolving gender-role–related conflicts across the lifespan (Rice et al., 2011). Generation Z was considered the base or reference group.

Race and ethnicity are both considered as nominal variables in this study. Race includes five nominal categories: White or Caucasian as the reference group; Black/African American; American Indian or Alaska Native; Asian, Native Hawaiian or Other Pacific Islanders; and Others. Ethnicity had binary categories: Hispanic or Latino as the target group and Not Hispanic or Latino as the reference group. Outside of gender disparity in the use of mental health services, compared with White Americans, persons of other races in the United States are less likely to have access to and receive needed mental health care (Blumberg et al., 2016; Fripp & Carlson, 2017). Stratified analysis by insurance types has shown varied levels of positive association with mental health service use (Walker et al., 2015; Wang & Xie, 2019). Insurance was categorized into seven
categories: self-insured, other, commercial, Medicaid, Medicaid HMO, Medicare, and Medicare HMO.

Data Analysis

The study uses IBM SPSS version 28 to perform logistic regression and estimate the odds of a patient making their initial encounter with a behavioral health clinician after a referral from a primary care provider based on care setting (integrated primary care clinic vs. non-integrated primary clinic). Logistic regression is also used to calculate the odds of depression treatment response among patients based on the same care setting. The analysis considers or tests the following assumptions:

- Absence of perfect multicollinearity.
- Absence of specification errors (i.e., all relevant predictors are included, and irrelevant predictors are excluded).
- Independence of errors—each observation is presumed to be independent of the other observations.
- The dependent variable being binary.

The investigation seeks to estimate the odds ratio of an initial treatment encounter and treatment response based on the primary care setting. Making the initial treatment encounter and being responsive to treatment are coded as 1 since the 2 represents the expected or hoped-for or desired outcome. Patients with these two outcomes are considered the target or response group, while patients who fail to make the initial treatment encounter or those who are non-responsive to treatment are regarded as the reference or base group and are, therefore, coded 0.

The first step computes the probability of each patient being the target or response group. The second step converts these probabilities to odds (of being in the either of the two target groups:
those who succeed in making the initial treatment encounter or those who are responsive to treatment). The third and final step transforms these odds to the natural log to yield the log odds that a patient is a member of either of the two target groups or two outcomes of interest.

The likelihood ratio is used to evaluate whether the set of exposure variables improve the prediction of the respondent variable better than chance. The omnibus chi-square test is used to validate the model and test the null hypothesis. The pseudo $R^2$ is computed to estimate the percentage of variance in making initial treatment encounter/utilization and depression treatment response. The Hosmer-Lemeshow test of model fit goodness is employed to assess whether the predicated probabilities match the observed probabilities. Finally, a classification table was produced to show the percentage of the patients whose group memberships are correctly classified as “successfully made the initial treatment encounter” or “failed to make the initial treatment encounter” and as “responsive to treatment” or “non-responsive.” The logistic regression analysis considers variables, such as age group, chronic diseases state, race, and ethnicity, as confounding covariates.

**Re-Coding of Dependent and Independent Variables**

To answer the two research questions, the investigator developed two models that regressed the dependent variables (depression treatment response and behavioral health services utilization) on a primary care setting as an independent variable. The two models included other independent variables that were considered as possible confounders. Therefore, careful coding was completed to indicate target categories for the two dependent variables of interest and reference category for each independent variable that was included in each model. For the depression treatment response model, men who responded to depression treatment were coded as the target group, while the
behavioral health services utilization model considered men who had one or more behavioral health services encounters as the target group.

**Independent Variables**

The independent variables considered for either of the two models were coded as follows:

1) Primary care setting with non-integrated primary care setting as the reference category.

2) Generational group with Generation Z as the reference group.

3) Supportive relationship status and men who were divorced, separated, or widowed were considered as the reference category.

4) Employment status and men who were not employed were used as reference.

5) Insurance class variable had men with commercial insurance considered as reference category. Originally there were seven insurance categories that included self-pay, Medicaid, Medicaid HMO, Medicare, Medicare HMO, commercial, and other. The sample size in these categories resulted in less than five cell counts during crosstabulation of the insurance class variable. Therefore, self-pay and other were collapsed into one category, Medicaid and Medicaid HMO were collapsed together, and Medicare and Medicare HMO were also collapsed together, resulting in four new categories for the insurance class variable.

6) Race with White or Caucasian as the reference category for minorities race category. There were originally five race categories, which included White or Caucasian, Black or African American, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander. Due to having less than five cell counts in these categories, minority groups were collapsed into one category labelled minority race category. White or Caucasian comprised 74.1% of the sample size.
7) Ethnicity and being Non-Hispanic or Latino was used as reference.
8) Psychotherapeutic medication with not taking medication as reference.
9) Major depressive disorder severity measure with mild depressive disorder measure as reference.
10) Chronic depression: Men without chronic depression were considered as reference category.
11) Chronic diabetes mellitus: Men without chronic diabetes were the reference category.
12) Chronic hypertension and men without chronic hypertension belonged to the reference category.
13) Chronic atherosclerotic cardiovascular disease (ASCVD) variable had men without ASCVD as reference.
14) Alcohol use and men who did not use alcohol were the reference group.
15) Tobacco use and men who did not use tobacco were reference.
16) Use of illicit drugs and men who did not use illicit drugs were used as reference.

**Dependent Variables**

Behavioral health services utilization was initially measured at three nominal levels: non-utilizers, single encounter utilizers and multiple encounter utilizers. However, crosstabulation of these categories resulted in some cells having less than five counts. The dependent variable was, therefore, collapsed into two categories: non-utilizers and one or more encounter utilizers. The non-utilizer group remained the reference group, and utilizers were the comparison or target group. Depression treatment response was not changed. Men who did not achieve response were considered as the reference group, and those who achieved a response were considered the target group during analysis.
Model Testing

The investigator also performed a -2LL test to evaluate the statistical significance of the logistic regression model and assess whether the contribution of at least one predictor (independent) variable is significantly different from zero. In addition, the omnibus chi-square test was also conducted to determine whether there was a difference between the constant-only model (containing no predictors) and the full model (i.e., with constant and predictors). To estimate the percentage of variance in the dependent variable explained by the independent variables, the investigator ran the Cox and Snell and Nagelkerke tests. The investigator also performed the Hosmer-Lemeshow test of model fit on the entire sample to assess whether the predicted probabilities matched the observed probabilities. The statistical significance of the unique contribution of each co-efficient (β) in the model was assessed using the Wald test. The investigator sought to understand the amount of change expected in the log-odds when there is a 1-unit change in the predictor (independent) variable with all the other variables in the model held constant.

Methodology Summary

The study uses secondary data of 648 male patients who received services from July 2019 through March 2020. These men represented a convenient and non-probability sample. Since it was secondary data, there were minimal risks related to potential loss of confidentiality and appropriate steps related to data handling were followed. The data included response variables, such as utilization of behavioral health services and depression treatment response, which were both measured at binary. Utilization of behavioral health services was measured as behavioral health encounters, and depression treatment response was measured in terms of whether a patient responded to treatment. Depression treatment was measured using the PHQ-9 scores before they
were converted into binary categories. The main exposure/independent variable of interest is a primary care setting, which is categorized into integrated and non-integrated primary care clinics. Confounding covariates included in the study are as follows: race and ethnicity; age groups defined by generations; medical comorbidities, such as chronic heart disease, chronic diabetes, and chronic hypertension; and insurance type. The study uses IBM SPSS version 28 to perform logistic regression and estimate the odds ratio of a patient being able to successfully make their initial treatment encounter with a behavioral health clinician after a referral by primary care provider and the odds ratio of responding to depression treatment.
CHAPTER IV
RESEARCH FINDINGS AND RESULTS

Chapter IV will demonstrate research findings and results. This investigation sought to answer two questions: (1) Does an integrated primary care setting improve the utilization of mental health services among men compared to non-integrated primary care? (2) Does integrated primary care setting improve depression treatment response among men compared to non-integrated primary care? The chapter will reveal the descriptive results from crosstabulation of categorical independent variables (care setting, employment status, insurance class, supportive relationship, generational groups, race category, ethnicity, diabetes, hypertension, heart disease, and illicit drug use) across the dependent variable of completion or non-completion of behavioral health services utilization. After collapsing race into two categories and supportive relationship into four categories, all cells in the crosstabulation showed more than five counts: acceptable for use of chi-square test.

