ENGAGEMENT AND RETENTION IN DEPRESSION TREATMENT AMONG HISPANICS IN AN INTEGRATED HEALTH CARE INTERVENTION: A MIXED METHODS ANALYSIS

by

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DISSERTATION

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ABSTRACT

Engagement and Retention in Depression Treatment among Hispanics in an Integrated Health Care Intervention: A Mixed Methods Analysis

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Disparities in the underutilization of mental health services remain prominent among Hispanics in the United States. While integrated health care models can contribute to the elimination of mental health care disparities experienced by Hispanics, more research on how patient-level factors impact engagement and retention within these models is needed. The current study was a secondary data analysis informed by an integrative framework based on Andersen's Behavioral Model of Health Service Use (1968) to examine what factors are associated with Hispanics' depression treatment engagement and retention in an integrated health care intervention that took place in a community clinic. Utilizing a convergent mixed methods design, quantitative (*N* = 150) and qualitative (*n* = 22) data were collected and analyzed separately with a merging of results to provide a more in-depth and holistic understanding of treatment participation with the Depression Care Manager (DCM) among study participants. Participants were highly engaged in treatment with an average number of sessions of 11.90 (*SD* = 6.97) and 76% completing treatment. Results of the quantitative analysis demonstrated that greater mental health literacy and having a comorbid physical health condition were associated with a higher number of sessions with the DCM. Qualitative results revealed several themes related to treatment engagement (recognizing the need for treatment, perceptions of depression, and treatment, values, and access) and retention (satisfaction with treatment, support systems, and barriers to treatment). Taken together, these results highlight the importance of screening patients for depression, educating patients throughout treatment, and providing culturally and linguistically competent services to improve access and satisfaction with treatment. Future research should continue to examine patient level-factors and experiences to understand how integrated health care models can be developed and implemented to address barriers to care, leading to increased participation, improved outcomes, and the elimination of mental health disparities experienced by Hispanics.

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DEDICATION

I dedicate this work to my family, who have been pillars of support and inspiration throughout my educational career.

To my parents, Andrew Hernandez, Jr. and Kimberley Thrasher, who taught me the value of education and provided every opportunity possible for me to succeed.

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CHAPTER 1

INTRODUCTION & LITERATURE REVIEW

Problem Statement and Rationale

Hispanics are the largest minority group in the United States, accounting for 18% of the total population, and are projected to make up more than a quarter of the nation's total population by 2060 (Colby & Ortman, 2015). While Hispanics demonstrate lower prevalence of mental illnesses compared to those of their non-Hispanic, White counterparts (Hernandez, Plant, Sachs-Ericsson, & Joiner, 2005), research has consistently demonstrated disparities in utilization and quality of mental health care for Hispanic populations. In a review of epidemiological studies over a decade ago, Cabassa, Zayas, and Hansen (2006) found that compared to non-Hispanic Whites, Hispanics underutilize mental health services, report greater delays in receiving mental health care, are less likely to be satisfied with the mental health care they receive, and are less likely to use specialty mental health care services. Recent data from the 2017 National Survey on Drug Use and Health demonstrate that mental health service utilization disparities remain, with only 32.6% of Hispanics with any mental illness reported receiving some type of mental health treatment within the past year compared to 48.0% of Whites (National Institute of Mental Health, 2019).

Mental health and substance use disorders are the leading cause of disability worldwide (Whiteford et al., 2013). Depression, specifically, is the leading cause of disability in the United States, resulting in growing economic burden due to direct medical costs, workplace costs, and suicide-related mortality costs (Greenberg et al., 2003; Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015; Merikangas et al., 2007). Disparities in access to care and quality treatment among Hispanics lead to a disproportionate burden of disability associated with worse mental and physical health outcomes (Cabassa et al., 2006, Hinton & Arean, 2008; Marin, Escobar, & Vega, 2006). While integrated health care models offer an opportunity to increase access and decrease disparities associated with mental health care utilization for Hispanics (Arean et al., 2005; Arean et al., 2008; Bridges et al., 2014), retention in these models remains a challenge with as few as 28-52% of Hispanic patients attending sessions beyond their initial visits (Bridges et al., 2014; Camacho et al., 2015) and indicates that barriers to treatment remain.

Specific Aims

The objective of the current study is to address a gap in the literature by examining what factors are associated with Hispanics' engagement in mental health care and retention in integrated health care models. This objective will be accomplished by pursuing the following specific aims:

1) Evaluate the impact of sociodemographic and psychological factors on mental health treatment participation among Hispanics with depression enrolled in an integrated health care model with the following questions:
    a. What predisposing, enabling, and need factors are associated with treatment engagement (i.e., the number of visits with the Depression Care Manager) among participants?
    b. What predisposing, enabling, and need factors are associated with treatment retention (i.e., completion of their treatment plan with the Depression Care Manager) among participants?
2) Explore the experience of mental health treatment usage among Hispanics with depression enrolled in an integrated health care model with the following questions:

   a. Why do participants choose to engage in treatment?
   b. Why do participants choose to remain in treatment and what barriers do they encounter during their participation?

3) Compare the quantitative and qualitative results among participants to enhance the understanding of treatment participation among Hispanics with depression receiving treatment in an integrated health care model.

Utilizing a convergent mixed methods design, this study will provide a more in-depth understanding of factors impacting Hispanics' treatment uptake within an integrated health care model. Results of the study can inform the development and best practices of models to address barriers to care, leading to increased participation, improved outcomes, and the elimination of mental health disparities experienced by Hispanics.

Literature Review

Mental Health Disparities Experienced by Hispanics

Overview. According to the Centers for Disease Control and Prevention (CDC), health disparities are defined as the differences in health outcomes or health determinants between populations (Meyer, Yoon, & Kaufman, 2013). When examining health disparities in the United States, research often focuses on the differences between the majority population (non-Hispanic Whites) compared to minority populations. In 2001, the Surgeon General released a report titled *Mental Health: Culture, Race, and Ethnicity, A Supplement to Mental Health: A Report of the Surgeon General* highlighting disparities in mental health services experienced by racial and ethnic minorities including less access to available mental health services, less likely to receive needed mental health care, receiving poorer quality of care, and under-representation in mental health research.

The lifetime prevalence of psychiatric disorders among Hispanics has been estimated to be 28.1% for men and 30.2% for women (Alegria et al., 2007b), while overall prevalence of depression is estimated to be 27.0% (Wassertheil et al., 2014). However, despite these rates of mental health problems, significant barriers remain for access and quality of mental health care. Using nationally representative data, Alegria et al. (2008) found that Hispanics were significantly less likely than non-Hispanic Whites to receive access to any mental health treatment even after adjustment for poverty, insurance and education variables. These disparities remain persistent with survey data from 2014 showing that despite an increasing rate of mental health treatment among those meeting criteria for serious psychological distress in the past year, racial/ethnic minority respondents continued to receive treatment at substantially lower rates than Whites (Creedon & Le Cook, 2016). Moreover, recent data from the Substance Abuse and Mental Health Services Administration (SAMHSA) (2015) reported that compared to White adults, Hispanic adults with any mental illness are less likely to use outpatient mental health services (25.7% vs. 16.6%) and prescription medications to treat mental illness (41.0% vs. 22.4%). For those that do initiate outpatient and antidepressant mental health treatment, Hispanics are more likely to discontinue treatment prematurely (Olfson et al., 2009; Olfson, Marcus, Tedeschi, & Wan, 2006).

Factors associated with disparities. Disparities in mental health care treatment for Hispanics result from a complex set of sociodemographic, structural, and cultural factors. In terms of sociodemographic variables, research utilizing nationally representative samples of

Hispanics have found that age, gender, education, marital status, employment, income, insurance coverage, and citizenship status are associated with mental health care use (Berdahl & Torres Stone, 2009; Cho, Kim, & Velez-Ortiz, 2014, Lee & Matejkowski, 2012). Survey data from 2008 to 2012 demonstrated that cost and/or inadequate insurance coverage was the most frequently cited reason for not using mental health services among Hispanic adults who had an unmet need (SAMHSA, 2015). This finding is consistent with research that has shown having insurance to be the strongest predictor in the utilization of mental health services by Hispanics in the past 6 to 12 months (Chang & Biegel, 2017; Rosales & Calvo, 2017). However, a lack of congruence between patterns of insurance coverage and patterns of access to care suggest that gains in insurance coverage alone are not enough to create meaningful reductions in mental health treatment disparities and unique access barriers remain for Hispanics and other racial/ethnic minorities (Creedon & Le Cook, 2016).

Sociocultural factors (i.e., factors related to a person's social and cultural group status) also play an important role in the use of mental health services among Hispanics. Fewer years in the United States, being foreign-born, and being primarily Spanish speaking are associated with less mental health service use (Alegria et al., 2007a; Keyes et al., 2012). The effect of these cultural factors on service use may be explained by the restricted use of public insurance programs, inability to obtain jobs that offer health insurance/complete applications for health insurance, and/or the limited availability of linguistic/culturally matched mental health clinicians (Alegria et al., 2007a; Keyes et al., 2012). Stronger ethnic identity and lower levels of acculturation to Anglo-American culture are also associated with less mental health service use (Burnett-Zeigler, Lee, & Bohnert, 2018; Keyes et al., 2012). This relationship may be mediated by a greater identification with traditional ethnic values such as fulfilling family obligations, being hard-working, and being able to cope with one's problems that are seen as conflicting with seeking formal mental health services (Mascayano et al., 2016; Yang et al., 2014).

Stigma is also a significant barrier to mental health care for Hispanic populations. The term *stigma* refers to negative attitudes and beliefs that motivate individuals to fear, reject, avoid, and discriminate against people with mental illness (Corrigan & Penn, 1999). While stigma affects people's help-seeking behaviors, ability to recognize the existence of a mental health problem, treatment engagement, and premature discontinuation of treatment for society in general, these consequences may impact certain groups, including ethnic minorities, disproportionately (Alvidrez, Snowden, & Kaiser, 2008; Clement et al., 2015; Corrigan, Druss, & Perlick, 2014; Sirey et al. 2001a; Sirey et al. 2001b). Among Hispanics, stigma has been found to be negatively associated with the desire to engage in mental health care, disclosure of mental illness to family and friends, management of depression symptoms, and adherence to antidepressant medications (Interian, Martinez, Guarnaccia, Vega, & Escobar, 2007; Nadeem et al., 2007; Vega, Rodriguez, & Ang, 2010). Compared to White and Black Americans, a higher percentage of Hispanics report concerns of prejudice and discrimination as reasons for not using mental health services (SAMHSA, 2015).

Finally, the intersection of race/ethnicity and mental illness, each associated with its own prejudice and discriminatory experience, can be experienced as living with multiple stigmatized identities (Turan et al., 2019). This 'intersectional stigma' may increase the burden of mental illness as well as the challenges in seeking adequate care (Gary, 2005; Turan et al., 2019). For example, Cabassa et al. (2014) found that Hispanics with serious mental illness often had their physical complaints dismissed and ignored by medical providers because of the multiple biases and prejudices associated with the patients' mental health and minority status. Despite these intersecting forms of stigma being a common reality, their mechanisms and combined effects remain poorly understood (Turan et al., 2019). More research is needed to understand the impact of stigma on mental health care use among Hispanics, particularly when considering other salient factors including marginalization and discrimination due to ethnic minority status.

Integrated Health Care Models

Overview. Integrated health care models are one way in which people can access mental health services and occur when "mental health specialty and general medical care providers work together to address both the physical and mental health needs of their patients" (Butler et al., 2008, p. 1). Rather than referring patients to outpatient mental health services, primary care settings implementing these models of care will work with mental health practitioners in the same setting to treat patients' mental illnesses. These models of care can take numerous forms, with Doherty, McDaniel, and Baird (1996) providing the first classification of these models based on a continuum organized by level of collaboration and integration. In their original framework, Doherty et al. (1996) proposed five levels: minimal collaboration, basic collaboration from a distance, basic collaboration onsite, close collaboration/partly integrated, and fully integrated. Using Doherty et al.'s original framework as well as other proposed classifications such as Blount (2003), the standardized framework by Heath, Wise Romero, and Reynolds (2013) contains six levels across three main categories: coordinated care, co-located care, and integrated care, each with key elements including communication, proximity, and practice change.

Integrated health care models to treat common mental disorders, such as anxiety and depression, within general medical/primary care settings are largely based on the Chronic Care Model (CCM) by Wagner, Austin, and Von Korff (1996). The CCM includes five key elements to improve outcomes for chronically ill patients: the use of plans and protocols, the reorganization of practice to meet patient needs, patient education based on the patients' needs, an expert system to administer provider education and consultation, and supportive information systems to assist with outcome monitoring, care planning, reminders, and feedback. True implementation of the CCM requires a model of care beyond coordination and co-location. The fully integrated model of care, referred to as collaborative care, is the collaboration of primary care providers and specialty mental health care providers to develop and adjust treatment plans based on the measurement of symptom-related outcomes with the use of care managers, proactive follow-up, and systematic tracking of outcomes (Thielke, Vannoy, & Unutzer, 2007; Unutzer, Schoenbaum, Druss, & Katon, 2006).

An essential element of collaborative care programs is the use of care managers who are often trained nurses, social workers or psychologists who serve as the behavioral health provider within the model (Unutzer et al., 2006). Care managers work to support effective collaboration between patients, primary care providers and consulting psychiatrists while also providing intervention specific care including patient education, regular follow-up contacts, brief psychotherapy, and participation in team meetings (Thielke et al., 2007, Unutzer et al., 2001). Through their systematic tracking of clinical outcomes, care managers work with the care team to facilitate treatment changes according to evidence-based treatment guidelines (Thielke et al., 2007). According to the AIMS (Advancing Integrated Mental Health Solutions) Center (2019), behavioral interventions offered by care managers should be brief, patient-centered, structured, relevant to diverse patient populations, and have substantial research evidence base. Interventions commonly used among care managers include Problem Solving Therapy-Primary Care (PST-PC; Mynors-Wallis, Gath, Lloyd-Thomas, & Tomlinson, 1995), Cognitive Behavioral Therapy (CBT; Weisberg & Magidson, 2014), Interpersonal Counseling (IPC; Weissman et al., 2014), and Behavioral Activation (BA; Hopko, Lejuez, Ruggiero, & Eifert, 2003).

Effectiveness. Given the various levels of integrated health care models and wide variability of settings in which they are implemented, it is challenging to generalize about their effectiveness on patient, cost, and provider outcomes. However, in general, integrating mental health into primary care settings has led to significant improvements in symptom severity, treatment response, and remission across integration levels (Butler et al., 2008). Collaborative care, specifically, has demonstrated the strongest evidence for effectiveness compared to usual care (referral to specialist mental health services). A systematic review of 90 randomized controlled trials comparing collaborative care to usual care concluded that the model leads to significantly greater improvements in depression and anxiety outcomes (Archer et al., 2012). Collaborative care also improves many secondary outcomes including medication use and adherence, response to treatment, mental health quality of life, and patient satisfaction (Archer et al., 2012, Thota et al., 2012).

Integrated health care models can contribute to the elimination of mental health disparities by being more accessible and less stigmatizing than receiving services from specialty mental health care services (Sanchez et al., 2012). Not only are Hispanics more likely to receive mental health services in primary care settings (Cabassa et al., 2006), there are many elements of integrated health care models that may lead to increased engagement in care including trusting relationships with primary care providers, warm handoffs to behavioral health specialists, and culturally competent behavioral health interventions (Manoleas, 2008). In an early review of depression treatments for Hispanic adults in primary care settings, Cabassa and Hansen (2007) found that treatments were more effective in reducing depression, improving functioning, and increasing accessibility to guideline-congruent care when they employed key components of a collaborative care model including systematic screening; culturally and/or linguistically adapted patient education materials; manualized psychosocial treatments delivered by trained clinicians; a collaborative, interdisciplinary approach to treatment decision-making; and the use of standardized measures to monitor treatment progress and guide treatment decisions. However, while promising, these results represent only a small number of clinical trials which were conducted under rigorous study conditions (Cabassa & Hansen, 2007). While the passage of the Patient Protection and Affordable Care Act of 2010 and its mandate to integrate services should result in increased opportunity to provide mental health care services and eliminate disparities in terms of access and quality (Kuramoto, 2014), more research is needed to understand what factors lead to increased engagement and retention in real-world treatment settings among the Hispanic population.