The chapter will end with a demonstration of results of logistic regression analyses on the influence of primary care setting on behavioral health services utilization and depression treatment response among men. There are two models that each represent predictor variables for each of the outcome variables. The model will determine the influence of each predictor variable on the outcome variable while controlling for the rest of the predictors. Therefore, the succeeding discussion will start with the exploration of the results of behavioral health services utilization.
Behavioral Health Services Utilization Results

Question 1

Does an integrated primary care setting improve the utilization of mental health services among men compared to non-integrated primary care setting compared to non-integrated primary care setting?

Table 1 shows that 60.8% (n = 394) of participants received services at integrated behavioral health primary care clinics, while 39.2% (n = 254) received services at non-integrated behavioral primary care clinics. While all patients screened positive for depression, not all of them used behavioral health services. Only 31% (n = 203) utilized mental health services, while 69% (n = 445) did not use behavioral health services. Patients who used integrated behavioral health primary clinics experienced a higher rate of service utilization than non-integrated (41.4% vs. 15.7%). Conversely, patients who received care in non-integrated primary care clinics had higher rates of non-utilizers than integrated behavioral health primary care clinics (84.3% vs. 58.6%).

Among the generational groups, 12.5% (n = 85) were Generation Z; 35.3% (n = 229) were Generation Y; 28.2% (n = 183) were Generation X; and 23.9% (n = 155) were Baby Boomers and/or older adults. The rate of non-utilizers was higher than utilizers across all generational groups: 60.5% of Generation Z did not use services, while 39.5% used; 63.8% of Generation Y did not use services compared to 36.2% who did; 67.8% of Generation X did not use any behavioral health services, meanwhile only 32.2% had one or more encounters for behavioral health services. As high as 81.3% of the Baby Boomers did not use services compared to just 18.7% who used services.
Table 1. Descriptive Analysis on Mental Health Services Utilization

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>N (445)</th>
<th>69%</th>
<th>N (203)</th>
<th>31%</th>
<th>N (648)</th>
<th>100%</th>
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<tbody>
<tr>
<td>Care Setting</td>
<td></td>
<td></td>
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<tr>
<td>Non-integrated Primary Care</td>
<td>214</td>
<td>84.3%</td>
<td>40</td>
<td>15.7%</td>
<td>254</td>
<td>39.2%</td>
</tr>
<tr>
<td>Integrated Behavioral Health Primary Care</td>
<td>231</td>
<td>58.6%</td>
<td>163</td>
<td>41.4%</td>
<td>394</td>
<td>60.8%</td>
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<tr>
<td>Employment status</td>
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<tr>
<td>Employed</td>
<td>240</td>
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<td>31.8%</td>
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<td>54.3%</td>
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<tr>
<td>Owner/Self-employed</td>
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<td>65.4%</td>
<td>9</td>
<td>34.6%</td>
<td>26</td>
<td>4.0%</td>
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<tr>
<td>Not employed</td>
<td>188</td>
<td>69.6%</td>
<td>82</td>
<td>30.4%</td>
<td>270</td>
<td>41.7%</td>
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<td>Insurance class</td>
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<td>136</td>
<td>32.2%</td>
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<tr>
<td>Self-pay or other</td>
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<td>58.5%</td>
<td>17</td>
<td>41.5%</td>
<td>41</td>
<td>6.3%</td>
</tr>
<tr>
<td>Medicaid + Medicaid HMO</td>
<td>57</td>
<td>62.6%</td>
<td>34</td>
<td>37.4%</td>
<td>91</td>
<td>14.0%</td>
</tr>
<tr>
<td>Medicare + Medicare HMO</td>
<td>78</td>
<td>83%</td>
<td>16</td>
<td>17.0%</td>
<td>94</td>
<td>14.5%</td>
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<tr>
<td>Supportive relationship</td>
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<tr>
<td>(Significant Other, Domestic Partner, Married)</td>
<td>179</td>
<td>69.6%</td>
<td>78</td>
<td>30.4%</td>
<td>257</td>
<td>39.7%</td>
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<tr>
<td>Undisclosed Relational Support</td>
<td>10</td>
<td>55.6%</td>
<td>6</td>
<td>44.4%</td>
<td>16</td>
<td>2.8%</td>
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<tr>
<td>Single</td>
<td>234</td>
<td>68.6%</td>
<td>107</td>
<td>31.4%</td>
<td>341</td>
<td>52.6%</td>
</tr>
<tr>
<td>(Divorced, Legally Separated, Widowed)</td>
<td>22</td>
<td>68.8%</td>
<td>10</td>
<td>31.3%</td>
<td>32</td>
<td>4.9%</td>
</tr>
<tr>
<td>Generational groups</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Generation Z</td>
<td>49</td>
<td>60.5%</td>
<td>32</td>
<td>39.5%</td>
<td>81</td>
<td>12.5%</td>
</tr>
<tr>
<td>Generation Y</td>
<td>146</td>
<td>63.8%</td>
<td>83</td>
<td>36.2%</td>
<td>229</td>
<td>35.3%</td>
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<tr>
<td>Generation X</td>
<td>124</td>
<td>67.8%</td>
<td>59</td>
<td>32.2%</td>
<td>183</td>
<td>28.2%</td>
</tr>
<tr>
<td>Baby Boomers &amp; Older</td>
<td>126</td>
<td>81.3%</td>
<td>29</td>
<td>18.7%</td>
<td>155</td>
<td>23.9%</td>
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<tr>
<td>Race category</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>White or Caucasian</td>
<td>340</td>
<td>70.8%</td>
<td>140</td>
<td>29.2%</td>
<td>480</td>
<td>74.1%</td>
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<tr>
<td>Minorities</td>
<td>105</td>
<td>62.5%</td>
<td>63</td>
<td>37.5%</td>
<td>168</td>
<td>25.9%</td>
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<tr>
<td>Ethnicity</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>424</td>
<td>69.4%</td>
<td>187</td>
<td>30.6%</td>
<td>611</td>
<td>94.3%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>21</td>
<td>56.8%</td>
<td>16</td>
<td>43.2%</td>
<td>37</td>
<td>5.7%</td>
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<tr>
<td>Chronic disease: Diabetes mellitus</td>
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<tr>
<td>No Chronic Diabetes</td>
<td>411</td>
<td>68.3%</td>
<td>191</td>
<td>31.7%</td>
<td>602</td>
<td>92.9%</td>
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<tr>
<td>Chronic Diabetes</td>
<td>34</td>
<td>73.9%</td>
<td>12</td>
<td>26.1%</td>
<td>46</td>
<td>7.1%</td>
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<tr>
<td>Chronic disease: ASCVD</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>No Chronic Cardiovascular Disease</td>
<td>405</td>
<td>68.0%</td>
<td>191</td>
<td>32.0%</td>
<td>596</td>
<td>92.0%</td>
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<tr>
<td>Chronic Cardiovascular Disease</td>
<td>40</td>
<td>76.9%</td>
<td>12</td>
<td>23.1%</td>
<td>52</td>
<td>8.0%</td>
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<tr>
<td>Alcohol use</td>
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<tr>
<td>Doesn't Use Alcohol</td>
<td>244</td>
<td>71.3%</td>
<td>98</td>
<td>28.7%</td>
<td>342</td>
<td>52.8%</td>
</tr>
<tr>
<td>Uses Alcohol</td>
<td>201</td>
<td>65.7%</td>
<td>105</td>
<td>34.3%</td>
<td>306</td>
<td>47.2%</td>
</tr>
<tr>
<td>Illicit drug use</td>
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<td></td>
</tr>
<tr>
<td>Doesn't Use Illicit Drugs</td>
<td>346</td>
<td>71.2%</td>
<td>140</td>
<td>28.8%</td>
<td>486</td>
<td>75.0%</td>
</tr>
<tr>
<td>Uses Illicit Drugs</td>
<td>99</td>
<td>61.1%</td>
<td>63</td>
<td>38.9%</td>
<td>162</td>
<td>25.0%</td>
</tr>
</tbody>
</table>

Note. ASCVD: stands for atherosclerotic cardiovascular disease. Insurance class, supportive relationship, minority race categories were collapsed due to cell counts that were less than five in distinct categories.

A standard binary logistic regression was conducted to investigate the influence of primary care setting on utilization of behavioral health services among men. The dependent variable included two categories: non-utilizers and one or more encounter utilizers, with non-utilizers as the reference group. The model included 13 (binary or multinomial) independent variables with
primary care setting as the variable of interest. Confounding variables included insurance class, generational group, race, ethnicity, supportive relationship, employment status, chronic depression, chronic diabetes, chronic hypertension, chronic atherosclerotic cardiovascular disease (ASCVD), alcohol use, and illicit drug use. The effect of each independent variable in the model was analyzed while controlling for other variables.

Results of the binomial logistic analysis indicated that the multivariate model predicted mental health service utilization among men at a statistically significant level, $\chi^2(20, N = 648) = 93.398$, $p < 0.01$. The Nagelkerke pseudo $R^2$ test indicated that the model accounted for 18.9% of the total variance in mental health services utilization between the two care settings (integrated behavioral health primary care and non-integrated primary care).

Table 2 presents the regression coefficients, the Wald test, the adjusted odds ratio $[\text{Exp}(B)]$, and the 95% confidence intervals (CI) for odds ratios for each predictor, contrasting multiple encounter utilizers to single encounter utilizers and non-utilizers. The Wald test indicated that primary care setting and men’s generational group were statistically significant predictors of behavioral health services utilization while controlling for the other variables in the model.

Men were 4.44 times ($\text{CI} = 2.917, 6.748$) as likely to use behavioral health services in an integrated care setting as in a non-integrated primary care setting. The results also revealed that Baby Boomers and/or older men were 67.8% ($\text{CI} = .134, .771$) less likely than Generation Z men to use mental health services. Other variables in the model did not have a statistically significant influence on men’s use of behavioral health services.

The study sought to answer a second question on whether primary care setting had influence on the utilization of mental health services among men. A crosstabulation of categorical independent variables was completed. The model included 12 covariates: care setting, psycho-
Table 2. Logistic Regression Analysis on Mental Health Services Utilization

<table>
<thead>
<tr>
<th>Care setting</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-integrated primary care (Reference)</td>
<td>1.49</td>
<td>0.21</td>
<td>48.50</td>
<td>1</td>
<td>&lt;0.01</td>
<td>4.44</td>
<td>2.92, 6.75</td>
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<tr>
<td>Integrated behavioral health primary care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Generational groups</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generation Z (Reference)</td>
<td>-0.14</td>
<td>0.31</td>
<td>0.213</td>
<td>1</td>
<td>0.65</td>
<td>0.87</td>
<td>0.47, 1.59</td>
</tr>
<tr>
<td>Generation Y</td>
<td>-0.56</td>
<td>0.36</td>
<td>2.47</td>
<td>1</td>
<td>0.12</td>
<td>0.5</td>
<td>0.28, 1.15</td>
</tr>
<tr>
<td>Generation X</td>
<td>-1.13</td>
<td>0.45</td>
<td>6.47</td>
<td>1</td>
<td>0.01</td>
<td>0.32</td>
<td>0.13, 0.77</td>
</tr>
<tr>
<td>Baby Boomers or older adults</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Insurance class</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial (Reference)</td>
<td>0.68</td>
<td>0.37</td>
<td>3.34</td>
<td>1</td>
<td>0.07</td>
<td>1.98</td>
<td>0.95, 4.12</td>
</tr>
<tr>
<td>Self-pay or other</td>
<td>0.48</td>
<td>0.28</td>
<td>2.89</td>
<td>1</td>
<td>0.09</td>
<td>1.61</td>
<td>0.93, 2.79</td>
</tr>
<tr>
<td>Medicaid + Medicaid HMO</td>
<td>-0.246</td>
<td>0.443</td>
<td>0.309</td>
<td>1</td>
<td>0.58</td>
<td>0.78</td>
<td>0.33, 1.86</td>
</tr>
<tr>
<td>Medicare + Medicare HMO</td>
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</table>

<table>
<thead>
<tr>
<th>Employment status</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
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<tbody>
<tr>
<td>Employed (Reference)</td>
<td>0.16</td>
<td>0.48</td>
<td>0.11</td>
<td>1</td>
<td>0.74</td>
<td>1.17</td>
<td>0.46, 2.99</td>
</tr>
<tr>
<td>Owner/Self-employed</td>
<td>-0.04</td>
<td>0.22</td>
<td>0.04</td>
<td>1</td>
<td>0.85</td>
<td>0.96</td>
<td>0.62, 1.48</td>
</tr>
<tr>
<td>Not employed</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Supportive relationship</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant other, domestic partner, married (Reference)</td>
<td>0.405</td>
<td>0.57</td>
<td>0.51</td>
<td>1</td>
<td>0.48</td>
<td>1.49</td>
<td>0.49, 4.56</td>
</tr>
<tr>
<td>Undisclosed relational support</td>
<td>-0.34</td>
<td>0.24</td>
<td>0.212</td>
<td>1</td>
<td>0.15</td>
<td>0.71</td>
<td>0.45, 1.13</td>
</tr>
<tr>
<td>Single</td>
<td>0.29</td>
<td>0.44</td>
<td>0.46</td>
<td>1</td>
<td>0.49</td>
<td>1.35</td>
<td>0.57, 3.19</td>
</tr>
<tr>
<td>Divorced, legally separated, widowed</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Race category</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White or Caucasian (Reference)</td>
<td>0.33</td>
<td>0.21</td>
<td>2.41</td>
<td>1</td>
<td>0.12</td>
<td>1.39</td>
<td>0.92, 2.09</td>
</tr>
<tr>
<td>Minorities</td>
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<td></td>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Hispanic or Latino (Reference)</td>
<td>0.46</td>
<td>0.39</td>
<td>1.44</td>
<td>1</td>
<td>0.23</td>
<td>1.59</td>
<td>0.75, 3.39</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Chronic depression</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No chronic depression (Reference)</td>
<td>0.23</td>
<td>0.19</td>
<td>1.46</td>
<td>1</td>
<td>0.23</td>
<td>1.26</td>
<td>0.87, 1.83</td>
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<tr>
<td>Chronic depression</td>
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<table>
<thead>
<tr>
<th>Chronic diabetes</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No chronic diabetes (Reference)</td>
<td>-0.03</td>
<td>0.41</td>
<td>0.01</td>
<td>1</td>
<td>0.94</td>
<td>0.97</td>
<td>0.44, 2.15</td>
</tr>
<tr>
<td>Chronic diabetes</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Chronic hypertension</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No chronic hypertension (Reference)</td>
<td>0.01</td>
<td>0.28</td>
<td>0.00</td>
<td>1</td>
<td>0.97</td>
<td>1.01</td>
<td>0.58, 1.75</td>
</tr>
<tr>
<td>Chronic hypertension</td>
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<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Chronic ASCVD</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No chronic ASCVD (Reference)</td>
<td>0.12</td>
<td>0.45</td>
<td>0.08</td>
<td>1</td>
<td>0.78</td>
<td>1.13</td>
<td>0.47, 2.71</td>
</tr>
<tr>
<td>Chronic ASCVD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Alcohol use</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No alcohol use (Reference)</td>
<td>0.31</td>
<td>0.19</td>
<td>2.61</td>
<td>1</td>
<td>0.11</td>
<td>1.37</td>
<td>0.94, 2.00</td>
</tr>
<tr>
<td>Alcohol use</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Illicit drug use</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Wald/2</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/ Exp(B)</th>
<th>95% CI for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No illicit drug use (Reference)</td>
<td>0.29</td>
<td>0.21</td>
<td>1.87</td>
<td>1</td>
<td>0.17</td>
<td>1.34</td>
<td>0.88, 2.04</td>
</tr>
<tr>
<td>Illicit Drug use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model Tests</th>
<th>χ²</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall model evaluation</td>
<td>93.39</td>
<td>20</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Likelihood ratio test</td>
<td>11.69</td>
<td>8</td>
<td>0.17</td>
</tr>
<tr>
<td>Goodness-of-fit test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosmer &amp; Lemeshow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model summary Nagelkerke</td>
<td>0.19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Variable(s) entered on step 1: Primary Care Setting, Generational Groups, Insurance class, Employment status, Supportive Relationship, Race category, Ethnicity, Chronic Disease: Depression, Chronic Disease: Diabetes Mellitus, Chronic Disease: Hypertension, Chronic disease: ASCVD, alcohol use, illicit drug use. ASCVD: stands for atherosclerotic cardiovascular disease.
therapeutic medication, employment status, supportive relationship, generational groups, race
category, ethnicity, diabetes, hypertension, heart disease, nicotine use, alcohol use, and illicit drug
use. Race and supportive relationships were collapsed into two categories and four categories
respectively. Logistic regression analysis was also completed to determine the influence of primary
care setting on depression treatment response.