Hispanics and Integrated Health Care

Efficacy. One of the first and largest trials examining the impact of collaborative care was Project IMPACT (Improving Mood: Providing Access to Collaborative Treatment for Late-Life Depression), which focused on the treatment of depression among older adults through a collaborative and stepped care approach (Unutzer et al., 2001). While the IMPACT trial was largely comprised of White participants (77%), analyses comparing ethnic subgroups found that the intervention effects found in White participants were of a similar magnitude to those in minority participants, with older minorities who received collaborative care demonstrating better improvements in depression severity, higher rates of treatment response, and significantly higher rates of remission compared to minorities in usual care (Arean et al., 2005). Among Hispanics specifically, compared to usual care, those enrolled in collaborative care were significantly more likely to use psychotherapy (42% vs. 12%), use antidepressants (68% vs. 44%), and report greater satisfaction (72% vs. 45%) (Arean et al., 2005). Another trial examining collaborative care treatment in older adults (PROSPECT: Prevention of Suicide in Primary Care Elderly: Collaborative Trial) also found that the intervention had comparable effects between minority and White patients. However, the researchers found that the intervention ceased to benefit minority patients by the 18-month follow up, whereas White patients continued to benefit at 24 months (Bao et al., 2011).

While the IMPACT and PROSPECT trials showed promising results for minority patients, including Hispanics, the samples were limited to only English speakers and the interventions did not include any cultural adaptations for minority patients (Arean et al., 2005; Bao et al., 2011). One early trial implementing components of collaborative care that included cultural adaptations was the Partners in Care (PIC) study (Wells et al., 2000). The PIC study implemented a practice-initiated quality improvement (QI) intervention to increase access and adherence to both therapeutic and medication treatment for depression in diverse managed primary care settings. Cultural adaptations for minority patients included materials available in both English and Spanish, the presence of minority providers in patient education videos, and training and supervision for providers (Miranda et al., 2003c). Results of the study demonstrated that Latino patients receiving care in the clinics that implemented the QI interventions had higher rates of appropriate depression care and lower rates of probable depression compared to Latinos in the usual care clinics at the 6 and 12 month follow-ups (Miranda et al., 2003c). The intervention also demonstrated potential to decrease disparities by markedly improving clinical outcomes among minorities relative to Whites at the 12 month and 5 year follow up time points (Miranda et al., 2003c; Wells et al., 2004).

Like the PIC study, other studies have also compared the effects of integrated health care across ethnic groups in more broad samples (compared to the older adult samples previously examined in the IMPACT and PROSPECT trials). In a sample of adult and children participants receiving integrated health care services within a Federally Qualified Health Center (FQHC), Bridges et al. (2014) found that both Hispanic and non-Hispanic Whites demonstrated clinically meaningful improvement in depression symptoms. In a large sample of adult patients within a multisite clinical practice, Angstman et al. (2015) found that minority patients in collaborative care had significantly improved outcomes at 6 months compared to those who received usual care (50.3% reaching remission compared to 10.2%). The researchers also found that for patients enrolled in usual care, minorities had significantly lower odds of achieving remission status and higher odds of having persistent depression symptoms compared to non-Hispanic White patients at the 6-month follow-up. However, no significant differences between ethnic groups were found at the 6-month follow-up in the group that received collaborative care management, demonstrating the intervention’s ability to eliminate outcomes disparities experienced by minority groups (Angstman et al., 2015). Both Bridges et al. (2014) and Angstman et al. (2015)

utilized retrospective chart review, demonstrating the effectiveness of these interventions implemented in real-world clinical settings.

While the previously described studies were implemented across diverse patient populations, several studies have demonstrated the efficacy of integrated health care models that are specifically targeted towards racial and ethnic minority populations. Early trials targeting impoverished ethnic minority groups tested different culturally adapted integrated health care models to improve engagement and depression outcomes. In one trial by Miranda et al. (2003a), the researchers found that for Spanish speaking patients (39% of the total sample), adding supplemental case management services to CBT significantly improved depression outcomes compared to receiving CBT alone. In another trial focusing on low-income minority women (50% Latina and 44% Black), Women Entering Care (Miranda et al., 2003b), the intervention tested whether offering guideline-congruent care (in the form of antidepressant medication and psychotherapy) in the women's primary locations of care would lead to better improvements in depressive symptoms compared to referrals to community mental health services. The intervention also consisted of components to specifically engage the target population including educational meetings, bilingual providers, materials in Spanish, enhanced outreach, transportation to services, and childcare funds. Results of the study showed that women in the medication and psychotherapy interventions had significantly lower depressive symptoms compared to those referred to community services at the 6 and 12-month follow-ups (Miranda et al., 2003b; Miranda et al., 2006).

More recently, studies with interventions/models of care specifically targeted towards Hispanic populations have also provided evidence for the model's efficacy. Integrated health care models utilizing bilingual depression care managers and other cultural adaptations, including a depression education intervention, have led to significant improvements in depression symptomology among Hispanic adults (Camacho et al., 2015; Eghaneyan, Sanchez & Killian, 2017; Sanchez & Watt, 2018; Sanchez, Killian, Eghaneyan, Cabassa, & Trivedi, 2019). When compared to usual care, a culturally-tailored collaborative care intervention for depression among low-income Hispanics (PACT: Patients, Providers, and Clinics Together to Improve Depression Care) that included bilingual depression care specialists and a manualized, culturally-adapted Cognitive Behavioral Therapy intervention exhibited significant superiority in decreasing depression symptom severity, increasing the number of patients who reached remission status, and increasing the odds of receiving patient-preferred care (Dwight-Johnson et al., 2010; Lagomasino et al., 2017).

Culturally adapted integrated health care models have also been tested for Hispanics with depression and comorbid conditions. Adaptations of the IMPACT model have shown to be more effective than usual care in reducing depressive symptoms for Hispanic patients diagnosed with depression and diabetes or cancer (Ell et al., 2008; Ell et al., 2010). A collaborative care intervention that included a socio-culturally adapted health literacy component was also effective in clinically significant depression symptom reductions (greater than 50% reductions) for Hispanics with heart disease (Ell, Oh, Lee, & Guterman, 2014). For Hispanics with comorbid depression and Post-Traumatic Stress Disorder (PTSD) symptoms, collaborative care has proven to be effective in the reduction of both depression and PTSD symptoms (Emery-Tiburcio et al., 2019; Kaltman et al., 2019). Finally, an integrated intervention to address co-occurring mental health and substance misuse symptoms among Latinos was shown to be effective in reducing depressive symptoms, reducing PTSD symptoms, and improving overall mental health scores at the 6-month follow up (Alegria et al., 2019).

Engagement and retention. Compared to usual care, integrated health care increases Hispanics' access and participation in mental health treatment (Arean et al., 2005; Arean et al., 2008; Ell et al., 2008). Studies have reported high initial visit attendance rates with care managers, ranging from 74% to 87% (Ell et al., 2010; Ell et al., 2014, Lagomasino et al., 2017). However, these attendance rates reflect those of formal studies being implemented within health care settings. Other studies utilizing extracted medical record data reported a much lower initial visit attendance rates ranging from 36% to 53% (Hochhausen, Le, & Perry, 2011; Horevitz, Organista, & Arean, 2015), indicating real-world treatment uptake may still be a barrier for many Hispanics.

Aside from initial engagement with a mental health treatment provider, retention in treatment remains a barrier among Hispanics diagnosed with mental illness (Olfson et al., 2006; Olfson et al., 2009). Hispanics who receive treatment in integrated health care settings are significantly more likely to receive minimally adequate psychotherapy treatment compared to enhanced usual care or co-located care (Kaltman et al., 2019; Lagomasino et al., 2017). In the Kaltman et al. (2019) study, 48% of patients in the integrated care intervention received satisfactory care (compared to 25.4% of patients who were referred to co-located mental health services). In the Lagomasino et al. (2017) study, 73% of collaborative care participants attended four or more psychotherapy visits compared to 4% of enhanced usual care participants. However, other research indicates that retention in these models remains a barrier. In the PIC study, only 30% of Hispanics in the intervention clinics were receiving appropriate care (defined as 25 days of antidepressant medication or at least four psychotherapy sessions) six months after enrollment (Miranda et al., 2003c). One study utilizing a culturally tailored IMPACT intervention with Hispanic adults reported that only 51.8% of patients attended a second visit with the depression care manager (Camacho et al., 2015). In another study using extracted medical record data to analyze integrated behavioral health service attendance rates of adults and children found that only 28% of Hispanics attended their second scheduled appointment with the behavioral health provider. The same study reported that the average number of behavioral health visits for Hispanic participants was 1.57 (Bridges et al., 2014). Again, these findings indicate that retention rates in integrated health care models being implemented as part of formal studies may not be indicative of real-world treatment retention in settings lacking the structure of manualized study interventions and support of research staff.

Factors impacting outcomes. While research has demonstrated the efficacy of integrated health care models in reducing symptoms and improving patient satisfaction, less is known about what specific mechanisms/components of the model lead to improved outcomes. In a systematic review and meta-regression utilizing 34 studies, Bower, Gilbody, Richards, Fletcher, and Sutton (2006) found that antidepressant use significantly predicted depressive symptoms outcomes. However, these findings were not specific to Hispanic participants. While some studies with Hispanic samples have shown an increased use of antidepressant medication within integrated health care interventions (Arean et al., 2005; Lagomasino et al., 2017), these findings do not suggest causation for improved outcomes. Furthermore, in their study with Hispanic participants diagnosed with depression and heart disease, Ell et al. (2014) found no significant differences in depression symptom improvements between participants who received antidepressant medication and Problem-Solving Therapy versus the group that received Problem-Solving Therapy alone.

Some research has identified specific features of integrated health care models that may be critical in improving outcomes for patients. For example, in the previously mentioned Bowers et al. (2006) study, the researchers found three ‘intervention content variables’ that significantly predicted improvement in depressive symptoms: systematic identification to recruit patients, the use of care managers with a mental health background, and the provision of regular, specialist supervision for care managers. However, while these findings may be relevant to patients in general, studies focusing on Hispanic participants shed light on other important factors. In a secondary analysis of the PRISM-E (Primary Care Research in Substance Abuse and Mental Health for the Elderly) study using a subsample of Hispanic participants, Costantino, Malgady and Primavera (2009) found that cultural congruence (i.e. the distance between the cultural competence of the health care provider organization and the cultural neediness of the clients for which they serve) significantly correlated with symptom reduction for depression and suicidality at three and six months post-treatment. Given that these findings were specific to an elderly Hispanic sample, more research is needed to understand the importance of cultural congruence on younger adult and adolescent populations receiving services in integrated health care programs.

Less research has focused on factors that impact treatment uptake/engagement and retention within integrated health care models. Utilizing extracted medical record data for Hispanic participants within a federally qualified health center providing integrated mental health services, Horevitz et al. (2015) found that neither referral type (in-person “warm handoff” vs. prescribed referral), gender or racial-ethnic match between patients and primary care providers or behavioral health providers, nor primary language of patients was associated with mental health treatment engagement with the behavioral health provider. However, Hochhausen et al. (2011) found that other service-related factors such as time elapsed between since the initial referral and the use of case managers significantly impacted the uptake of treatment among Latinas referred to integrated mental health services. In their review of medical record data for both Hispanic and non-Hispanic White patients in integrated care, Bridges et al. (2014) found that neither ethnicity, therapeutic alliance scores, nor global distress scores were significantly related to attendance of scheduled second appointment with a behavioral health provider. The total number of behavioral health sessions attended by patients was also not significantly related to age, gender, ethnicity, or whether patients received a psychiatric diagnosis at their first session. In the Alegria et al. (2019) study, participants who were 35 years or older, had at least a high school education, and didn't have any children were more likely to complete treatment. Kaltman et al. (2019), found that participants were less likely to be retained in their study that included an integrated health care intervention as well as co-located mental health services if they were male, never married, employed, and had higher depression scores at enrollment.

Results of the preceding studies reflect quantitative findings and provide little insight as to what factors impact Hispanics' engagement and retention in mental health treatment within integrated health care models. In order to further elucidate their quantitative findings regarding treatment uptake, Horevitz et al. (2015) conducted qualitative interviews with a subsample of patients who were referred to the behavioral health provider within an integrated health care model. The researchers found that contextual factors in the referral process, such as whether prescribed treatment matched patients' preferences for treatment based on their perceived causes of depression and if primary care physicians were directly involved in the warm handoff referral, influenced treatment uptake. Other important factors discussed by participants in their decision to attend a behavioral health visit included perceived severity or acuity of depressive symptoms, support of family members and/or friends, and everyday barriers such as poverty and low health literacy (Horevitz et al., 2015). In a study by Hansen and Cabassa (2012), the researchers conducted focus groups and interviews with Hispanic participants of a randomized controlled trial examining the effectiveness of a collaborative depression care model for low-income Hispanics with diabetes. In their examination of patient experiences, the researchers found that help-seeking for depression revolved around three steps of recognition of need, treatment initiation, and adherence to care, with each step being impacted by a complex interaction of individual, social, and organizational factors (Hansen & Cabassa, 2012).

Summary of Gaps in the Literature

Integrated health care models can contribute to the elimination of mental health care disparities experienced by Hispanics by increasing access to care and improving depression and satisfaction outcomes (Arean et al., 2005; Arean et al., 2008; Dwight-Johnson et al., 2010; Ell et al., 2008; Lagomasino et al., 2017). While research has shed light on important intervention context factors that may lead to improvement in outcomes such as systematic identification of patients, specialized mental health training of care managers, and cultural congruence in the delivery of services (Bowers et al., 2006; Constantino et al., 2009), there remains a gap in the literature about what factors are associated with patients' engagement in care. Furthermore, retention in treatment, particularly in real-world settings without formalized study interventions, remains a challenge (Bridges et al., 2014; Camacho et al., 2015). More research is needed to identify variables that influence treatment retention so that integrated health care models can address these factors in order to increase the number of patients receiving minimally adequate care, thus improving outcomes for a greater proportion of patients. This study will contribute to eliminating this gap in the literature by providing insight as to what factors impact treatment engagement and retention past initial visits and why Hispanic participants enrolled in an integrated health care model as part of a research study chose to engage and remain in mental health treatment. While data utilized for the current study was collected during a research trial, findings related to treatment participation can serve as a first step towards understanding this phenomenon in real-world settings.

CHAPTER 2

THEORETICAL FRAMEWORK

In order to examine mental health treatment engagement and retention, the current study is guided by perspectives from two theoretical frameworks: Andersen’s Behavioral Model of Health Service Use (1968, 1995), an evolving and adaptable theoretical framework that has been used extensively to understand the broader concept of mental health service utilization, and Corrigan et al.’s (2014) framework for understanding the relationship between stigma and care seeking. This chapter summarizes each of these theories as they pertain to Hispanics’ use of mental health treatment while also exploring their strengths and limitations. The chapter concludes with a proposed integrated theoretical model used to inform the current study.

Andersen’s Model of Health Care Utilization

History of Model Development

In his 1968 dissertation, Ronald Andersen proposed a behavioral model of health services use to assist in the understanding of families’ use of health services. This initial model was composed of predisposing, enabling, and need factors that contributed to the family unit’s use of health services (Andersen, 1968). Predisposing characteristics consist of demographic (age, gender), social structure (education, occupation, ethnicity), and health belief (attitudes, values, and knowledge) factors. Both community and personal/family enabling resources must then be present for health services use to take place. These resources include the availability of health personnel and facilities, income, health insurance, transportation, a regular source of care, and travel and waiting times. Finally, need factors consist of both perceived and evaluated need (Andersen, 1968).

This model of health services use consists of both sociodemographic and psychological variables. The psychological constructs present in Andersen's (1968) model including health beliefs and perceived need are similar to those found in various models of psychological determinants of health services use such as the Health Belief Model (Janz & Becker, 1984; Rosenstock, 1974). However, Andersen argues that in many contexts, enabling and need factors will explain more variation in health services use than health belief factors. He also acknowledges that the importance of health beliefs in determining specific types of health services use may be stronger for some diseases over others (Andersen, 1995). Regardless of the importance of health belief factors, Andersen maintains that need factors are the primary determinant of health services use, with perceived need being associated with care-seeking and adherence to treatment while evaluated need is more closely related to the kind and amount of treatment that is provided when care is sought out. However, Andersen points out that need factors are not devoid of social context in that perceived need is conceptualized as a social phenomenon that is impacted by social structure and health beliefs (Andersen, 1995).

After its original inception, Andersen's model of health care utilization has undergone several revisions to include additional determinants and outcomes of health services use. First, the model was adapted for individuals to be the primary unit of analysis rather than families (Andersen, 1995). The model was also altered to include societal determinants that impacted the individual determinants (original predisposing, enabling, and need factors) both directly and indirectly through the health services system (Andersen & Newman, 1973). Societal determinants consist of both technology and norms while the health services system is comprised of both resources and organization factors. The use of health services outcome was also expanded upon to include type, purpose, and unit of analysis measures to reflect the variability in determinants based on the type of health care utilized, the purpose of the care (whether to prevent or treat a current condition), and volume of care (whether a one-time visit or number of services received in a given period of time) (Andersen & Newman, 1973).

The model continued to evolve into its final form presented by Andersen (1995) which emphasizes the role of health behaviors have in determining health outcomes. In this version of the model, the external environment (including physical, political, and economic components), health care system, and individual determinants (population characteristics) influence health behaviors and, subsequently, health outcomes. The original use of health services outcome was broadened to include personal health practices such as diet, exercise, and self-care that interact with the use of formal health services to impact health outcomes. The inclusion of health status outcomes as perceived by the population (perceived health status and consumer satisfaction factors) and evaluated by professionals (evaluated health status factor) emphasize the importance of health care utilization outcomes on the health status of the population, which is particularly important to health policy and health reform (Andersen, 1995). Finally, the model hypothesizes feedback loops in which health behavior and health status outcomes affect subsequent predisposing and need factors.

Using data on the use of health services by people experiencing homelessness, Gelberg, Andersen, and Leake (2000) adapted Andersen's (1995) revised model of health care utilization to create The Behavioral Model for Vulnerable Populations (Figure 1). Focusing on population characteristics of predisposing, enabling, and need factors in a recursive model that impact health behaviors, and subsequently health outcomes, the model includes additional factors in each domain that should be considered when applying the behavioral model to the vulnerable populations of minorities, undocumented immigrants, children and adolescents, mentally ill, chronically ill, the elderly, and impoverished and homeless persons (Gelberg et al., 2000). For example, the predisposing domain should go beyond the traditional factors of age, gender, health beliefs, social structure, etc. to include variables such as acculturation, immigration status, and literacy. The health outcomes domain is also expanded to include several consumer satisfaction variables including general satisfaction, technical quality, financial aspect, access and availability, continuity and comprehensiveness. The authors note that some domains of the model will need to be tailored when the model is applied to specific vulnerable populations as well as when the model is applied to different types of health services use including mental health and substance use services (Gelberg et al., 2000).

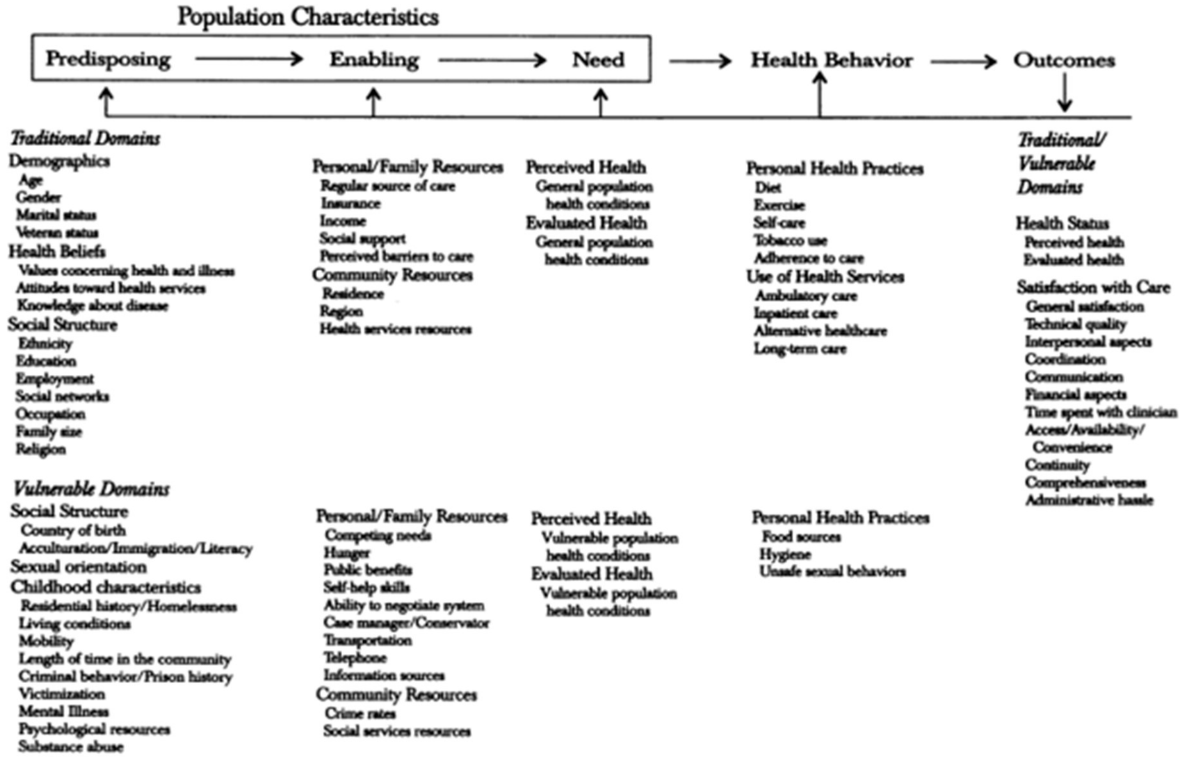


Figure 1. The Behavioral Model for Vulnerable Populations

Application to Hispanics' Mental Health Care Utilization

Utility of Andersen's Model. While developed for general health services use, Andersen's model of health care utilization is particularly relevant when examining the utilization of mental health care services. First, the model incorporates both psychological and sociodemographic determinants of health services use, both of which are factors that influence mental health service use (Henshaw & Freedman-Doan, 2009; Karlin et al., 2008; Wang et al., 2005). Second, the model's health services use outcome allows for variability in the determinants based on the type, purpose, and volume of care. This is an important factor to consider when choosing a theoretical framework for mental health care utilization given the extreme variability in outcomes related to this phenomenon (e.g. a one-time visit with a mental health practitioner, engagement in mental health services defined by a set number of visits, and completion/adherence to a treatment plan). Finally, the Behavioral Model for Vulnerable Populations created by Gelberg and colleagues (2000) with additional individual determinants included in the model may be of particular use when examining the mental health care utilization of Hispanics who qualify as a vulnerable population in the United States by being members of an ethnic minority group and possibly undocumented immigrants depending on the specific Hispanic sub-population being studied.

Due to its flexible and modifiable framework, Andersen's model is widely used when examining the utilization of mental health care services. Several studies have been conducted specifically applying Andersen's Model of Health Care Utilization to Hispanics' use of mental health services (Chang & Biegel, 2017; Cho et al., 2014; Golding & Wells, 1990; Kim, Jang, Chiriboga, Ma, & Schonfeld, 2010; Lee & Held, 2015; Ortega & Alegria, 2002; Rosales & Calvo, 2017; Vega, Kolody, & Aguilar-Gaxiola, 2001; Vera et al., 1998; Wells, Golding, Hough, Burnam, & Karno, 1989). These studies have primarily examined mental health service use within the past year, often defined by at least one visit with a professional regarding a mental health issue. Many of them have found support for Andersen's (1995) hypothesis that need factors would be the primary determinant of mental health service use, some demonstrating that evaluated need (such as a psychiatric diagnosis or presence of symptoms) to be the strongest predictor (Cho et al., 2014; Lee & Held, 2015; Wells et al., 1989) while others have demonstrated the importance of perceived need variables such as self-rated mental health and self-recognition of perceived need (Kim et al., 2010; Ortega & Alegria, 2002; Vega et al., 2001; Vera et al., 1998). Other studies have found that the enabling factor of having health insurance to be the strongest predictor in the utilization of mental health services by Hispanics in the past 6 to 12 months (Chang & Biegel, 2017; Golding & Wells, 1990; Rosales & Calvo, 2017).

Within these studies examining Hispanics' mental health service use within the past year, various definitions of predisposing and enabling characteristics are applied. This variability in construct operationalization leads to different statistical modeling approaches, and subsequently, different findings about what predisposing and enabling factors are significant predictors in mental health service use. For example, some studies have found gender to be a significant predictor of mental health service use within the past year (Cho et al., 2014; Kim et al., 2010; Ortega & Alegria, 2002; Vega et al., 2001) while others have not (Albizu-Garcia, Alegría, Freeman, & Vera, 2001; Chang & Biegel, 2017; Hansen & Aranda, 2012; Lee & Held, 2015; Rosales & Calvo, 2017). Having insurance is categorized as an enabling factor by Andersen (1995) and is often present in studies utilizing versions of Andersen's model; however, many studies include additional enabling factors such as income and poverty status/financial strain (Cho et al; 2014, Lee & Held, 2015; Ortega & Alegria, 2002; Vera et al., 1998) and social support (Chang & Biegel, 2017; Golding & Wells, 1990; Hansen & Aranda, 2012; Lee & Held, 2015). In one study of Latina immigrants who had been referred for mental health services, Hochhausen and colleagues (2011) re-conceptualized enabling factors to be those specifically related to the referral process including time elapsed between referral and evaluation, completion of initial evaluation, and use of a case manager. All of the enabling factors were found to be significant in the prediction of use of mental health services, while the remaining predisposing and need factors entered into the model were not (Hochhausen et al., 2011).

Studies using Hispanic samples have also applied Andersen’s model to different types of mental health service use outcomes. Among island Puerto Ricans, Ortega and Alegria (2002) found that self-perceived recognition of need to be the strongest predictor of psychotropic medication use within the last year with objective need, age, and employment also being significant predictors. In a sample of U.S. Hispanics, Gonzalez and colleagues (2009) also found need factors, including having a psychiatric diagnosis and having additional medical conditions, to be the strongest predictors of antidepressant use within the past year. Other significant predictors of antidepressant medication use in this study included predisposing variables of Hispanic subgroup and acculturation-nativity and enabling variables of health insurance coverage and financial strain (Gonzalez et al., 2009). Few studies have examined retention in care as an outcome determined by constructs in Andersen’s model. Ortega and Alegria (2002) found that gender, self-reliant attitudes, and objective need were significantly related to retention in mental health services among Puerto Ricans while Chang and Biegel (2017) found that Hispanics’ drop out of mental health services was significantly related to age, insurance status, and family cohesion.

Andersen’s model can also accommodate sociocultural factors that are relevant to Hispanic populations. The Behavioral Model for Vulnerable Populations (Gelberg et al., 2000) identifies country of birth, acculturation, immigration, and literacy variables as predisposing characteristics that impact health services use. In one study of Mexican Americans, individuals who were less acculturated to Anglo American culture were less likely to utilize mental health specialty services in the last six months (Wells et al., 1989). Similarly, Hansen and Aranda (2012) found that linguistic acculturation was significantly associated with formal mental health service use within the past 12 months among Hispanic older adults. Higher levels of acculturation (defined by being U.S. born or foreign born with U.S. born parents) were also associated with increased likelihood of using antidepressants in the past year (Gonzalez et al., 2009). Immigration-related factors including length of time in the U.S., age at immigration, and language proficiency have also been found to be associated with lifetime mental health service use among Hispanics (Keyes et al., 2012).

Health beliefs, including values concerning health and illness, attitudes towards health services, and knowledge about a disease, are considered predisposing factors in Andersen's model, and have been found to be important factors in Hispanics' use of mental health services (Callister, Beckstrand, & Corbett, 2011; Caplan & Whittemore, 2013; Givens, Houston, Van Voorhees, Ford, & Cooper, 2007; Moreno & Cardemil, 2013). However, few studies applying Andersen's framework to Hispanics' mental health service utilization include health belief variables. Ortega and Alegria (2002) included predisposing health belief variables regarding believing a mental health problem would go away, possessing a positive attitude toward mental health care, and self-reliant attitude towards solving an emotional problem on one's own and found self-reliant attitudes to be significantly associated use of formal mental health services in the past year, use of psychotropic medications, and retention in care. These findings echo another study in which self-reliant attitudes were also found to be significantly related to mental health service use among a nationally representative, Hispanic sample (Berdahl & Torres Stone, 2009). Rosales and Calvo (2017) modified the Andersen model to include religious-oriented fatalistic beliefs about health and found these beliefs to be significantly associated with mental health service use within the past year.

Limitations of Andersen's Model. Although the Andersen model of health care utilization is appealing in its versatility and flexibility and has been widely used in health research, it possesses several limitations that should be acknowledged. First, without formal operationalization, the framework is left open to several interpretations and definitions of the various constructs present in the model. As demonstrated in the preceding paragraphs, this has led to different adaptations and re-conceptualizations of the model, resulting in conflicting and inconsistent findings about what factors influence health care utilization among different populations. Second, while Andersen (1995) acknowledges there may be significant relationships between different individual determinants (such as health beliefs and perceived need), the model does not explicitly postulate mediation or interaction effects that may be present among these factors. Consequently, few studies that have used Andersen's model to investigate mental health care utilization among Hispanics have examined these relationships. Hansen and Aranda (2012) found significant interaction effects between social support and linguistic acculturation on Hispanic older adult's use of mental health services in the past year while Vega et al. (2001) found significant interaction effects between nativity and self-rated mental health on the use of a general medical provider for mental health problems in the past year. More research on the relationship between predisposing, enabling, and need factors within this model are needed.

Andersen's model has also been criticized for its scant attention paid to cultural factors that may be particularly relevant to racial and ethnic minority populations (Bradley et al., 2002; McField, 2010). Bradley and colleagues (2002) argue that the health beliefs construct in Andersen's model "may not adequately capture the breadth of psychosocial factors germane to race/ethnicity variations" (p. 1223) in health care use. This argument is important when examining the mental health care use of Hispanics, who more often endorse causal beliefs about mental illness related to interpersonal, situational, and religious/supernatural factors rather than biological, genetic, or chemical factors (Cabassa, Lester, & Zayas, 2007; Caplan et al., 2013; Givens et al., 2007). These causal beliefs about mental illness are also associated with Hispanics' attitudes and preferences towards mental health treatment (Cabassa et al., 2007; Givens et al., 2007; Martinez Pincay & Guarnaccia, 2007).