Results for Depression Treatment Response

Question 2

Does integrated primary care setting improve depression treatment response among men
compared to non-integrated primary care setting?

Table 3 shows the rate of depression treatment response across the independent variables.
Those who achieved depression treatment comprised 22.5% (n = 146) of the total sample, while
77.5% (n = 502) did not achieve treatment response. Integrated primary care setting showed
statistically significant results together with psychotherapeutic medication and supportive
relationship status as covariates.

Integrated behavioral health primary care had a higher rate of achieving depression
treatment response when compared to non-integrated primary care (25.1% vs. 18.5%). Conversely
non-integrated primary care saw a higher rate of non-response than integrated behavioral health
primary (81.5% vs. 74.9%).

Out of the total sample of 648, 62.5% (n = 405) were not on medication, and 37.5% (n =
243) were on medication. Patients who were on psychotherapeutic medication achieved a response
at a higher rate than those who were not on medication (29.2% vs. 18.5%). Meanwhile, patients
who were not on psychotherapeutic medication had a higher rate of not responding to depression
treatment than those who took medication (81.5% vs. 70.8%).
The four categories of supportive relationship status—(1) those who lived with significant other, domestic partner, or married, (2) those who had undisclosed relational support, (3) those who were single, and (4) those who were divorced, legally separated, or widowed—comprise 39.7%, 2.8%, 52.6%, and 4.9% of the total sample, respectively. Patients with undisclosed relational supports had the highest rate of achieving depression treatment response (50%); followed by a patient living with significant other, domestic partners, or married (22.2%). Patients who were single achieved a depression treatment response rate of 22%, and those who were divorced, legally separated, or widowed achieved a depression treatment response rate of 15.6%. Admittedly, the rate of achieving depression treatment response was lower than incidents of not achieving a response across all categories for this variable.

A standard binary logistic regression was performed to ascertain the influence of primary care setting in depression treatment response, while controlling for possible confounding variables, such generational group, status of supportive relationships, employment status, race, ethnicity, psychotherapeutic medications, major depressive disorder severity level, chronic hypertension, chronic diabetes, chronic heart disease, and use of drugs, tobacco, and alcohol.

Based on a classification threshold predicted probability of target group membership as .5, results of the logistic analysis indicated that the fourteen-predictor model provided a statistically significant prediction of depression treatment response, \( \chi^2(20, N = 648) = 32.134, p = 0.042 \). The Nagelkerke pseudo R\(^2\) test indicated that the model accounted for 7.4% of the total variance in depression treatment response between the two care settings.
Table 3. Descriptive Analysis on Depression Treatment Response

<table>
<thead>
<tr>
<th></th>
<th>Didn't Achieve Response</th>
<th>Achieved Response</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (502)</td>
<td>77.5%</td>
<td>N (146)</td>
</tr>
<tr>
<td><strong>Care setting</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-integrated Primary Care</td>
<td>207</td>
<td>81.5%</td>
<td>47</td>
</tr>
<tr>
<td>Integrated Behavioral Health Primary Care</td>
<td>295</td>
<td>74.9%</td>
<td>99</td>
</tr>
<tr>
<td><strong>Psychotherapeutic medication</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not on Psychotherapeutic Medication</td>
<td>330</td>
<td>81.5%</td>
<td>75</td>
</tr>
<tr>
<td>On Psychotherapeutic Medication</td>
<td>172</td>
<td>70.8%</td>
<td>71</td>
</tr>
<tr>
<td><strong>Employment status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>273</td>
<td>77.6%</td>
<td>79</td>
</tr>
<tr>
<td>Owner/Self-employed</td>
<td>19</td>
<td>73.1%</td>
<td>7</td>
</tr>
<tr>
<td>Not employed</td>
<td>210</td>
<td>77.8%</td>
<td>60</td>
</tr>
<tr>
<td><strong>Supportive relationship status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Significant Other, Domestic Partner, Married)</td>
<td>200</td>
<td>77.8%</td>
<td>57</td>
</tr>
<tr>
<td>Undisclosed Relational Support</td>
<td>9</td>
<td>50.0%</td>
<td>9</td>
</tr>
<tr>
<td>Single</td>
<td>266</td>
<td>78.0%</td>
<td>75</td>
</tr>
<tr>
<td>(Divorced, Legally Separated, Widowed)</td>
<td>27</td>
<td>84.4%</td>
<td>5</td>
</tr>
<tr>
<td><strong>Generational groups</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generation Z</td>
<td>61</td>
<td>75.3%</td>
<td>20</td>
</tr>
<tr>
<td>Generation Y</td>
<td>179</td>
<td>78.2%</td>
<td>50</td>
</tr>
<tr>
<td>Generation X</td>
<td>138</td>
<td>75.4%</td>
<td>45</td>
</tr>
<tr>
<td>Baby Boomers &amp; Older</td>
<td>124</td>
<td>80.0%</td>
<td>31</td>
</tr>
<tr>
<td><strong>Race category</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White or Caucasian</td>
<td>368</td>
<td>76.7%</td>
<td>112</td>
</tr>
<tr>
<td>Minorities</td>
<td>134</td>
<td>79.8%</td>
<td>34</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>473</td>
<td>77.4%</td>
<td>138</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>29</td>
<td>22.6%</td>
<td>8</td>
</tr>
<tr>
<td><strong>Major depressive disorder severity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild MDD</td>
<td>288</td>
<td>76.8%</td>
<td>87</td>
</tr>
<tr>
<td>Moderately Severe MDD</td>
<td>143</td>
<td>81.3%</td>
<td>33</td>
</tr>
<tr>
<td>Severe MDD</td>
<td>71</td>
<td>73.2%</td>
<td>26</td>
</tr>
<tr>
<td><strong>Chronic Disease: Diabetes Mellitus</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Chronic Diabetes</td>
<td>467</td>
<td>77.6%</td>
<td>135</td>
</tr>
<tr>
<td>Chronic Diabetes</td>
<td>35</td>
<td>76.1%</td>
<td>11</td>
</tr>
<tr>
<td><strong>Chronic Disease: Hypertension</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Chronic Hypertension</td>
<td>388</td>
<td>77.8%</td>
<td>111</td>
</tr>
<tr>
<td>Chronic hypertension</td>
<td>114</td>
<td>76.5%</td>
<td>35</td>
</tr>
<tr>
<td><strong>Chronic Disease: ASCVD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Chronic Cardiovascular Disease</td>
<td>462</td>
<td>77.5%</td>
<td>134</td>
</tr>
<tr>
<td>Chronic Cardiovascular Disease</td>
<td>40</td>
<td>76.9%</td>
<td>12</td>
</tr>
<tr>
<td><strong>Tobacco use</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doesn’t use tobacco</td>
<td>435</td>
<td>78.5%</td>
<td>119</td>
</tr>
<tr>
<td>Uses tobacco</td>
<td>67</td>
<td>71.3%</td>
<td>27</td>
</tr>
<tr>
<td><strong>Alcohol use</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doesn’t use alcohol</td>
<td>267</td>
<td>78.1%</td>
<td>75</td>
</tr>
<tr>
<td>Uses alcohol</td>
<td>235</td>
<td>76.8%</td>
<td>71</td>
</tr>
<tr>
<td><strong>Illicit drug use</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doesn’t use illicit drugs</td>
<td>376</td>
<td>77.4%</td>
<td>110</td>
</tr>
<tr>
<td>Uses illicit drugs</td>
<td>126</td>
<td>77.8%</td>
<td>36</td>
</tr>
</tbody>
</table>

ASCVD: stands for atherosclerotic cardiovascular disease. Supportive relationship, minority race categories were collapsed due to cell counts that were less than five in distinct categories for those variables.
Table 4 presents the partial regression coefficients, the Wald test, the odds ratio \( \text{Exp}(B) \), and the 95% confidence intervals (CI) for odds ratios for each independent variable. Type of primary care setting, psychotherapeutic medication, and supportive relationship status were statistically significant predictors of depression treatment response among men in this study. Firstly, integrated behavioral health primary care setting was approximately 68.2% (CI = 1.11, 2.547) more likely than non-integrated primary care setting to have men respond to depression treatment while adjusting for other variables. Secondly, men who used psychotherapeutic medications were 91.8% (CI = 1.294, 2.842) more likely than those who did not use medication to respond to depression treatment. Thirdly, men who did not disclose their relational supports in this sample were 4.33 times (CI = 1.394, 11.436) as likely to respond to depression treatment as the group that were married or lived with a significant other or domestic partner. Men who indicated being single did not show any statistically significant difference in responding to depression treatment than those who were living with a significant other or domestic partner or married. All other variables did not have any statistically significant influence on depression treatment response.