Stigma and Mental Health Care Utilization

History of Theoretical Approaches to Mental Health Stigma

There are several theoretical frameworks related to the construct of stigma, beginning with Goffman (1963), who is widely cited for his work in conceptualizing stigma. A common definition of stigma drawn from Goffman (1963) is that of an "attribute that is deeply discrediting" (p. 3) that changes the way others perceive a person possessing that attribute "from a whole and usual person to a tainted, discounted one" (p. 4). Many of the ideas on stigma presented by Goffman (1963) have been used to inform more recent theoretical frameworks such as Jones et al. (1984) and Link and Phelan (2001) (Link, Yang, Phelan, & Collins, 2004). According to Jones et al. (1984), stigma is process that takes place when people possess an undesirable characteristic that discredits them in the eyes of others and is composed of six dimensions: concealability (how obvious a characteristic is), course (whether the condition or reversible or not), disruptiveness (impact on interpersonal interactions), aesthetics (whether the condition elicits disgust), origin (how the condition came into being), and peril (feelings of danger induced in others).

In response to criticisms of stigma being too vaguely defined and individually focused, Link and Phelan (2001) constructed a concept of stigma defined by the co-occurrence of its components. First, socially relevant labeling of characteristics takes place. When the labeling is linked to undesirable characteristics, stereotyping by other persons or by the labeled person can occur. Separation is the process by which labels create a separation of 'us' from 'them,' and can lead to labeled persons accepting stereotypes and believing they are inferior. Finally, because of stereotyping and separation, labeled persons can experience status loss and discrimination in a variety of ways including individual and structural discrimination. According to Link and Phelan (2001), stigma will vary across circumstances depending on the amount of labeling, stereotyping, separation, status loss, and discrimination that take place. However, despite the type of stigmatization, the process can only occur when differences in social, economic, and political power are present. This emphasis on the dependence of power is a unique contribution of Link and Phelan's (2001) conceptualization of stigma and allows for the construct to become narrower and more applicable to groups that often experience the process of stigma described by the authors (Link et al., 2004).

Corrigan and Watson (2002) define stigma on two levels (public stigma and self-stigma) and apply it specifically to the condition of mental illness. Public stigma refers to when the general population endorses stereotypes and discriminates against people labeled mentally ill. This process can lead to self-stigma when a person with mental illness internalizes the prejudice they experience from the public. Corrigan (2005) then used Link and Phelan's (2001) components of stigma to better understand how the cognitive constructs of stereotypes, prejudice and discrimination relate to the different types of stigma they propose. According to this model, public stigma affects care seeking when it leads to label avoidance – i.e., in order to avoid the loss of opportunity and discrimination that comes with the label of mental illness, they will not seek care from a provider with whom the prejudice is associated. This idea has also been re-conceptualized as treatment stigma, in which people possess prejudice towards those who receive mental health services (Vogel, Wade, & Hackler, 2007).

Framework for Stigma and Care Seeking

Corrigan et al. (2014) provide a useful framework for understanding how stigma impacts mental health care seeking through person-level barriers (Figure 2). According to the authors, person-level barriers include stigma that leads to avoiding mental health treatment, dropping out of treatment prematurely, poor mental health literacy, beliefs that treatment is ineffective, lack of a support network that encourages care seeking, and perceived incongruence between cultural values and treatment options. Drawing from psychological models regarding the decision to seek care, Corrigan et al. (2014) suggest that stigma will impact the decision-making process to seek care through its influence on perceptions of the problem, label avoidance, and the perceived costs and benefits of treatment options. The authors also hypothesize the relationship between stigma and care seeking to be moderated by culture, knowledge, and network variables.

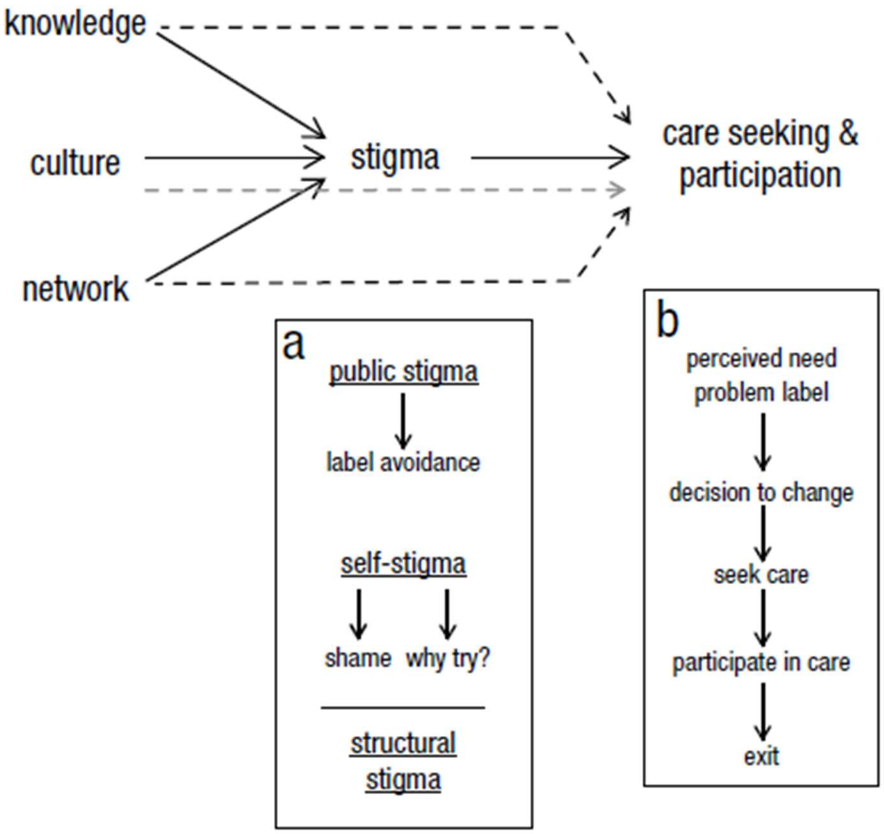


Figure 2. Framework for stigma and care seeking.

Application of framework. Given that stigma is a social construction, it is influenced by social norms that are specific to different ethnic and cultural groups (Corrigan et al., 2014). More specifically, cultural values possessed by different groups can impact the way people view mental illness and treatment options (Abdullah & Brown, 2011). For Hispanics, values around the importance of fulfilling family obligations, being hard-working, and being able to cope with one's problems can contribute to the understanding of stigma towards mental illness and receiving treatment for this population (Mascayano et al., 2016; Yang, Thornicroft, Alvarado, Vega & Link, 2014). These values could explain some stigmatizing concerns about mental illness and treatment often found among Hispanics, who, compared to non-Hispanic whites, report greater shame or embarrassment related to having a mental illness and are also more likely to endorse negative attitudes towards antidepressant medication (Cabassa et al., 2007; Givens et al., 2007; Jimenez, Bartels, Cardenas, & Alegria, 2013). Adding support to this idea, research studies have also shown that more acculturation to Anglo-American culture and less enculturation with Hispanic culture is associated with lower levels of stigma towards mental illness and receiving psychological help (Hirai, Vernon, Popan, & Clum, 2015; Rojas-Vilches, Negy, & Reig-Ferrer, 2011).

According to Corrigan and colleagues' (2014) framework, knowledge in the form of mental health literacy is an important construct that influences stigma and mental health care utilization. Mental health literacy includes knowledge and recognition of mental disorders, knowledge of where to receive treatment and treatment options, and having 'mental health first aid' to support others in distress (Corrigan et al., 2014). Research using Hispanic samples have found that unawareness of a mental health issue, lack of knowledge of where to receive mental health services, and perceptions of the causes and treatments for mental illness are related to mental health service use (Cabassa et al., 2007; Caplan & Whittemire, 2013; Ortega & Alegria, 2002; Ruiz, Aguirre, & Mitschke, 2013; Vega et al., 2001). Other studies using Hispanic samples have also found stigma towards mental illness and treatment to be significantly related to knowledge of symptoms and treatment options, recognition of need for psychological services, and help-seeking efficacy (Keeler & Siegel, 2016; Lopez, Sanchez, Killian, & Eghaneyan, 2018; Mendoza, Masuda, & Swartout, 2015).

Finally, Corrigan et al. (2014) recognize the importance of a person's network on stigma and mental health care use. A person's network, in the form of family, friends, and coworkers, can encourage or discourage a person with mental illness to seek treatment by providing means of support, motivation, or resources. Some studies have shown social support (or lack thereof) to be significantly related to the use of mental health services among Hispanics (Golding & Wells, 1990; Hansen & Aranda, 2012; Ishikawa, Cardemil & Falmagne, 2010; Pieters & Heilemann, 2010). Additionally, Keeler and Siegel (2016) found that for Spanish-dominant Hispanics, greater self-stigma for having a mental disorder was associated with lower levels of family functioning, beliefs that family members would offer help, beliefs that family members could offer help, and more positive outcome beliefs regarding familial consequences of help-seeking.

Limitations of framework. While useful in understanding the role that stigma and other moderating factors have in the use of mental health services, Corrigan et al. (2014) acknowledge the framework's failure to recognize other important personal, structural, political, and economic factors that may also influence this complex behavior. As previously discussed, factors such as self-recognition of perceived need, insurance status, financial strain, employment status, acculturation, and comorbid medical conditions have shown to be related to mental health care utilization among Hispanics (Chang & Biegel, 2017; Gonzalez et al., 2009; Kim et al., 2010, Ortega & Alegria, 2002; Rosales & Calvo, 2017). Therefore, integrating Corrigan et al.'s (2014) framework with another model that does account for such factors, such as Andersen's Model of Health Care Utilization, may contribute to a greater understanding of mental health care utilization among different groups, including Hispanics. While Andersen's model incorporates the constructs of culture, knowledge, and social networks/support as predisposing and enabling determinants of health care use, Corrigan et al.’s (2014) framework adds the multifaceted construct of stigma and proposes interrelationships among these factors that are not usually explored when utilizing Andersen’s model.

Integrated Theoretical Framework

In order to examine the sociodemographic and psychological factors that impact Hispanics’ engagement and retention in mental health treatment within an integrated health care model, this study utilizes a proposed integrative framework that incorporates elements of the most recent version of Andersen’s model (Gelberg et al.’s (2000) Behavioral Model for Vulnerable Populations) as well as stigma-related constructs found in Corrigan et al.’s (2014) framework (Figure 3). This integrative framework incorporates Andersen’s traditional predisposing, enabling, and need factors as well as ‘vulnerable domains’ applicable to Hispanic populations seeking mental health treatment including immigration/acculturation status (predisposing factor) and competing medical needs (enabling factor). It also includes factors that align with both Andersen’s (1995) model and Corrigan et al.’s (2014) framework such as mental health literacy and cultural values and beliefs regarding causes of mental illness and treatment effectiveness as predisposing factors, and perceived congruence between cultural values and treatment options as an enabling factor. Finally, stigma towards being labeled mentally ill and receiving treatment is incorporated as an enabling factor. As in Andersen’s (1968, 1995) original models, the proposed framework does not postulate mediation or interaction effects that may be present among the factors.

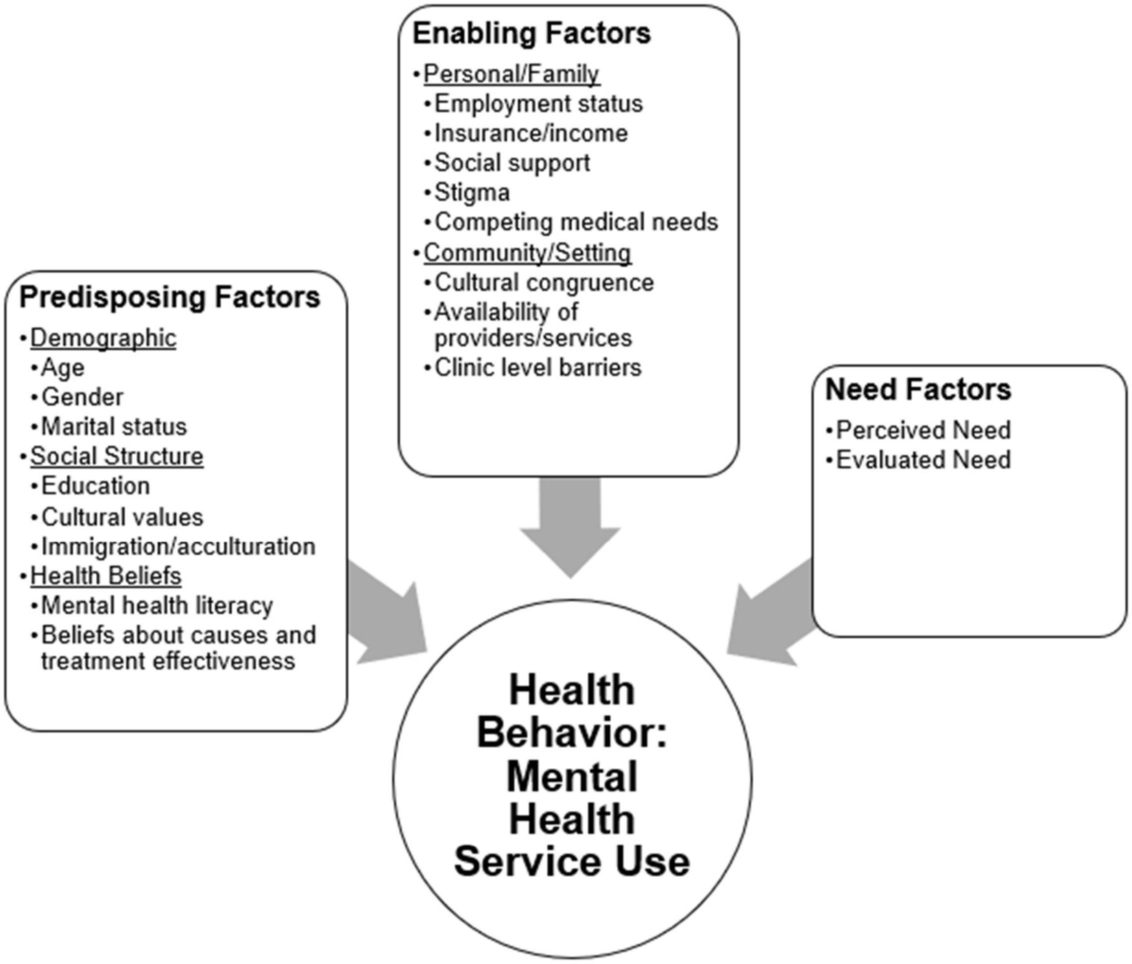


Figure 3. Integrative Theoretical Framework.

CHAPTER 3

METHODOLOGY

Study Design and Data Source

The current study is a secondary data analysis of data collected in Project METRIC: Measurement, Education and Tracking in Integrated Care: Strategies to Increase Patient Engagement and Reduce Mental Health Disparities among Hispanics (Sanchez, Eghaneyan, Killian, Cabassa, & Trivedi, 2017). METRIC was a randomized controlled trial to test the effectiveness of a culturally-adapted depression education intervention to increase knowledge, reduce stigma, and increase uptake in depression treatment, and implement a Measurement-Based Integrated Care model with multidisciplinary, collaborative treatment to improve depression symptoms (clincaltrials.gov NCT02702596). One hundred fifty participants were enrolled in the METRIC trial between February 2016 and February 2018. Participants were randomized to meet with bilingual research assistants to receive either a standard education session using an educational pamphlet from the National Institute of Mental Health or a Depression Education Fotonovela (DEF) using a culturally adapted, comic-book style fotonovela (Cabassa, Molina, & Barron, 2012). All participants were enrolled in measurement-based integrated care that included regular meetings with the Depression Care Manager (DCM), a bilingual Licensed Clinical Social Worker (LCSW), after the completion of their education sessions. Depending on their treatment plans, participants would meet with the DCM every 1-4 weeks to complete brief psychotherapy interventions, mental health measures and medication adherence measures (when applicable) (Sanchez et al., 2017). The number of sessions with the DCM was not limited or standardized by a treatment protocol and varied between participants based on treatment plans. Total participation in the trial was one year and research follow up visits were conducted at the following time points: 1 month post education visit, 6 months post enrollment and 12 months post enrollment.

Utilizing a convergent mixed methods design, the current study uses both quantitative and qualitative data collected during METRIC to identify sociodemographic and psychological factors and experiences that impacted treatment participation with the DCM. Consistent with the convergent design described by Creswell (2015), the quantitative and qualitative data were collected and analyzed separately with a merging of results to provide a more complete understanding of the phenomenon from multiple angles and perspectives. In Specific Aim 1, quantitative data from measures administered at the baseline assessment were examined in their relationship with the participation outcomes. Specific Aim 2 utilized qualitative data that was gathered as part of a supplemental study led by the researcher, who served as the Project Coordinator on METRIC. The purpose of the supplemental qualitative study was to gather information about the experiences of participants in METRIC. While the quantitative data allowed for the use of the entire METRIC sample (N = 150), the qualitative data collected on a subsample of participants (n = 22) provided the opportunity to explore other influencing factors hypothesized in Figure 3 that were not captured in the quantitative measures. Finally, after analysis of the quantitative and qualitative data and presentation of results, Specific Aim 3 compared and combined the results to provide a more comprehensive picture of what factors that influenced treatment engagement and retention among participants.

Specific Aim 1

Participants

METRIC took place in a Federally Qualified Health Center (FQHC) in a large metropolitan area in Texas. FQHCs are community-based health care providers that provide primary care services in underserved areas and meet stringent set of requirements including offering sliding scale fees and operating under a board that includes patients (Health Resources & Services Administration, 2018). The FQHC where METRIC took place consists of three locations and provides a full range of comprehensive primary and preventive services to adults and children including immunizations and physical exams, management of chronic illnesses, family planning services, maternity care services, and health education promotion. In 2015, the center served a total of 11,895 patients, 90% of whom were Hispanic (Sanchez et al., 2017). Prior to the start of the METRIC project, the locations where recruitment took place did not have a mental health specialist.

All adult primary care patients were screened during annual and new/non-acute visits using the nine-item Patient Health Questionnaire (PHQ-9; Kroenke & Spitzer, 2002). Patients who screened positive for depression (score greater than or equal to 5) were referred to the DCM for assessment and possible enrollment in the study. After confirming a diagnosis of depression, the DCM offered enrollment into the METRIC study for patients who met the inclusion criteria of self-identifying as Hispanic and were not currently receiving treatment for depression. One hundred eighty-one patients were referred to the DCM for possible enrollment in the METRIC study. Of the 181 patients, 21 did not meet eligibility criteria and 10 declined enrollment in the study. The final study sample included 150 Hispanic participants. While the country of origin/Hispanic subgroup for the sample was not collected in this study, 87% of Hispanics in Texas are of Mexican origin (Pew Research Center, 2014). Prior to enrollment in the study, all participants signed an informed consent document. Once enrolled, participants completed the rest of the baseline measures with the DCM. All measures, as well as the informed consent documents, were offered in both English and Spanish. The study was approved by the Institutional Review Board of the University of Texas at Arlington (Appendix A).

Measures

Dependent variables. The dependent variables of interest for this study were treatment engagement and treatment retention. Treatment engagement can be operationalized using both behavioral and attitudinal dimensions of patients (Staudt, 2007). For the purposes of this study, measurement of treatment engagement focused on the behavioral component, which Staudt (2007) defines as "client performance of the tasks that are necessary to implement treatment and ultimately achieve outcomes" (p. 185). Given that part of the treatment plan for all participants enrolled in METRIC included regular meetings with the DCM, engagement was operationalized using the total number of sessions attended. This is a count variable of the number of sessions participants attended with the DCM during their 12-month participation in the trial. Number of sessions ranged from 0 to 35 (M = 11.90, SD = 6.97).

The second dependent variable, treatment retention, was a dichotomous variable indicating whether participants completed their treatment plan with the DCM and were formally discharged (1 = yes, 0 = no). This variable was collected during the METRIC study based on whether the DCM indicated participants had completed a relapse prevention plan, which were done during participants' final discharge visit with the DCM. This operationalization of treatment retention was chosen because METRIC did not include a treatment protocol with a specified number of minimum sessions for participants to attend, which is often used for defining premature dropout (the opposite of treatment retention) (Swift & Greenberg, 2012). Furthermore, unlike examining a minimum number of sessions attended by participants, this definition of retention also considers symptom improvement given that the DCM would not have discharged patients had not they not seen significant improvements in their depression symptoms.

Independent variables. The independent variables used in this study were categorized into predisposing, enabling, and need factors based on the proposed integrative framework in Chapter 2 (see Figure 3). All variables were demographic and baseline measures gathered during participants' enrollment in the METRIC trial.

Predisposing factors. This category of variables included age, gender, marital status, education level, language, and mental health literacy.

1) Age: continuous variable representing age at time of enrollment.
2) Gender: dichotomous variable coded as 0 = male, 1 = female.
3) Marital status: dichotomous variable with 0 = not married, 1 = married.
4) Education level: categorical variable coded as: 1 = 8^{h} grade or less, 2 = some high school/high school, and 3 = more than high school.
5) Language: since an acculturation measure was not used in the METRIC study, a proxy measure of primary language was used (dichotomous variable coded as 0 = English, 1 = Spanish).
6) Mental health literacy: continuous variable assessed using the Depression Knowledge Measure (DKM) (Unger, Cabassa, Molina, Contreras, & Baron, 2013), a 17-item

measure developed to assess knowledge of depression symptoms and treatment in a research sample composed of Hispanic participants. First, the measure assesses depression symptom recognition by presenting a list of 10 symptoms including five Diagnostic and Statistical Manual of Mental Disorders (DSM) depression symptoms (sleeping too little, eating too much, feeling agitated, feeling guilty, and loss of interest) and five non-depressive symptoms (hearing voices, being full of energy, being violent, having hallucinations, and feeling confident), with participants being asked to identify which symptoms are symptoms of depression. The second half of the measure presents seven true-false questions adapted from Griffiths, Christensen, Jorm, Evans and Groves (2004) to assess treatment knowledge, with patients choosing "true," "false," or "I don't know" to questions such as "People with depression should stop taking antidepressants as soon as they feel better." One point is allocated for reach correct response, with total scores ranging from 0 (all incorrect) to 17 (all correct).

Enabling factors. This category of variables included mental health treatment stigma and competing medical needs.

1) Mental health treatment stigma: continuous variable measured using the Stigma Concerns about Mental Health Care (SCMHC) scale (Interian et al., 2010), which assesses stigma related to depression treatment using three items in which participants are asked if they agree (1) or disagree (0) with statements such as "I would not want to receive treatment for depression because of being afraid of what others might think." Response options include disagree (0), agree (1), and don't know/refuse (7). The items are added up excluding responses of "don't know or refuse" to generate the total score ranging from 0

to 3. The measure was translated and validated in Spanish by the developers and demonstrated internal consistency reliability and construct validity among a sample of adult, Hispanic primary care patients (Interian et al., 2010). Cronbach's alpha for the study sample is .71.

2) Competing medical needs: dichotomous variable coded as 0 (no) or 1 (yes) if participants had one or more of the following chronic physical health conditions: diabetes, heart disease, and/or high blood pressure.

Need factors. Evaluated need variables included both depression and anxiety severity at time of enrollment.

1) Depression severity: continuous variable measured using the PHQ-9 (Kroenke & Spitzer, 2002), a self-report measure that assesses the frequency of the nine DSM-IV (American Psychiatric Association, 1994) depression symptoms within the last two weeks. Responses for each item range from 0 for "not at all" to 3 for "nearly every day," with total possible scores ranging from 0 to 27. Interpretation of total scores are as follows: mild depression for scores ranging from 5 – 9, moderate depression for scores ranging from 10 – 14, moderately severe depression for scores ranging from 15 – 19, and severe depression for scores greater than or equal to 20. The PHQ-9 has proven to be a reliable and valid measure of depression severity in racially and ethnically diverse primary care samples (Huang, Chung, Kroenke, Delucchi, & Spitzer, 2006; Kroenke, Spitzer, & Williams, 2000). Both the English and Spanish versions of the PHQ-9 have demonstrated strong internal consistency and similar factor structures in Hispanic samples (Huang et

al., 2006; Merz, Malcarne, Roesch, Riley, & Sadler, 2011). Cronbach's alpha for the study sample is .69.

2) Anxiety severity: continuous variable measured using the Generalized Anxiety Disorder 7-item scale (GAD-7; Spitzer, Kroenke, Williams, & Lowe, 2006), a 7-item self-report scale for identifying the presence of generalized anxiety disorder. The items of the GAD-7 assess frequency of symptoms over the last two weeks based on the diagnostic criteria for generalized anxiety disorder in the DSM-IV, with responses ranging from 0 for "not at all" to 3 for "nearly every day." Scores of 5, 10, and 15 represent cut points for mild, moderate, and severe levels of anxiety. The GAD-7 has been found to be a reliable and valid measure for use with Hispanic Americans and has demonstrated strong internal consistency reliability for both the English and Spanish versions (Mills et al., 2014). Cronbach's alpha for the study sample is .82.

Analysis

All analyses for Specific Aim 1 were performed in SPSS version 25 statistical software. First, descriptive statistics were produced for each independent variable and dependent variable to assess the characteristics of the sample and provide a general understanding of the distribution of the variables to be included in the analysis. Continuous variables were examined to see if they meet the required statistical assumption of normality. Next, bivariate associations between each independent variable and the dependent variables were examined with a series of correlations, chi-squares, t-tests, and analysis of variance (ANOVA). Bivariate analyses examining the impact of the educational intervention on the dependent variables were also performed to see if there is the need to control for education intervention in the multivariate analyses.

To examine the impact of the independent variables on the two treatment participation dependent variables, multivariate analyses were performed using sequential (hierarchical) multiple regressions. Based on the proposed conceptual model in Chapter 2, variables were entered in three blocks: predisposing factors, predisposing + enabling factors, and predisposing + enabling + need factors. For the total number of sessions dependent variable, the first step of this process was to determine whether to use a Poisson model or negative binomial regression model. While both are used for dependent variables that are count data, a key assumption of the Poisson model is equidispersion in which the mean of the data equals the variance (Hilbe, 2011). For the total number of sessions variable, the mean was 11.90 and variance was 48.57, clearly violating the equidispersion assumption. A variance greater than the mean indicates overdispersion, in which a negative binomial regression model is more appropriate than a Poisson model, where the latter may inflate statistical significance of certain factors (Hilbe, 2011). Therefore, for the total number of sessions variable, negative binomial regression models were used in which the dispersion parameters were estimated from the data. Issues of multicollinearity were also assessed using variance inflation factors (VIF) and Tolerance statistics. Binary logistic regression models were conducted for the treatment completion dependent variable. Goodness of fit measures were examined at each step to determine if the addition of predisposing, enabling, and need factors improved prediction for each dependent variable. These included the Log likelihood, Akaike Information Criterion (AIC), and the Bayesian Information Criterion (BIC) for the negative binomial models and the -2 Log likelihood and Nagelkerke pseudo R^2 for the binary logistic regression models. Participants with missing values for any of the variables were excluded using listwise deletion method.

Specific Aim 2

Approach: Qualitative Content Analysis

This study utilized a qualitative content analysis approach to examine the experiences of METRIC participants' engagement and retention in treatment with the DCM in relation to the proposed integrative framework in Figure 3. Qualitative content analysis can be defined as "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon, 2005, p. 1278). According to Schreier (2013), qualitative content analysis is a concept-driven and data-driven technique with a focus on providing a detailed description of the material under analysis. Qualitative content analysis can often refer to a range of analytic approaches including conventional, directed, and summative (Hsieh & Shannon, 2005). For the proposed study, a directed content analysis approach was utilized because of its ability to validate or extend a theoretical framework or theory (Hsieh & Shannon, 2005). Specifically, this study utilized individual interview data that was collected from a subsample of METRIC participants to validate or extend the proposed integrative framework in Figure 3 based on Andersen's Model of Health Care Utilization.

Participants

Purposive sampling was used to recruit participants who had completed their 12-month participation in the METRIC project. Enrollment for the study took place between March 2018 and November 2018. Nineteen women and three men took part in the study (N = 22). Ages of the participants ranged from 33 to 51 and a majority (n = 20) of the participants spoke Spanish. The study was approved by the Institutional Review Board of the University of Texas at Arlington (see Appendix B).

Procedures

So as not to interfere with original data collection for the METRIC trial, participants were offered the opportunity to participate in the qualitative study when they met with the research assistant and had completed their 12-month follow up (final) research visit. Participants could complete the interview the same day as their final METRIC research visit or schedule to return another time. Participants were informed that participation in the supplemental study was NOT required as part of the original METRIC study. For those that wished to participate, they were guided through the informed consent process by the bilingual/bicultural research assistant. The research assistant conducted the interviews in both English and Spanish, based on participant preference. All interviews were audio recorded and took place in a private office in the same clinic where participants were enrolled. The length of interviews varied between 15 minutes and one hour. Participants were compensated with a $20 Walmart gift card for their time.

Instrumentation. A semi-structured interview guide developed by the researcher was used to conduct the interviews (see Appendix C). Open-ended questions regarding participants' experiences of depression and depression treatment while in the METRIC project were created. The open-ended questions were accompanied by prompt questions the research assistant could use to facilitate further discussion with participants. Throughout the course of the study, the researcher met with the research assistant a total of five times for debriefing meetings. During the meetings, the researcher would listen to a participant interview with the research assistant and would discuss how the questions on the interview guide could be improved and modified based on participant responses. All interviews were translated/transcribed verbatim by the research assistant.

Per IRB approval, demographic information, baseline measures, and participation information including total number of visits attended and treatment retention were extracted for each participant from the METRIC database.

Analysis

First, descriptive statistics using data extracted from the METRIC databases for the were produced to assess the characteristics of the sample. In order to analyze the interview transcripts, a directed content analysis approach was utilized following the steps outlined by Schreier (2013): building a coding frame, segmentation, trial coding, evaluating a modifying the coding frame, main analysis, presenting and interpreting the findings. All coding was done using the Atlas.ti software.

The first step, *building the coding frame*, includes creating main categories and subcategories for which the data can be organized. According to Schreier (2013), main categories are the aspects for which the researcher would like more information. For the current study, the main categories were based on the research questions for Specific Aim 2 and included “factors influencing treatment engagement” and “factors influencing treatment retention.” Next, subcategories were generated that were both concept-driven and data-driven. Concept-driven subcategories included factors presented in Figure 3 based on the proposed theoretical framework, while data-driven subcategories included any factors that were discussed by the participants that were not captured by the concept-driven subcategories. Data-driven subcategories were created by reading through the interview transcripts until a saturation point had been reached. Once all sub-categories had been generated, the researcher created definitions for each sub-category by consulting the literature and Supervising Professor (an expert on the topic) and recorded these within the Atlas.ti software.

The next step in the analysis process was segmenting the interviews. According to Schreier (2013), *segmentation* involves “dividing the material into units in such a way that each unit fits into exactly one (sub)category of the coding frame” (p. 178). Dividing the material into units of coding can be based on formal (drawn on the inherent structure of the material) and thematic (looking for topic changes based on themes) criteria. Because the interview transcripts were based on a semi-structured interview guide, formal criteria of response to certain questions was to identify units of coding for main categories (e.g. responses to the question “Why did you participate in the METRIC project for treatment for your depression?” fell under the main category of “factors influencing treatment engagement”). However, due to the broad nature of questions, thematic criteria were also used to create units for subcategory coding – meaning responses by participants were segmented and coded in parallel.