### Table 4. Logistic Regression Analysis on Depression Treatment Response

<table>
<thead>
<tr>
<th>Care Setting</th>
<th>Coefficient(β)</th>
<th>S.E.</th>
<th>Waldχ²</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio/Exp(B)</th>
<th>95% CI for Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Integrated Primary Care Setting (Reference)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Primary Care Setting</td>
<td>0.52</td>
<td>0.21</td>
<td>6.04</td>
<td>1</td>
<td>0.01</td>
<td>1.68</td>
<td>1.11</td>
</tr>
<tr>
<td>Psychotherapeutic Medication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Psychotherapeutic Medication</td>
<td>0.65</td>
<td>0.20</td>
<td>10.52</td>
<td>1</td>
<td>&lt;0.01</td>
<td>1.92</td>
<td>1.29</td>
</tr>
<tr>
<td>Psychotherapeutic Medication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed (Reference)</td>
<td>0.29</td>
<td>0.49</td>
<td>0.35</td>
<td>1</td>
<td>0.55</td>
<td>1.34</td>
<td>0.51</td>
</tr>
<tr>
<td>Not Employed</td>
<td>-0.02</td>
<td>0.22</td>
<td>0.01</td>
<td>1</td>
<td>0.93</td>
<td>0.98</td>
<td>0.63</td>
</tr>
<tr>
<td>Supportive Relationship status</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significant Other, Domestic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner, Married (Reference)</td>
<td>1.38</td>
<td>0.54</td>
<td>6.65</td>
<td>1</td>
<td>0.01</td>
<td>3.99</td>
<td>1.39</td>
</tr>
<tr>
<td>Undisclosed Relational Support</td>
<td>0.12</td>
<td>0.24</td>
<td>0.23</td>
<td>1</td>
<td>0.63</td>
<td>1.12</td>
<td>0.70</td>
</tr>
<tr>
<td>Single</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4. Continued

<table>
<thead>
<tr>
<th>Divorced, Legally Separated, Widowed</th>
<th>-0.51</th>
<th>0.53</th>
<th>0.94</th>
<th>1</th>
<th>0.33</th>
<th>0.59</th>
<th>0.21</th>
<th>1.69</th>
</tr>
</thead>
</table>

**Generational Group**
- Generation Z (Reference)
  - Generation Y: -0.17, 0.34, 0.26, 1, 0.61, 0.84, 0.44, 1.63
  - Generation X: 0.01, 0.38, 0.00, 1, 0.99, 1.01, 0.48, 2.10
- Baby Boomers or Older Adults: -0.39, 0.42, 0.85, 1, 0.36, 0.68, 0.30, 1.55

**Race Category**
- White or Caucasian (Reference)
  - Minorities: -0.22, 0.24, 0.83, 1, 0.36, 0.80, 0.50, 1.29

**Ethnicity**
- Not Hispanic or Latino
  - Hispanic Or Latino: -0.10, 0.44, 0.06, 1, 0.81, 0.90, 0.38, 2.12

**Major Depressive Disorder (MDD) Severity**
- Mild MDD (Reference)
  - Moderately Severe MDD: -0.28, 0.24, 1.39, 1, 0.24, 0.76, 0.47, 1.20
  - Severe MDD: 0.24, 0.28, 0.75, 1, 0.39, 1.27, 0.74, 2.18

**Chronic Disease: Diabetes Mellitus**
- No Chronic Diabetes (Reference)
  - Chronic Diabetes: 0.10, 0.40, 0.06, 1, 0.81, 1.10, 0.50, 2.44

**Chronic Disease: Hypertension**
- No Chronic Hypertension (Reference)
  - Chronic Hypertension: 0.21, 0.28, 0.56, 1, 0.46, 1.24, 0.71, 2.15

**Chronic Disease: Atherosclerotic Cardiovascular Disease (ASCVD)**
- No ASCVD (Reference)
  - Chronic ASCVD: 0.14, 0.42, 0.11, 1, 0.74, 1.15, 0.51, 2.60

**Tobacco Use**
- No Tobacco Use (Reference)
  - Tobacco Use: 0.39, 0.26, 2.14, 1, 0.14, 1.47, 0.88, 2.47

**Alcohol Use**
- No Alcohol Use (Reference)
  - Alcohol Use: 0.16, 0.21, 0.60, 1, 0.44, 1.17, 0.78, 1.75

**Illicit Drug Use**
- No Illicit Drug Use (Reference)
  - Illicit Drug Use: -0.10, 0.23, 0.19, 1, 0.67, 0.90, 0.57, 1.43

**Model Tests**
- $\chi^2$: 32.13, 20
- Hosmer & Lemeshow: 11.66, 8

ASCVD: stands for atherosclerotic cardiovascular disease. Note. Variable(s) entered on step 1: Primary Care Setting, Psychotherapeutic medication, Generational Groups, Employment status, Supportive Relationship, Race category, Ethnicity, Major depressive disorder severity, Chronic Disease: Diabetes Mellitus, Chronic Disease: Hypertension, Chronic disease: ASCVD, alcohol use, illicit drug use, use of nicotine.

In conclusion, the preceding results allow this study to reject the null hypothesis and confirm the alternative that integrated behavioral health primary care practice at the six clinics had a statistically significant influence on mental health services utilization and depression treatment.
response among men. Other covariates were held constant in both models. However, the generational group was the only covariate that had a statistically significant influence on utilization besides integrated primary care setting. In addition, marital status (defined as supportive relationship in this study) and psychotherapeutic medications were the only two covariates that influenced depression treatment response at a statistically significant level. The results of the variables for depression treatment response model did not show statistical significance. The following chapter will interpret and explain the findings in the context of what is known in the field of depression treatment, care settings, and men’s unique experience of depression.
CHAPTER V

DISCUSSION AND RECOMMENDATIONS

Chapter V will include a review of the problem and purpose of the research. A summary of the methods and procedures will be described. The major findings will be discussed and include an interpretation of the findings. The chapter conclusion will include a description of the strengths and limitations of this study and recommendations for clinical practice and potential future research.

Problem Statement

Depression alone will be one of the three leading causes of disability in the developed world by 2030 (Mathers & Loncar, 2006). The disease burden of depression is so staggering that a great deal of attention in suicide research is devoted to the relationship between suicidality and depressive disorders. For instance, approximately 12–19% of people who experience suicidal ideation and 18–27% of suicide attempters have a history of Major Depressive Disorder (MDD) (Nock et al., 2009). In 2015 suicide was the tenth leading cause of death in the United States and the seventh leading cause of death in men (CDC, 2015). The same CDC report revealed that, from 2000 through 2015, the rate of suicide for males was approximately 3–5 times higher than the rate for females throughout the study period (CDC, 2015). While this high frequency of suicide in men is certainly impacted by men’s greater tendency to use more violent and, therefore, lethal means of suicide, this discrepancy may also be due to difficulties recognizing and reluctance to treating depressive symptoms, primarily in men who adhere to hegemonic masculine gender-role norms (Coleman et al., 2011; Magovcevic & Addis, 2008).

The study set out to answer the following questions: (1) Does integrated behavioral health primary care setting improve utilization of mental health services among men compared to non-
integrated primary care setting? (2) Does integrated behavioral health primary care improve depression treatment response among men compared to non-integrated primary care setting? Non-integrated health primary care setting was the reference category, while integrated behavioral health primary care setting was the focus category. Data analysis was completed using binary logistic regression to answer both research questions.

**Descriptive Results on Behavioral Health Services Utilization**

Utilization of behavioral health showed statistical significance based on primary care setting type and generational group category. Across all 12 clinics, as many as 445 men out of the total sample of 648 did not get treatment for depression, which makes 69% untreated for depression among men. This statistic is higher than 59% of untreated depression as indicated by the National Health Interview Survey from 2010 through 2013 (Blumberg et al., 2016; National Alliance on Mental Illness, 2021). Within the integrated primary care clinics, as many as 231 out 394 men (58.2%) did not seek treatment for depression. This is slightly lower than the national health interview survey results from 2010 through 2013. However, within the non-integrated primary care clinics, 214 out of 254 men (84.2%) did not seek treatment for depression. While integrated behavioral health primary care clinics experienced a better rate of behavioral health service utilization than non-integrated primary care clinics, they fare no better than the general population of men. Kohn et al. (2004) estimated that the median untreated rate for depression for adults is 56.3% worldwide.