Next, the coding frame was used for *trial coding* the interview transcripts. Once the initial coding had been completed, the coding frame was evaluated for consistency and validity. The researcher consulted with the Supervising Professor regarding the organization of the concept-driven and data-driven subcategories and made final modifications to reach an agreed-upon finalized coding frame. The finalized coding frame was then used to for the *main analysis* of the interview transcripts, which tied together both concept-driven themes and sub-themes as well as data-driven themes and subthemes from participants. *Presentation and interpretation of the findings* are presented in the results and discussion sections.

Strategies to enhance the trustworthiness of the data analysis process and reduce systematic bias included three methods of triangulation described by Patton (1999). First, triangulation of theory/perspectives was achieved in the building of the coding frame process, which was derived from both the integrative framework in Chapter 2 (Figure 3) based on theoretical perspectives from Andersen (1968, 1995) and Corrigan et al. (2014) and participant responses/perspectives. Triangulation of investigators took place throughout the collection and analysis of the interviews by consulting with both the Supervising Professor and graduate research assistant who conducted the interviews. Finally, methods triangulation occurred through the comparison of the qualitative data to the quantitative data for Specific Aim 3 which is further discussed in the Results section.

CHAPTER 4

RESULTS

Specific Aim 1

Descriptive Statistics

Baseline characteristics of the sample (*N* = 150) are displayed in Table 1. Participants were primarily female (88.7%) with an average age of 39.36 (*SD* = 9.08, range 18 to 63 years). Most of the participants spoke Spanish as their primary language (90.7%) and were married (70.7%). Educational attainment was low among the sample, with 37.3% of the participants having an eighth-grade education or less, 50% having some high school or a high school diploma, and 10.7% having more than high school education. About one third (32.0%) of participants reported having a comorbid chronic physical health condition. In terms of mental health literacy and stigma, the average score on the DKM was 11.75 (*SD* = 1.89, on a scale of 0 to 17) and the average score on the SCMHC was 0.44 (*SD* = 0.83, on a scale of 0 to 3). The average PHQ-9 score among participants was 15.32 (*SD* = 4.15) (moderately severe depression) and the average GAD-7 score was 12.52 (*SD* = 4.56) (moderate anxiety). The average number of sessions attended with the DCM was 11.90 (*SD* = 6.97, range 0 to 35) and 76.0% of participants completed treatment.

Table 1
Descriptive Statistics for Sample (N = 150)

Participant Characteristic	*M* (*SD*) or *n* (%)
Age	39.36 (9.08)
Gender, female	133 (88.7%)
Spanish Speaking, yes	136 (90.7%)
Marital Status, married	106 (70.7%)
Education Level	
8th grade or less	56 (37.3%)
Some high school/high school	75 (50.0%)
More than high school	16 (10.7%)
Depression Knowledge Measure (DKM)	11.75 (1.89)
Stigma Concerns about Mental Health Care (SCMHC)	0.44 (0.83)
Comorbid Condition, yes	48 (32.0%)
Patient Health Questionnaire (PHQ-9)	15.32 (4.15)
Generalized Anxiety Disorder Scale (GAD-7)	12.52 (4.56)
Number of sessions attended	11.90 (6.97)
Completed treatment, yes	114 (76.0%)

Bivariate Analyses

Total number of sessions. Results of the bivariate analyses examining the relationships between the independent variables and the total number of sessions participants attended with the DCM are displayed in Table 2 and Table 3. Total number of sessions attended was not significantly associated with age ($r = .122$, $p = .136$), gender ($t(148) = 0.416$, $p = .678$), language spoken ($t(148) = 0.659$, $p = .511$), marital status ($t(145) = 1.222$, $p = .224$), education level $F(2, 144) = 0.963$, $p = .384$), mental health treatment stigma ($r = -.084$, $p = .307$), depression severity ($r = .001$, $p = .987$) or anxiety severity ($r = .033$, $p = .686$). Participants who had a comorbid physical health condition attended significantly more sessions with DCM compared to participants who did not ($M = 13.92$ vs. $M = 10.95$, $t(148) = 2.472$, $p = .015$). There was also a weak, significant positive correlation between increased mental health literacy and total number of sessions attended ($r = .163$, $p = .046$).

Table 2
Bivariate Analyses for Total Number of Sessions (N = 150)

Participant Characteristic	Number of Sessions *M* (*SD*)	Test	*p*-value
Gender		$t = 0.416$	.678
Female	11.98 (7.15)		
Male	11.24 (5.45)		
Language Spoken		$t = 0.659$	.511
Spanish	11.78 (7.01)		
English	13.07 (6.68)		
Marital Status		$t = 1.222$	.224
Married	11.58 (7.28)		
Not married	13.15 (5.99)		
Education Level		$F = 0.963$	.384
8th grade or less	12.30 (7.29)		
Some high school/high school	11.55 (6.90)		
More than high school	14.13 (4.82)		
Comorbid Condition		$t = 2.472$	.015
Yes	13.92 (7.78)		
No	10.95 (6.38)		
Education Intervention		$t = 1.232$	.220
Standard education	11.20 (7.28)		
Fotonovela	12.60 (6.62)		

Table 3
Correlations for Total Number of Sessions (N = 150)

Participant Characteristic	*r*	*p*-value
Age	.122	.136
DKM Score	.163	.046
SCMHC Score	-.084	.307
PHQ-9 Score	.001	.987
GAD-7 Score	.033	.686

Treatment retention. Results of the bivariate analyses examining the relationships between the independent variables and treatment retention are displayed in Table 4. Treatment retention was not significantly related to gender ($\chi^2(1,1) = 0.002$, $p = .962$), marital status

($\chi^2(1,1) = 0.011$, $p = .918$), education level ($\chi^2(1,2) = 1.302$, $p = .522$), mental health literacy ($t(148) = 1.022$, $p = .308$), mental health treatment stigma ($t(147) = 0.756$, $p = .451$), competing medical needs ($\chi^2(1,1) = 2.081$, $p = .149$), depression severity ($t(148) = 0.024$, $p = .981$) or anxiety severity ($t(148) = 0.114$, $p = .910$). The mean age for participants that completed treatment ($M = 40.10$, $SD = 8.53$) was slightly higher than those who did not complete treatment ($M = 37.03$, $SD = 10.42$), although the difference was not statistically significant ($t(148) = 1.781$, $p = .077$). Finally, a higher percentage of participants that completed treatment were Spanish speaking compared to those that did not complete treatment (93.0% vs. 83.3%), although this difference was not statistically significant ($\chi^2(1,1) = 3.010$, $p = .083$).

Table 4

Bivariate Analyses for Treatment Retention (N = 150)

Participant Characteristic	Completed treatment (*n* = 114)	Did not complete treatment (*n* = 36)	Test	*p*-value
Age, *M* (*SD*)	40.10 (8.53)	37.03 (10.42)	$t = 1.781$	.077
Gender, *n* (%)			$\chi^2 = 0.002$	.962
Female	101 (88.6%)	32 (88.9%)		
Male	13 (11.4%)	4 (11.1%)		
Language Spoken, *n* (%)			$\chi^2 = 3.010$	.083
Spanish	106 (93.0%)	30 (83.3%)		
English	8 (7.0%)	6 (16.7%)		
Marital Status, *n* (%)			$\chi^2 = 0.011$	.918
Married	81 (72.3%)	25 (71.4%)		
Not married	31 (27.7%)	10 (28.6%)		
Education Level, *n* (%)			$\chi^2 = 1.302$	.522
8th grade or less	44 (38.6%)	12 (36.4%)		
Some high school/high school	56 (49.1%)	19 (57.6%)		
More than high school	14 (12.3%)	2 (6.1%)		
DKM Scores, *M* (*SD*)	11.84 (1.84)	11.47 (2.05)	$t = 1.022$	.308
SCMHC Scores, *M* (*SD*)	0.41 (0.82)	0.53 (0.88)	$t = 0.756$	.451
Comorbid Condition, *n* (%)			$\chi^2 = 2.081$	.149
Yes	40 (35.1%)	8 (22.2%)		
No	74 (64.9%)	28 (77.8%)		
PHQ-9 Scores, *M* (*SD*)	15.32 (4.09)	15.31 (4.40)	$t = 0.024$	.981
GAD-7 Scores, *M* (*SD*)	12.54 (4.48)	12.44 (4.89)	$t = 0.114$	.910
Educational Intervention, *n* (%)			$\chi^2 = 0.146$	.702
Standard education	58 (50.9%)	17 (47.2%)		
Fotonovela	56 (49.1%)	19 (52.8%)		

Intervention effects. Results of the bivariate analyses examining the relationship between the educational intervention received by participants and dependent variables are displayed in Table 2 and Table 4. The average number of sessions attended by participants who received the fotonovela education session (*M* = 12.60, *SD* = 6.62) was not significantly different than the average number of sessions attended by participants who received the standard education session (*M* = 11.20, *SD* = 7.28) ($t(148) = 1.232$, $p = .220$). The educational intervention received was also not significantly related to whether participants completed treatment with the DCM ($\chi^2(1,1) = 0.146$, $p = .702$). Since the educational intervention received was not significantly related to the dependent variables, this variable was not controlled for in the multivariate analyses.

Multivariate Analyses

Total number of sessions. No issues of multicollinearity were detected among the independent variables with Tolerance statistics ranging from .33 to .93 and VIF statistics ranging from 1.07 to 3.06. Results of the negative binomial regression analyses (including regression coefficients and incidence rate ratios (IRR) for total number of sessions are displayed in Table 5 with Model 1 including predisposing factors (χ^2 (7) = 10.60, p = .16), Model 2 including predisposing + enabling factors (χ^2 (9) = 15.04, p = .09), and Model 3 including predisposing + enabling + need factors (χ^2 (11) = 15.41, p = .16). None of the models were statistically significant in predicting the total number of sessions attended by participants. Model 2 that included age, gender, language spoken, marital status, education level, mental health literacy, competing medical needs and mental health treatment stigma was the closest to achieving statistical significance in predicting total number of sessions and produced lower AIC and BIC statistics compared to Model 1 and Model 3, indicating it was the best fit for the data among all three models.

Treatment retention. Results of the binary logistic regression analyses, including regression coefficients and odds ratios (OR), for treatment retention are displayed in Table 6. Model 1, which included the predisposing factors of age, gender, language spoken, marital status, education level, and mental health literacy was not statistically significant in predicting treatment retention (χ^2 (7) = 10.17, p = .18). The -2 Log likelihood for the model was 144.85 and the Nagelkerke pseudo R^2 was .10, indicating that the independent variables explained 10% of the variance in treatment retention. Adding the enabling factors of competing medical needs and mental health treatment stigma in Model 2 increased model fit and percent of variance explained by the independent variables (Nagelkerke pseudo $R^2 = .15$), but was still not statistically significant in predicting treatment retention (χ^2 (9) = 14.97, $p = .09$; -2 Log likelihood = 140.05). Finally, the final model (Model 3) that included the need factors of depression severity and anxiety severity yielded minimal improvement to model fit indices and still did not provide a statistically significant model (χ^2 (11) = 15.66, $p = .15$; -2 Log likelihood = 139.36, Nagelkerke pseudo $R^2 = .16$). In each model, none of the independent variables were significantly associated with treatment retention.

Table 5

Negative Binomial Regression Analysis for Total Number of Sessions

	Model 1 (*N* = 145)				Model 2 (*N* = 144)			
	B	SE	IRR	95% CI	B	SE	IRR	95% CI
Age	0.01	0.01	1.01	1.00, 1.03	0.01	0.01	1.01	0.99, 1.02
Gender (ref = male)								
Female	0.18	0.17	1.20	0.86, 1.67	0.15	0.17	1.16	0.83, 1.62
Language Spoken (ref = English)								
Spanish	-0.22	0.21	0.81	0.54, 1.21	-0.10	0.21	0.90	0.60, 1.38
Marital Status (ref = not married)								
Married	-0.09	0.12	0.92	0.72, 1.17	-0.09	0.12	0.92	0.72, 1.16
Education Level (ref = more than HS)								
8th grade or less	-0.12	0.18	0.89	0.62, 1.26	-0.12	0.18	0.88	0.62, 1.26
Some HS or HS	-0.17	0.17	0.84	0.60, 1.19	-0.22	0.17	0.80	0.57, 1.13
DKM Score	0.04	0.03	1.04	0.98, 1.10	0.05	0.03	1.05	0.99, 1.11
Comorbid Condition (ref = no)								
Yes					0.23	0.12	1.26	0.99, 1.61
SCMHC Score					-0.06	0.07	0.94	0.82, 1.08
PHQ-9 Score								
GAD-7 Score								
Log likelihood	-483.36				-477.98			
χ^2 (df = 7, df = 9, df = 11)	10.60				15.04			
p-value	.16				.09			
Akaike Information Criterion (AIC)	984.71				977.95			
Bayesian Information Criterion (BIC)	1011.50				1010.62			

Table 5

Negative Binomial Regression Analysis for Total Number of Sessions (cont.)

	Model 3 (*N* = 144)			
	B	SE	IRR	95% CI
Age	0.01	0.01	1.01	0.99, 1.02
Gender (ref = male)				
Female	0.14	0.17	1.15	0.82, 1.61
Language Spoken (ref = English)				
Spanish	-0.06	0.22	0.94	0.61, 1.44
Marital Status (ref = not married)				
Married	-0.09	0.12	0.91	0.72, 1.16
Education Level (ref = more than HS)				
8th grade or less	-0.12	0.18	0.89	0.62, 1.26
Some HS or HS	-0.22	0.18	0.80	0.57, 1.13
DKM Score	0.04	0.03	1.05	0.99, 1.11
Comorbid Condition (ref = no)				
Yes	0.25	0.13	1.28	1.00, 1.65
SCMHC Score	-0.06	0.07	0.95	0.83, 1.08
PHQ-9 Score	-0.01	0.02	0.99	0.96, 1.02
GAD-7 Score	0.01	0.01	1.01	0.98, 1.04
Log likelihood	-477.79			
χ^2 (df = 7, df = 9, df = 11)	15.41			
p-value	.16			
Akaike Information Criterion (AIC)	981.58			
Bayesian Information Criterion (BIC)	1020.19			

Table 6

Binary Logistic Regression Analysis for Treatment Retention (N = 144)

	Model 1				Model 2			
	B	SE	OR	95% CI	B	SE	OR	95% CI
Age	0.05	0.03	1.05	1.00, 1.11	0.02	0.03	1.02	0.96, 1.09
Gender (ref = male)								
Female	0.08	0.68	1.09	0.28, 4.17	-0.08	0.70	0.93	0.23, 3.69
Language Spoken (ref = English)								
Spanish	0.85	0.76	2.34	0.52, 10.48	1.40	0.84	4.06	0.78, 21.20
Marital Status (ref = not married)								
Married	-0.23	0.53	0.79	0.28, 2.24	-0.14	0.54	0.87	0.30, 2.51
Education Level (ref = more than HS)								
8th grade or less	-0.99	0.92	0.37	0.06, 2.26	-0.96	0.95	0.38	0.06, 2.49
Some HS or HS	-0.91	0.88	0.40	0.07, 2.25	-1.06	0.90	0.35	0.06, 2.04
DKM Score	0.11	0.11	1.12	0.90, 1.39	0.12	0.11	1.12	0.90, 1.40
Comorbid Condition (ref = no)								
Yes					0.96	0.60	2.60	0.80, 8.50
SCMHC Score					-0.38	0.25	0.68	0.42, 1.11
PHQ-9 Score								
GAD-7 Score								
-2 Log likelihood	144.85				140.05			
χ^2 (df = 7, df = 9, df = 11)	10.17				14.97			
p-value	.18				.09			
Nagelkerke R^2	.10				.15			

Table 6

Binary Logistic Regression Analysis for Treatment Retention (cont.)

	Model 3			
	B	SE	OR	95% CI
Age	0.02	0.03	1.02	0.96, 1.09
Gender (ref = male)				
Female	-0.07	0.72	0.93	0.23, 3.80
Language Spoken (ref = English)				
Spanish	1.52	0.86	4.58	0.85, 24.63
Marital Status (ref = not married)				
Married	-0.17	0.55	0.84	0.29, 2.46
Education Level (ref = more than HS)				
8th grade or less	-0.94	0.96	0.39	0.60, 2.54
Some HS or HS	-1.08	0.91	0.34	0.06, 2.02
DKM Score	0.11	0.11	1.11	0.89, 1.39
Comorbid Condition (ref = no)				
Yes	1.01	0.60	2.78	0.85, 8.96
SCMHC Score	-0.37	0.25	0.69	0.42, 1.13
PHQ-9 Score	-0.05	0.06	0.95	0.84, 1.08
GAD-7 Score	0.04	0.06	1.04	0.93, 1.17
-2 Log likelihood	139.36			
χ^2 (df = 7, df = 9, df = 11)	15.66			
p-value	.15			
Nagelkerke R^2	.16			

Specific Aim 2

Description of Sample

Descriptive characteristics of METRIC participants who completed the interview process (*N* = 22) are displayed in Table 7. The interview subsample closely resembled the full METRIC sample, with a majority being female (86.4%) and Spanish-speaking (90.9%). Most of the subsample participants were married (63.6%) and only four participants (18.2%) reported having more than a high school education. Stigma towards mental health care treatment was slightly lower among the subsample (average SCMHC score = 0.27) and mental health literacy was very similar to that of the full METRIC sample (DKM scores: *M* = 12.09, *SD* = 1.97). Half of the subsample participants (*n* = 11) had a comorbid physical health condition. The average PHQ-9 score at time of enrollment among subsample participants was 14.36 (moderate/moderately severe depression) and the average GAD-7 score at time of enrollment was 12.14 (moderate anxiety). The subsample was highly engaged in treatment – all participants had completed treatment with the DCM and the average number of sessions was 15.41 (*SD* = 5.77, range 7 to 29).

Table 7
Descriptive Statistics for Interview Sample (N = 22)

Participant Characteristic	*M* (*SD*) or *n* (%)
Age	42.18 (5.81)
Gender, female	19 (86.4%)
Spanish Speaking, yes	20 (90.9%)
Marital Status, married	14 (63.6%)
Education Level	
8th grade or less	7 (31.8%)
Some high school/high school	11 (50.0%)
More than high school	4 (18.2%)
Depression Knowledge Measure (DKM)	12.09 (1.97)
Stigma Concerns about Mental Health Care (SCMHC)	0.27 (0.70)
Comorbid Condition, yes	11 (50.0%)
Patient Health Questionnaire (PHQ-9)	14.36 (3.82)
Generalized Anxiety Disorder Scale (GAD-7)	12.14 (4.71)
Number of sessions attended	15.41 (5.77)
Completed treatment, yes	22 (100.0%)

Factors Influencing Treatment Engagement

Four main sub-categories, or themes, emerged as factors that influenced treatment engagement (Table 8). These themes were both concept-driven from the integrative framework in Chapter 2, as well as data-driven based on participant responses. What follows is a detailed description of each theme, then illustrated through participant quotes. Aliases are used for each participant.

Table 8
Factors Influencing Treatment Engagement (N = 22)

Themes & Subthemes	*n* (%)
Recognizing the need for treatment	
Identification through screening	17 (77.3%)
Self-recognized need for treatment	16 (72.7%)
Perceptions of depression and treatment	
Negative perceptions	17 (77.3%)
Positive Perceptions	8 (36.3%)
Values	
Family	11 (50.0%)
Helping others	5 (22.7%)
Availability of services/cost	9 (40.9%)

Recognizing the need for treatment. Participants discussed the recognition of their depression diagnosis and the necessity to receive treatment as the first step in engaging in mental health treatment through the METRIC project. This recognition process can be further broken down into two subthemes: identification through screening and self-recognized need for treatment.

Identification through screening. Universal screening for depression during primary care clinic visits was a component of the METRIC project and almost all the participants (*n* = 17) discussed the role the screening process had in identifying that they had depression and the subsequent referral to the DCM to participate in METRIC. When asked whether they knew they were depressed, sixteen participants (73%) stated that they did not know they had depression prior to coming to the clinic and being evaluated. For example, Andrea stated:

> The first time they told me I had symptoms was when I came here to the clinic and they made a questionnaire and that's when they started telling me and I started… I went with the counselor here and she started explaining to me, I started seeing things that were in

> me that were part of depression and *that's when I started seeing what it was and that I had spent years suffering from depression without realizing it* [emphasis added].

Seven of the 16 participants stated they came to the clinic for physical complaints they were experiencing which later proved to be related to depression. These participants described feeling tired, back pain, stomach pain, and a general feeling of being physically ill. In describing how she realized she had depression, Isabel said:

> Honestly, I couldn't tell… simply my body… couldn't handle it anymore… so I told myself, what is happening to me, the pain was too much, the back pain, the exhaustion… I felt tired, really tired, so I came to the doctor, and so they asked me various questions and all, they did several exams and they realized that I didn't really have a disease… a physical disease… but rather, well… they made me fill out a survey, and that's when the doctor figured out that… that at that moment she thought that what I had was depression.

Self-recognized need for treatment. After their initial diagnosis, or being informed they screened positive for depression, participants were referred to the DCM for enrollment in METRIC. At that point, many participants recognized their need for treatment because of their perceived burden of symptoms. Sixteen participants (73%) discussed the severity of their symptoms and being motivated to engage in treatment because of the impact the symptoms had on their functioning and daily lives. When asked what his main motivation to engage in treatment was, Andrew responded: "Be happy again….Start living life, doing things for myself, get out and do things instead of staying home in my room all the time." In response to the same question, Carla stated:

> My motivation was wanting to feel better - getting out of that. I felt like I was in a dark world, and wanting to get out of there, because I've always liked fighting, moving ahead, and showing myself that I can do it but at that moment I felt so bad that I couldn't see it that way, but I said "no, I have to see for myself."

A small group of participants (*n* = 4) discussed their motivation to receive treatment was the fear of consequences that could result if they did not receive treatment. One participant was afraid she might harm her child and the others described fears of hurting themselves, like Monica who stated:

> … the time that I came, I came in in really bad shape, I needed a yearly checkup, and they did the little paper again, and this time I said that I did need help, because I did feel it, I felt that if I didn't get out of it, something was going to happen, and it wasn't very good, because my intentions were about ending the pain that I had.

In discussing the process of accepting their diagnosis and recognizing their need for treatment, seven participants (32%) acknowledged the role their providers (primary care physicians and/or DCM) had in educating and encouraging them to receive treatment. In explaining her decision to start treatment, Paula stated:

> …because of everything that the doctor was saying to me. It was true that every time I answered something I would cry, and that wasn't good in me and if a doctor was telling it to me, it meant it was real. If any other person would have said it to me, a neighbor, etc., I wouldn't have given it the same importance as if a professional was telling it to me.

Perceptions of depression and treatment. In discussing their decision-making process to engage in treatment and their experiences in METRIC, participants described the perceptions they had towards depression and depression treatment prior to enrolling in the program. These perceptions included beliefs about depression itself and attitudes towards depression treatment and were further sub-categorized as negative and positive.

Negative perceptions. Most participants (*n* = 17) endorsed negative perceptions towards depression and depression treatment prior to enrolling in METRIC. Five participants mentioned they thought depression was for 'crazy' people, like Victor who stated "Well, firstly I thought that depression was for people who were completely crazy and I thought that… I couldn't have depression." Others also had trouble in accepting their diagnosis because of their beliefs about depression. When asked what her reaction was to being told she had depression, Paula stated, "The reaction that everyone has, I don't believe it, it's because of the situation, because of what I'm going through right now. We always try to… you don't accept it easily that you need help."

Participants also discussed the negative perceptions they had towards receiving depression treatment. Some participants felt that they should be able 'solve their own problems' and discussed the difficulty they had in discussing their issues or problems with a stranger. For example, Ana stated:

> I mean… I didn't think that my situation was… so important that someone could help me control it or help me with my depression. I mean I thought that I could do it on my own or that it was a situation that I could get over or that I could… help myself… or that I could overcome it on my own…

Other participants (*n* = 4) felt ashamed and were concerned of possible consequences of receiving treatment such as having their children taken away from them. In describing why she was afraid to seek treatment, Lucia said "you know that you come here to a clinic, and sometimes the information they give it to the police or something, and *I was afraid you understand? That they would say that I couldn't keep the children…*" [emphasis added].

Some negative perceptions participants had towards receiving mental health treatment stemmed from feelings they had towards taking psychiatric medications. Four participants mentioned that a concern they had before enrolling in METRIC was that they would feel pressured to take antidepressant medication. Other participants discussed the negative attitudes and stigma they had towards people who took antidepressant medications. In describing how she felt prior to receiving depression treatment through METRIC, Clara said "before I would see people, that they would take the medication for depression, I would see them as people that didn't want to. …like people who didn't want to move forward from their problems."

Four participants attributed their negative perceptions of depression treatment to their cultural background and the belief system in which they were raised in. For example, Alejandra explained "… because one comes in with a culture where you get better or you get better but there's no treatment, no psychologist, or anything, it's your own problems." Five participants also discussed their negative perceptions towards mental health treatment related to knowing other people who received treatment or having their own personal negative experience. While talking about her sister who received mental health treatment, Daniela stated:

> …she has a lot of years taking medications and all. That's why I say that I think one cannot depend on something for your whole life. I mean it can help you, but you can't be like, "the pill the pill because if I don't buy it, if I don't take it, I'm going to feel bad." Because no, you can't depend on something, or someone. You have to move forward, get up, and do it.

Positive perceptions. Only eight participants (36%) discussed positive perceptions they had towards treatment prior to enrolling in the program. Four participants mentioned that their decision to engage in treatment was positively influenced by other people (family, friends, etc.) who were receiving mental health treatment. When Alejandra was asked why she decided to participate in treatment, she explained:

> My husband went to talk to his doctor, and his doctor told him that he needed to go to a counselor to talk about his emotional problems that he had, and so…. He even gave him medication. I went with him to a talk that he had and I listened to some words that the counselor said and so I said… those words are clues for me that something is telling me that I need help.

Other participants stated that they decided to participate in METRIC because they believed treatment could help them, like Gabriela who stated, "because I really believed that this was going to be my salvation." Some participants also looked forward to the therapeutic process and being able to understand their feelings and talk about with lives with someone who was a stranger and had an outsider perspective.

A small number of participants (*n* = 3) discussed their religious beliefs in God as something that influenced their positive perceptions towards treatment. These participants discussed their beliefs that God would want people to receive help, or treatment, if they were struggling with mental health. For example, when asked if she had any concerns with starting treatment, Vanessa stated, "… the Bible itself recommends that we seek out help with the doctors and so it didn't seem bad, I understood that I needed help." Similarly, Alejandra said,

"…if God has allowed for you all to prepare to help human beings it is because that is what God wanted."

Values. Participant values were another theme that emerged as factors that influenced treatment engagement. The values brought up by participants included family and helping others.

Family. Half of the participants (*n* = 11), all of whom were female, discussed the impact their depressive symptoms were having on their loved ones as a motivation to engage in treatment. Many of the women were concerned about the impact of the depression on their children. For example, when asked what her main motivation to receive treatment was, Ana explained:

> My family, my son… because I worried a lot, based on how I was feeling, that I could affect him, or how I was already affecting him, because of my mood changes or coming back to the same thing… I've always been a very strong person and at that moment I wasn't, it wasn't what I was showing to him, that he should be or that we should be… so I said no, I need help, I don't want to feel bad and affect him, for example my son or my husband either one of them.

Other women explained that they wanted to get better for their loved ones so that they could be there for them and fulfill their roles as a wife and/or mother. In explaining her decision to participate in METRIC, Isabel stated:

> … because I don't have problems with my husband, I have 3 children, and I couldn't be at a 100% with them, I didn't feel good, maybe I would go work but when I got back I only wanted to sleep, I didn't feel like… and so that became a priority over my family and so I told myself, "I need to feel good, I had to"… so I told myself, what you offered

> me, whatever you would have offered, this or something else I would have done it… because I wanted to feel good for my children and my husband.

Helping others**.** Five participants (23%) mentioned that one of the reasons they chose to participate in METRIC was for the potential to help other people. They believed that by participating in a research study, while also receiving some benefit, they could help others suffering from depression, like Vanessa who stated, "… by participating I might help other people that feel the same as I do or worse than I do." Three of the five participants also acknowledged that participating in the project was helpful to the research team as well. In describing her decision to participate in METRIC, Ana said:

> Honestly, I decided to be in this because I felt like the duty to help, I mean I felt at that moment so supported… so supported that I said "If what is happening to me right now is going to help someone else or will help you all in some way, I want to help", that's why I decided to take this. To do this.

Availability of services/cost. The final factor influencing their decision to engage in treatment discussed by nearly half of the participants (*n* = 9) was the accessibility of treatment. Being able to receive mental health treatment at the clinic where they already received medical services was convenient for participants. Some participants viewed METRIC as a good opportunity or an opportunity worth trying with little associated risk or cost. Carla explained:

> Well because it seemed like a very good option, a very good help, and well as a Hispanic, one doesn't always have the possibilities of seeing someone, to pay, and you all were offering me a very good opportunity and I didn't want to let it go to waste.

Accessibility for participants was also increased by not charging them for visits with the DCM. Not having to pay for additional services was mentioned by four participants like Victor, who stated "I told myself, if there's an opportunity and it's free… I need it."

Factors Influencing Treatment Retention

Three main sub-categories, or themes, emerged as factors that influenced treatment retention (Table 9). As with the themes in the previous section, these themes were both participant-driven and concept-driven from the integrative theoretical framework presented in Chapter 2. A description of each theme, including participant quotes with aliases, are provided.

Table 9
Factors Influencing Treatment Retention (N = 22)

Themes & Subthemes	*n* (%)
Satisfaction with treatment	
Treatment effectiveness	22 (100%)
Therapeutic alliance	17 (77.3%)
Availability/flexibility of the DCM	9 (40.9%)
Social support	
Felt supported	11 (50.0%)
Lack of support	10 (45.4%)
Barriers to treatment	
Work	6 (27.3%)
Symptoms of depression	5 (22.7%)
Competing medical needs	5 (22.7%)
Responsibilities with children	4 (18.2%)
Traveling to Mexico	2 (9.1%)

Satisfaction with treatment. All participants had completed treatment with the DCM at the time of the interview. When asked why they continued coming to appointments and maintaining their treatment plan with the DCM, the most endorsed reasons were around their satisfaction with treatment. This theme is further sub-categorized into treatment effectiveness, therapeutic alliance, and availability/flexibility of the DCM.

Treatment effectiveness. All participants ($N = 22$) believed that meeting with the DCM was helpful in the treatment of their depression. Many participants discussed feeling better after meeting with the DCM and how these noticeable changes in their mood were a motivating factor to continue to come to sessions. When Susie was asked what helped her come to her appointments, she said “my mood, every time that I came in I would leave really good, even when I came in feeling really bad I would leave feeling really good, smiling and happy.” Some participants described the progress they believed they had made in treatment and not wanting to lose that progress if they didn’t see treatment through to the end. For example, Andrew stated:

> I didn’t want to lose the… I didn’t want to lose everything I was working for… and knew that it was good for me to talk to her and see her and I just needed to make sure that I kept coming.