The generational group, considered as a confounding variable in this investigation, demonstrated a statistically significant influence on utilization. Generation Y represented the majority (35.3%). Generation X, Baby Boomers, and Generation Z represented 28.2%, 23.9% and 12.5%, respectively. Every generation had a higher percentage of utilizers than non-utilizers except
the Baby Boomers who were comprised 28.3% of non-utilizers as compared to 14.3% of utilizers. Generation X comprised 28.3% of non-utilization vs. 29.1% of utilization. Generation Y included 32.8% of non-utilization vs. 40.9% of utilization in this sample. Generation Z made up 11% of non-utilization vs. 15% of utilization. Although Generation Z constituted the lowest percentage (12.5%) among the generational groups, they are known to be the most attuned to their own mental health compared to the older generations (American Psychological Association, 2018).

According to Bethune (2019), Generation Z is significantly more likely to report their mental health as fair or poor, with 27% saying this is the case. Generations Y (15%) and Generation X (13%) have similar numbers for reporting fair or poor mental health, while fewer than one out of 10 Boomers (7%) and older adults (5%) consider their mental health fair or poor. Generation Z’s tendency to report behavioral health challenges is attributed to public figures sharing mental health challenges and more open discussions in general on this topic (Bethune, 2019). Since Generation Z is more attuned to their own mental health than previous generations, it is not surprising that they tend to receive treatment or therapy from a psychologist or other mental health professional more than any other group—for example, Generation Z (37%) and Generation Y (35%) report they have received such help. Around one-quarter of Generation X (26%) say they receive or have received treatment or therapy, and even smaller percentages of Boomers (22%) and older adults (15%) have received assistance from a psychologist or mental health professional (Bethune, 2019).

Results of Logistic Regression Analysis on Behavioral Health Services Utilization

The results of logistic regression analysis provide rich assessment of the influence of care setting and generational groups on behavioral health services utilization within the sample. Conformity to traditional masculine gender norms may deter men’s help-seeking and/or impact the services with which men engage. Among men, high conformity to traditional masculine norms
has been correlated with less help-seeking behaviors and more negative attitudes toward seeking psychological treatments (Levant et al., 2011). The study indicated that primary care setting does make a difference. Men were 4.437 times (CI = 2.917, 6.748) more likely to use behavioral health services in an integrated care setting versus in a non-integrated primary care setting. Since primary care is not associated with any one specific health condition, primary care settings are likely to reduce the stigma for a patient seeking mental healthcare.

Findings from a systematic review of the role of masculinity in men’s help-seeking for depression suggest that the greatest benefits for men can be achieved by increased focus on the provision of behavioral interventions oriented by a problem-solving perspective (Seidler et al., 2016). Behavioral interventions oriented toward problem-solving are the hallmark of integrated behavioral health consultations in primary care settings. According to Robinson & Reiter (2007), a behavioral health consultant embedded in primary care setting conducts a functional analysis that involves problem specification, conceptualization, and behavior targeted brief interventions that are outcome oriented. Therefore, it is reasonable that men who received care from integrated behavioral health primary care clinics had increased uptake or adherence to depression treatment compared to those who received care in non-integrated primary care clinics. Although it has been argued that approaches that leverage traditional masculine norms also pose the risk of reinforcing masculine stereotypes (Fleming et al., 2014; Robinson & Robertson, 2010), they also have the potential to improve service uptake as demonstrated in this study.

In addition to care setting, men’s generational group has demonstrated statistical significance in influencing the utilization of mental health services among men. Baby Boomers and/or older adults were 67.8% (CI = .134,.771) less likely than Generation Z to use mental health services. While research has shown that conformity to masculine norms attenuated throughout the
lifespan with evidence indicating conformity to masculine norms decreased significantly with age (Rice et al., 2011), the results of this study indicate that any influence of masculine norms did not diminish with increase in age among generational groups. Indeed, some studies that have empirically addressed age differences in help-seeking for depression suggest that older adults’ attitudes toward seeking help are generally positive (Currin et al., 1998; Robb et al., 2003); and perhaps even more so than with younger adults’ (Berger et al., 2005; Rokke & Scogin, 1995; Sirey et al., 2001). However, the results of this study indicate that Baby Boomers are less likely to seek help than Generation Z. The odd ratio statistic for generational groups’ utilization of behavioral health services might not be a reflection on Baby Boomers but rather on Generation Z as a reference group in this study.

According to the American Psychological Association (APA), only 45% of Generation Z report that their mental health is very good or excellent, while all other generation groups fared better on this statistic, including Generation Y (56%), Generation X (51%), and Boomers (70%) (Bethune, 2019). In the same APA study, Generation Z reported a high prevalence of stress related to following national news topics when compared with other generational groups: mass shootings (75% vs. 62% prevalence); rise in suicide rates (62% vs. 44% prevalence); climate change and global warming (58% vs. 51% prevalence); and widespread sexual harassment and assault reports (53% vs. 39% prevalence) (Bethune, 2019). Additional stressors reported by Generation Z include bullying or not getting along with others (35% prevalence), personal debt (33% prevalence), housing instability (31% prevalence), and hunger or getting enough to eat (28% prevalence) (Bethune, 2019). In addition to reduced stigma about mental health, the prevalence of stress and depression within this generation group would make them seek more treatment and service more than any other generational group.
Descriptive Results on Depression Treatment Response

The second goal of this study was investigating the influence of primary care setting type on depression treatment response. The results confirmed that an integrated primary care setting had a statistically significant influence on depression treatment response. Integrated behavioral health primary care had a higher rate of achieving depression treatment response compared to non-integrated primary care (25.1% vs. 18.5%). Both response rates are higher than short-term remission from depression without treatment. Across studies, 8–18% of people were remitted without treatment within 12 weeks (Mekonen et al., 2022).

A similar study that investigated factors associated with response and remission from depression at six months of treatment with an integrated care program showed better results than those of the current study. At six months, 47% of patients demonstrated treatment response (PHQ-9 < 10), and 16% demonstrated remission (PHQ-9 < 5) (Jefferey et al., 2021). The difference between the results of the two studies could be attributed to multiple factors, including duration of treatment (three months vs. six months), gender mix (male and female vs. just male), integration model fidelity, and patient mix. Further research will be needed to explore treatment response differences based on these factors.

This study also analyzed the influence of psychotherapeutic medication as a confounder. The analysis showed that men who were on psychotherapeutic medication achieved depression treatment response at a higher rate than those who did not take medication. This finding confirms results of previous studies regarding the influence of medication on depression treatment response or/and remission. Either antidepressant medication or psychotherapy can be given alone in IBHPC clinics. In this study, the influence of psychotherapeutic medications was analyzed while controlling for other variables. While studies have shown that each is effective and comparable to
the other, well-designed studies suggest that a combination of antidepressant medication and psychotherapy is more effective than either treatment on its own (Keller et al., 1998; Snow et al., 2000; Trivedi et al., 2007; Woelk, 2000; U.S. DHHS, 2010).

Another confounding variable for this study was supportive relationships, as they showed statistically significant influence on depression treatment response. Patients with undisclosed relational supports had the highest rate of achieving depression treatment response (50%), followed by patients living with a significant other or domestic partner or married (22.2%). Patients who were single achieved a response rate of 22%, and those who were divorced, legally separated, or widowed achieved a depression treatment response rate of 15.6%. Admittedly, this result seems to contrast numerous research findings on the influence of relational supports in depression treatment response in the past.

Results of Logistic Regression Analysis on Depression Treatment Response

In addition, the integrated primary care setting was 68.2% (CI = 1.11, 2.547) more likely than the non-integrated primary care setting to have men who responded to depression treatment while adjusting for other variables. Considering utilization was higher among integrated behavioral health primary clinics, this result would not be surprising. Although investigating the correlation between utilization and treatment response was outside the scope of the current study, other investigations have shown that utilization of mental health services is correlated with treatment response (Watts et al., 2007; Solberg et al., 2006).

In addition, men who used psychotherapeutic medications were 91.8% (CI = 1.294, 2.842) more likely than those who did not use medication to respond to depression treatment. This is consistent with studies that show better results for patients who took medication than those who were not on medication (Manber et al., 2008; Mojtabai et al., 2021; Bauer et al., 2013). Medication
is known to be effective in moderate, severe, and chronic depression, but probably not in mild cases (Bauer et al., 2013). This study did not investigate the effect of medication based on depression severity, which was an analysis beyond its scope.

Patients who did not disclose their relational supports in this sample were 4.334 times (CI = 1.394, 11.436) more likely to respond to depression treatment as the group that were married or lived with a significant other or domestic partner. However, this category of patients either showed as “refused to disclose” or had their marital status marked as “unknown” on their electronic medical records. Men who indicated being single did not show any statistically significant difference in responding to depression treatment than those who were or living with significant other or domestic partner or married. Other studies have indicated that those with greater access to supportive relationships at the start of treatment respond more favorably than those with lower levels of support (Hallgren et al., 2017). However, Bromley et al. (2016) noted that “depression is experienced as located within and inextricable from relational space and that the self is experienced as relational, rather than autonomous, in depression.” (Bromley et al., 2016, para. 1). This perspective of the depression experience contradicts a disease-oriented concept where the experience of depression is located in an organ of the body such as the brain (Bromley, et al. 2016). To the contrary, “relational space marks the contours of the valued social context where one’s most intimate interactions and interdependence occurs”, and where depression is experienced (Bromley et al., 2016, para. 4). In this study, this kind of space would include relationships indicated as married, living with a significant other or domestic partner, and living as single, divorced, legally separated, or widowed as the social contexts of intimate interactions. If the results of this study are consistent with previous studies, they would suggest that the category of patients with disclosed or unknown relational supports could be explained by two factors: lack of “relational space” and/or
the specific “relational space” of those who had relational supports. Since depression is experienced as located within and inextricable from relational space, where the self is experienced as relational rather than autonomous, Bromley and colleagues (2016) discovered that help-seeking intensified the relational problem of depression rather than alleviating the depressive experience. Research findings by Keeler and colleagues (2014) suggest that in some instances familism can undermine help-seeking and potentiate the depressive experience if strong ties to family members overshadow the needs of individuals (Keeler, et al. 2014). This perspective of depression would likely explain why those without a disclosed or known relationship showed better depression treatment response compared to the reference group of those who were married or lived with a significant other or domestic partner.

**Future Research**

The study results reveal areas for further investigation by future research. Future studies that seek to answer similar questions might need to explore the relationship between utilization levels and depression treatment response and remission. The current research did not explore remission rate let alone the relationship between utilization and treatment response. Future research could further explore the optimal number of behavioral services encounters that would make a difference in men’s response to depression treatment or remission.

While comparison of utilization and response rates between specialty clinics and integrated behavioral health primary care is already established, the current study successfully compared the results between the two primary care settings. A comparison of the influence of all three care settings—integrated primary care, non-integrated primary care, and behavioral health specialty clinics—would be valuable. Thus far, research has established the effectiveness of integrated behavioral health primary care, and future research could go further to conduct cost-benefit,
minimization, cost-effective and cost-utility analysis comparison of the three care settings. While this kind of investigation might be costly, it would add to much needed knowledge in the field of depression treatment for men.

Implications for Practice and Policy

The practice of referring patients to specialty clinics does not yield better results for the patients. Specialty clinics should be reserved for severe persistent mental illness. All other depression cases should be treated from the primary care clinic. Primary care clinics could develop an integrated tracking system with specialty clinics outside of the network for closing the loop on referrals and ensure that the sending provider from the primary care clinic receives a report from the receiving provider after the completion of the visit that resulted from the referral. This is important for care coordination with specialty clinics that are outside the patient’s network. It also ensures that patients receive any necessary follow-up with the primary care provider as the gatekeeper of care. Currently, these processes could be time consuming, as they require printing, faxing, scanning, and does not involve the exchange of discrete data. The provider organization must make efforts to develop or obtain a much more streamlined process that should be rolled out across care collaboratives.

There are multiple integration models, such IMPACT, The Three-Component Models, the 6P Framework, and the Co-located Collaborative Care. The provider organizations should focus on one model to follow and adhere to model’s recommended protocols with a high level of fidelity. This would allow practitioners to monitor model implementation and observe results that are easily attributable to the whole model rather than implementation variations of the same model. The goal, in this case, is to ensure any variation in patient health outcomes can be limited to other variables, such as patient profile and other factors outside the model itself. As a result, models can be easily
compared, and exchange learning would be more meaningful, especially if the goal is learning to tailor the right model for the appropriate population groups. Results of model evaluation from a program with strict protocols could be used as an effective tool for resource advocacy and negotiating contracts with Medicaid and Medicare given limited resources.

The base of research evidence for integrated behavioral health primary care practice is way ahead of prevailing policies and regulation of primary care practice payment models across states. Serrano (2020) estimates that only 80 organizations operate integrated primary care practices in 30 out of the 50 states and at 504 locations. Association estimates between 2,260,000 and 4,860,000 patients have access to integrated care services (Serrano, 2020). The result of the current research is another added reason for expanding integrated behavioral health primary care and incentivizing an equitable payment of the model. Based on the research evidence, public and private insurance should plan to be re-organized to offer financial viability for primary care practices to integrate behavioral health services; and the new financing should depend on the provider organization’s approach toward care integration.

Though providers and previous research recognize the benefits of integrating behavioral health and primary care, reimbursement for services continue to be one of the most challenging barriers to achieving integration. Congress has made efforts to improve coordination and reduce the lack of coverage for behavioral health services in primary care through the Mental Health Parity and Addiction Equity Act of 2008 and the 21st Century Cures Act signed into law in December 2016. These laws are requiring providers, health plans, and insurers to offer equal access and scopes of services to behavioral health patients as those provided to patients receiving physical medical services. This represents a big step forward in minimizing the reimbursement barrier
because government and commercial payers are being required to develop payment methodologies that will reimburse health services provided in an integrated setting.

Although seeing both the primary care provider and behavioral health consultant on the same day for a behavioral health concern, such as depression, can result in two charges to the patient, the behavioral health charges are always notoriously low. To reduce the financial barrier, the provider organization will often waive the patient’s fee for the behavioral health services. Provider organizations continue to explore funding and reimbursement structures to support the sustainability of these services. The rationale for integration is that primary care is where most people seek any healthcare and develop long-term relationships for their overall health. Because it is already a place where most mental healthcare is delivered, this makes it a logical care setting in which to integrate behavioral health services.

**Interdisciplinary Implications**

The results of this study demonstrate the contribution of behavioral health to achieving value-based care through interdisciplinary practice. Integrating behavioral health services into primary care involves a huge shift. Each field has its own approach to patient care and outcomes. Differences like these would require an enormous amount of time, trust, and tenacity to bridge the gap between the two disciplines of medical and behavioral health. Disciplines will need to build consensus on which outcomes to measure for the patients, as well as for the organization. Measures, such as utilization of preventive outpatient services compared to acute care, patient health outcomes improvement (e.g., depression treatment response), cost savings, cost benefit, cost utility, and cost effectiveness would increase interdisciplinary collaboration among teams once consensus has been achieved on this goal and assumed by all members of the same team.
For instance, cost saving can be an important organizational measure that behavioral health integration has been shown to achieve. These measures include avoidable emergency department visits through brief counseling and medication management at the primary level. Incentivizing this measure among disciplines will promote interdisciplinary collaboration between providers and the behavioral health consultants/clinician. Cost-saving incentives are known to work better through value-based care contracts between payer and provider organizations. With this type of payment arrangement, interdisciplinary teams are incentivized to minimize cost rather than maximize revenue, as is often the case with fee-for-services reimbursement contracts. The current study findings show the benefits of interdisciplinary practice within the primary care setting.

In order to realize better results in the utilization of mental health services among Baby Boomers, the interdisciplinary team would be encouraged to meet and collaborate with marketing experts to develop practices that promote use within this age category. A sophisticated and targeted social marketing campaign informed by a deep understanding of the cultural influences within this group might increase awareness and change of attitudes toward the use of mental health services.

**Strengths**

All data in this study, except utilization of behavioral health services, was independently validated by the organization’s data scientists. The organization’s data scientists validate new data entered by clinicians on a regular basis to ensure accuracy even outside of this research. Therefore, data collection and validation was rigorous. In addition, all data was originally collected with the aim of demonstrating the influence of integrated behavioral health primary care on depression treatment response for all patients receiving care in integrated primary care.

In addition to data validation, there were regular consultations between the investigator and clinical managers and directors of the 12 clinics included in this research. This provided the
researcher a strong understanding of the program to effectively explore answers to the main research questions. The investigator used clinic managers’ expert instructions in pulling an electronic record review of relevant data. These consultations enriched the investigator’s understanding of programs and enabled the research to be relevant to the practice of integrated behavioral health primary care.

The significance of the findings cannot be overstated. The study successfully established statistical significance regarding the influence of integrated behavior health primary care on the utilization of mental health services and depression treatment response. In addition, the influence of the emerging practice of integrated behavioral health primary care to a menacing challenge of men’s depression and suicide rates associated with major depression within the population group was clearly demonstrated.

Limitations

The investigation was a retrospective cross-sectional study, which tends to yield weaker evidence for causality. While providing valuable information about the prevalence of success in depression treatment response and utilization of mental health services, the study could not measure predictor variables prior to the outcome for utilization of mental health services and depression treatment response. Although integrated primary care was found to have significant influence on mental health services utilization and depression treatment among men, inference of causality cannot be established.

Utilization of mental health services was not independently validated by data scientists within the organization. Utilization of mental health services for these patients was confirmed by the investigator through a thorough electronic medical record review. There is a chance that the
use of mental health services at out-of-network specialty clinics might not have been accurately captured.

The COVID-19 pandemic also had an impact in optimizing sample selections. After March 2020, clinic visits were conducted virtually. Therefore, observation for service utilization and depression treatment response was limited between September 2019 through March 2020. However, admission cutoff for research participants was set for December 31, 2019. Any participants who were admitted into the clinics after December 31, 2019, were removed from the sample. This further limited the actual observation period to a minimum of three months and a maximum of six months. More observation time could have yielded a better picture in answering the research questions.

Sample size can limit the generalizability of study results. The sample size of 648 men was not large enough to allow for a more detailed analysis of certain variables of interest. Some of the covariates of interest, such as insurance, class, race, and marital status (supportive relationships), were all collapsed because those categories resulted in less than five cell counts during crosstabulation. The outcome variable of utilization was also collapsed into two categories: “one or more encounter utilizers” and “non-utilizers” because some cell counts were less than five or zero after crosstabulation. Other covariates of interest, such as cancer, had cell counts of zero, which resulted in cancer being left out from consideration. Overall, the study results had limited nuance for those variables affected by cell count. Caution should be exercised in interpreting the depression treatment response among those who did not disclose their relational support status, given the small sample size for this variable. Between the two response categories, there were a total of 18 participants who were equally distributed in between cells. A bigger sample in these
cells would provide more confidence in interpreting the improvement in treatment response among men who did not disclose their relational support status.

This investigator works for the healthcare network to which the 12 clinics belong. This gives the investigator an inherent positive bias towards the study. However, the investigator was quite removed from the clinics from which the data was collected and works for a separate services area within the family of organizations. In addition, the investigator was not involved in the original data collection because all data was secondary.

**Conclusion**

In conclusion, integrated behavioral health primary care can improve the utilization of mental health services among men. The integration of behavioral health into primary care settings could be promising for increased service utilization and treatment response for males suffering from depression. Since primary care is not associated with any one specific health condition, primary care settings are more likely reduce the stigma for a patient seeking mental healthcare compared to stand-alone mental health specialty settings. This makes it acceptable and, therefore, more accessible for most patients who need mental health services. Therefore, integrating behavioral health services increases the use of services in a population group that would otherwise benefit from services.

Integrated behavioral health primary care can also improve depression treatment outcomes among men. Increased use of mental health services among men would lead to improved depression treatment outcomes, which has the potential to drastically reduce the suicide rates within this population group resulting from symptoms of major depression. Integrated behavioral health primary care provides easy access to services for men, as they often struggle with the stigma of seeking help for depression. Treatment within primary care settings would also increase the
chances of augmented depression treatment to include both brief counseling and medication. The study was able to reject the null hypothesis and confirm the alternative that integrated behavioral health primary care settings have significant influence on mental health services utilization and depression treatment response among men.

Current research findings are additional evidence to the importance of interdisciplinary practice in promoting value-based care. When men can access and utilize more mental health services at integrated primary care clinics than other settings, such as specialty clinics and regular primary care settings, this could potentially decrease the cost of acute inpatient care due to improved patient health outcomes. As the U.S. health system prepares to move toward value-based care, the interdisciplinary practice in integrated behavioral health primary care could make a huge contribution towards that goal.
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Appendix A

HSIRB Approval Letter

Date: August 9, 2021

To: Kieran Fogarty, Principal Investigator
    Tendai Masiriri, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: IRB Project Number 21-08-01

This letter will serve as confirmation that your research project titled “The Influence of Integrated Behavioral Health Primary Care on the Utilization of Mental Health Services and Depression Treatment Response Among Men” has been approved under the exempt category of review by the Western Michigan University Institutional Review Board (IRB). The conditions and duration of this approval are specified in the policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note: This research may only be conducted exactly in the form it was approved. You must seek specific board approval for any changes to this project (e.g., add an investigator, increase number of subjects beyond the number stated in your application, etc.). Failure to obtain approval for changes will result in a protocol deviation.

In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the IRB for consultation.

The Board wishes you success in the pursuit of your research goals.

A status report is required on or prior to (no more than 30 days) August 8, 2022 and each year thereafter until closing of the study. The IRB will send a request.

When this study closes, submit the required Final Report found at https://wmich.edu/research/forms.

Note: All research data must be kept in a secure location on the WMU campus for at least three (3) years after the study closes.
EXEMPT DETERMINATION

March 2, 2021

Dear Tendai Masiriri, MS, MSW, MPA, LCSW

On 3/1/2021, the IRB reviewed the following protocol:

<table>
<thead>
<tr>
<th>Type of Review:</th>
<th>Initial Study</th>
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<tr>
<td>Title of Study:</td>
<td>The influence of integrated behavioral health primary care settings on utilization of mental health services and depression treatment response among men</td>
</tr>
<tr>
<td>Study ID:</td>
<td>STUDY202000842</td>
</tr>
<tr>
<td>Investigator Name:</td>
<td>Tendai Masiriri, MS, MSW, MPA, LCSW</td>
</tr>
<tr>
<td>Sponsor:</td>
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</tr>
<tr>
<td>IND, IDE, or HDE:</td>
<td>None</td>
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<tr>
<td>IRB of Record:</td>
<td>PSJH IRB</td>
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This letter represents the IRB determination of exempt for your project, as the involvement of human subjects is limited to one or more of the Exempt Categories identified in 45 CFR 46.104(d):

CATEGORY 4: Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:

(iii) The research involves only information collection and analysis involving the investigator’s use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of “health care operations” or “research” as those terms are defined at 45 CFR 164.501 or for “public health activities and purposes” as described under 45 CFR 164.512(b); or

Exempt status research does not have an expiration date and does not require continuing review.

A Waiver of Authorization was approved in accordance with 45 CFR 164.512(i)(2)(ii) on 11/20/2020 under Exempt Review Procedures.
The IRB is satisfied that the use or disclosure of protected health information involves no more than a minimal risk to the privacy of individuals, based on, at least, the presence of the following elements;

(A) (1) An adequate plan to protect the identifiers from improper use and disclosure;

(2) An adequate plan to destroy the identifiers at the earliest opportunity consistent with conduct of the research, unless there is a health or research justification for retaining the identifiers or such retention is otherwise required by law; and

(3) Adequate written assurances that the protected health information will not be reused or disclosed to any other person or entity, except as required by law, for authorized oversight of the research study, or for other research for which the use or disclosure of protected health information would be permitted by this subpart;

(B) The research could not practicably be conducted without the waiver or alteration; and

(C) The research could not practicably be conducted without access to and use of the protected health information.

The waiver is limited to only information in a patient’s medical record relevant to the research, and not the entire record.

Please note that this determination is based upon the information submitted. Any future revisions to this protocol must be submitted to the IRB before they are implemented in order for the IRB to determine whether or not the revision affects the status of this project.

Should there be any questions, please contact the PSJH IRB at irbsharedservices@providence.org.

Sincerely,

PSJH IRB