Other participants also described the commitment they had made to treatment and believing they should see that commitment through for both themselves and the DCM. Paula explained:

> I always told [the DCM] that it was important what I was doing, and because I truly felt like it was helping me. And if they are helping you and the services are not costing, then there is no reason why you should be so irresponsible about your life and this commitment. Because it is a commitment that you made when you signed and agreed to come to the appointments, and honestly I’m a very responsible person, if I make a commitment, it is my responsibility to go through with it.

Along with their mood, participants also discussed the impact treatment was having on their daily lives and relationships with others. When asked what pushed her to complete treatment with the DCM, Julia stated:

> Because I felt like it was helping me a lot, and I wanted to feel okay, I thought before that I was feeling okay, but as time went by and I came to therapy they helped me a lot, and that's why, because they helped me a lot and it changed my relationship, a little, the relationship of my children with me, my way of seeing things, I liked it a lot.

Nearly all the participants (*n* = 19) mentioned learning things from the DCM and practicing those tools/exercises that they found helpful in their daily lives. When asked why she continued therapy, Michelle stated:

> It was because I was learning things, and it became very interesting to me, like oh you know, and just kind of practicing what she told me outside of here at home and stuff. And I was like okay, I need to keep coming. So that's what kept me motivated to come to her.

Therapeutic alliance. While participants were not specifically asked about their therapeutic relationship with the DCM, when asked about their sessions and experiences in METRIC, many (*n* = 17) discussed the strong, positive connection they had with her. These strong relationships were evident by participants describing the positive, personal qualities of the DCM including being patient, professional, inspirational, and understanding. In talking about her sessions with the DCM, Carla stated:

> …she is an excellent professional. She changed my way of looking at life, from the first time I came here with her, she had so much patience with me, because I'm not a person that… I wasn't a very open person and so she tried to… to carry out the therapy… she

> taught me a lot, to raise my self-esteem, to feel confident about myself, in the difficult moments that will come up, how to stay calm and know that there is a solution…

Half of the participants (*n* = 11) mentioned the importance of the DCM listening to them. Feeling like the DCM listened to them during their sessions made the participants feel validated and supported without judgement. For some participants, like Daniel, the listening provided by the DCM stood out the most during sessions. He stated, "And she, more than anything else, would listen to me…." In describing the therapeutic techniques utilized by the DCM during sessions, Clara, who had previous experience in mental health treatment, stated "I had never worked with a person, a psychologist, that behaves more like you behave, that listens. It's very difficult to do that type of thing. …She has a good technique."

Availability/flexibility of the DCM. Nine participants (41%) mentioned the availability and flexibility of the DCM in scheduling appointments. Being able to schedule appointments around their work schedules and the ease of rescheduling when they had to miss an appointment increased satisfaction and made it easier for participants to remain in treatment. When asked if she had any barriers coming to her appointments, Monica explained the importance of the DCM's flexibility around her schedule. She stated:

> Not really, I didn't have any problem because I would come in at work at 10am, and I would tell [the DCM] give me as early as you could meet me, so I could come in, not lose my job, and not lose the appointment.

Flexibility implemented by the DCM around missed appointments was not standard practice in the clinic for other medical appointments. If patients reached a certain threshold of missed or rescheduled appointments, the clinic would impose a stricter policy on scheduling for the patient.

However, some participants noted that this was not the case in rescheduling with the DCM. When personal issues arose, such as a crisis with her children, and Clara could not make it to her appointments, she stated:

> …but [the DCM] told me "it's not like the ones from over there that if you don't come in later you have to come in in-person to make your next appointment here." And she told me, "it's not a problem, no worries," but we would always move it, she would try to fit me in at another time. So, it was always perfect with the appointments.

Social support. Many participants discussed their perceived support in receiving depression treatment through METRIC. They described both their positive support systems as well as any negative feedback they received as a result of engaging in treatment; therefore, this theme was further sub-categorized into *felt supported* and *lack of support*.

Felt supported. Half of the participants (*n* = 11) stated that they had support and/or received encouragement from loved ones when it came to engaging in treatment for depression. The participants who described having strong support systems were all female and emphasized the importance of having the support of their husbands and/or children. When talking about the support she received from her husband, Lucia said:

> …he always told me, "I will be with you in the good and the bad, whatever they tell you, I will always be with you, I won't leave you alone." …It's when you feel supported by your family as well, if I had felt that way and they had judged me because of my thoughts, I really would have felt bad, I really would have felt bad but no, thanks to God that my problem was only that.

Participants most often said that their family supported them receiving treatment because they recognized their need for treatment, like Elena who said, “they supported me because they knew I needed it.” Other participants stated that their family members were supportive because they noticed positive changes in the participants. For example, Ana stated:

> Well… I… since the beginning they were happy that I was starting to receive treatment and… especially, they saw my changes, and so I was always supported, they supported me a lot. … My support was my husband and my son, I mean the fact that… even my son, many times he would tell me ‘mommy, you’re someone else, I’m very glad you’re doing well.’

Lack of support. On the other hand, several participants (*n* = 10) also described the lack of support and judgement they received from friends and family for receiving treatment for depression. Two participants mentioned that they chose not to disclose their engagement in mental health treatment to their family. Other participants acknowledged that while they had the support of some people, they received criticism from others. For example, Andrea stated:

> My close family, husband and children, they supported me. The family on my husband’s side I did have a little bit of problems, because they told me it was foolish that it was a waste of time, that how could I be… that [depression] wasn’t an illness.

However, despite receiving negative comments from some people, participants were not deterred from continuing treatment, as evident by the fact that they all completed treatment. Even though she received judgement and criticism from her ex-partner and sister, Paula explained:

> …so I don’t really care what he thinks, now I care more about what my daughter thinks and what my mom thinks, and I don’t care what my sister thinks either. I only care about

> the people that are close to me, my daughter and my mom, that are my family, that have always been there.

Barriers to treatment. In general, barriers to treatment were relatively low among the interview subsample, likely because all participants were able to complete treatment with the DCM and average attendance of sessions was higher than that of the full METRIC sample. Nevertheless, participants were asked about any barriers that may have prevented them from making or keeping appointments at any time. The barriers endorsed by participants included work (*n* = 6), symptoms of depression (*n* = 5), competing medical needs (*n* = 5), responsibilities with children (*n* = 4), and traveling to Mexico (*n* = 2). Work barriers included having inconsistent work schedules or work schedules that were incompatible with clinic hours of operation. For participants with young children, they sometimes had issues with acquiring childcare or needing to be at their children's school for meetings, pickups, etc. The competing medical needs endorsed by participants included cancer treatment, bedrest for pregnancy, side effects from new medications, and having to attend other appointments. For some, symptoms of depression prevented participants from attending appointments which included sleeping a lot, feeling down, and not wanting/lacking the motivation to get out of bed or leave the house. When asked if there was anything that affected her ability to come to appointments, Clara explained:

> Yes, there was, at the beginning there were many days, not the family, it was the depression itself, because I wouldn't wake up and I tried to do things and I would say "I have an appointment, I have an appointment" and the next day I was sleeping. …that was one of the things that resulted from depression, I slept a lot.

Finally, two participants explained that they were unable to make appointments with the DCM when they had to take extended trips to Mexico for family matters.

Specific Aim 3

In order to compare the quantitative and qualitative results of a convergent design mixed methods study and gain a deeper understanding of the phenomenon, results from each phase must be merged, or integrated (Creswell, 2015). Doyle, Brady, and Byrne (2016) describe this integration process as “the point(s) where quantitative and qualitative phases intersect” or the “‘mixing’ in a mixed methods study” (p. 630). For the current study, the integration phase utilized two techniques: joint display and the development of meta-inferences in the interpretation and discussion of the results. Integration through joint display brings the quantitative and qualitative results together through a visual means so that a comparison of the results can be easily made (Creswell, 2015; Fetters, Curry, & Creswell, 2013), while meta-inferences are derived from both results to create integrated understandings of the phenomenon (Doyle et al., 2016). A joint display summarizing the quantitative and qualitative data findings in relation to the integrative framework (Figure 3) can be found in Table 10. Next, using the findings derived from comparing the quantitative and qualitative results, the researcher developed meta-inferences to provide a sense of the overall findings. These meta-inferences are described in the following chapter as part of the summary of findings.

Table 10

Comparison of Quantitative and Qualitative Results

Theoretical Construct	Quantitative Results	Qualitative Results
Predisposing Factors		
Demographic	Total number of sessions attended and treatment retention were not significantly related to age, gender, or marital status.	Responsibilities with children were a barrier reported by 18% of participants.
Social Structure	Total number of sessions attended and treatment retention were not significantly related to education level or language spoken.	Participants were motivated to engage in treatment because of the value they put on family (50%) and helping others (23%). Traveling to Mexico for family matters was a barrier reported by 9% of participants.
Health Beliefs	Average score on the DKM at baseline was 11.75 (out of 17). Scores on the DKM were significantly, yet weakly correlated with total number of sessions attended (*r* = .16) but were not related to treatment retention.	73% of participants did not know they had depression prior to enrolling. 77% of participants had negative perceptions about depression and depression treatment prior to enrollment while 36% had positive perceptions.
Enabling Factors		
Personal/Family	Baseline stigma towards treatment was low (average SCMHC score 0.44 out of 3) and not significantly related to total number of sessions attended or treatment retention.	Participants reported initially thinking depression was for crazy people, being concerned about the consequences of receiving treatment, and concerns about medication treatment. 50% of participants reported having support for engaging in treatment while 45% of participants felt a lack of support.

	Participants who had a comorbid condition attended more sessions than participants who didn't; however, having a comorbid condition was not relayed to treatment retention.	Competing medical needs were reported as barriers to attending appointments by 23% of participants. Work was a barrier to appointments for 27% of participants.
Community/Setting	Not measured.	41% of participants engaged in treatment because of the availability and low cost of services. Treatment satisfaction was present among all participants in the form of treatment effectiveness, therapeutic alliance, and/or the availability of the DCM.
Need Factors		
Perceived Need	Not measured.	73% of participants self-recognized the need for treatment.
Evaluated Need	Total number of sessions attended and treatment retention were not related to baseline depression severity or baseline anxiety severity.	77% of participants were identified as needing treatment through screening.

CHAPTER 5

DISUCSSION

Summary of Findings and Meta-Inferences

This study was informed by an integrated theoretical framework based on Andersen's Model of Health Care Utilization modified to include other stigma-related constructs found in Corrigan et al.'s (2014) framework for stigma and care-seeking. Variations of Andersen's model have contributed to our understanding of the use of mental health services among Hispanics, particularly in examining mental health service use within the past year, defined as at least one visit with a mental health professional (Chang & Biegel, 2017; Cho et al., 2014; Kim et al., 2010; Lee & Held, 2015; Ortega & Alegria, 2002; Rosales & Calvo, 2017; Vega et al., 2001; Vera et al., 1998). However, few studies have been conducted to understand how constructs of Andersen's model are related to long-term engagement and retention in mental health care treatment. This study provides evidence for the impact that predisposing, enabling, and need factors have on participation in mental health treatment beyond an initial visit as well as the complex relationships that may be present among these factors.

Need Factors

Findings from this study highlight the importance of both evaluated and perceived need in the initiation of depression treatment. First, the importance of evaluated need in the form of screening was apparent in its role of depression recognition and referral for treatment. Per the study protocol, in order to be referred for potential participation in METRIC, participants had to screen positive for depression through routine primary care PHQ-9 screening (Sanchez et al., 2017). Many participants enrolled in METRIC were not initially seeking mental health services and were identified by their primary care providers as needing treatment as a result of depression screening with the PHQ-9, illustrating the necessity of accurate identification of depression among patients in primary care settings where depression is more frequently diagnosed and treated than in specialty mental health care (Harman, Veazier, & Lyness, 2006; Uebelacker, Wang, Berglund, & Kessler, 2006; Wang et al., 2006).

While provider recognition of depression was an important first step in referral for treatment, uptake in treatment was ultimately up to patients' individual decision making. For participants of the current study, this decision was impacted by their relationship with their primary care provider/referring physician and self-recognition of need for treatment. Research on Hispanic patients within primary care settings has highlighted the importance of relationships and communication with primary care providers in the intention to seek and uptake of depression treatment (Cabassa & Zayas, 2007; Ishikawa et al., 2010; Ishikawa et al., 2014). For example, Ishikawa and colleagues (2014) found that Hispanic patients' working alliance with their primary care providers (as rated by the patients) was positively associated with intention to follow up on depression treatment recommendations. However, the researchers also found that working alliance was not significantly associated with actual uptake of treatment recommendations, which may have been due to difficulty in accessing treatment (Ishikawa et al., 2014). In integrated care settings where barriers to accessing treatment are decreased, qualitative research has highlighted the importance of the interpersonal relationships with referring providers in patients' engagement in depression treatment including feeling like providers listened to them, showed trust and respect, and took the time to explain and engage in the referral process (Cabassa, Hansen, Palinkas, & Ell, 2008; Hansen & Cabassa, 2012; Horevitz et al., 2015).

Self-perceived need for services and self-rated mental health have been shown to be significant predictors of mental health service use among Hispanics (Chang & Biegel, 2017; Kim et al., 2010; Ortega & Alegria, 2002; Villatoro, Morales, & Mays, 2014). Likewise, in the current study, self-recognition of depression and perceived need for treatment influenced participants' willingness to engage with the DCM and enroll in the METRIC project for treatment of depression. Some participants perceived the need for treatment prior to coming to the clinic due to the severity of the symptoms they were experiencing and the impact it was having on their daily lives, consistent with other research in which severity of depressive symptoms and functional impairment were associated with self-recognition (Caplan & Buyske, 2015; Hansen & Cabassa, 2012). However, other participants did not perceive a need for treatment until they were assessed for depression through the PHQ-9 and were recommended to treatment by their primary care provider. The effect of primary care providers on patients' decision to engage in depression treatment was also found by Hansen and Cabassa (2012) in their qualitative study on Hispanics with diabetes and depression in an integrated health care intervention and suggest that the screening process itself as well as provider identification may play a crucial role in patient self-recognition of depression and perceived need for treatment.

When examining treatment participation beyond the initial engagement with the DCM, symptom severity for both depression and anxiety at time of enrollment was not associated with the number of sessions attended nor with whether participants were retained in treatment through discharge. While self-perceived need for services was not measured among METRIC participants, other research studies examining mental health service utilization among Hispanics did not find significant associations between self-perceived need for services and retention in services (Chang & Biegel, 2017; Ortega & Alegria, 2002). This suggests the importance of other factors beyond perceived and evaluated need in the long-term engagement and retention of Hispanics in mental health treatment.

Enabling Factors

Personal/family. Several enabling factors present in the integrative framework were impactful on treatment participation among METRIC participants. First, while not measured quantitatively in the full METRIC sample, social support from family members was described by many participants as an important factor contributing to participation in treatment among the interview sample. Research has highlighted the significant role of family support and family cohesion in mental health help-seeking, service utilization, and drop out of services among Hispanics (Chang & Biegel, 2017; Eghaneyan & Murphy, 2019a; Hansen & Aranda, 2012; Hansen & Cabassa, 2012). Other research has specifically examined the effect of social perceptions of need for services on Hispanics' use of formal mental health services and found that being told by others that they had a mental health problem or that they should see a mental health professional was significantly associated with participants' use of mental health services (Caplan & Buyske, 2015; Villatoro et al., 2014).

In their qualitative study, Hansen and Cabassa (2012) found that Hispanic participants referred for depression treatment in an integrated health care setting were motivated to initiate treatment when they received family support and encouragement. Similarly, in the current study, participants were positively influenced by family encouragement to participate in treatment; however, family encouragement seemed to be more influential in long-term engagement and retention in care than in initial decision making to engage in treatment due to family members' perception of the positive impact treatment was having on patients.

Also noteworthy in the current study is that all participants completed treatment despite half of them receiving negative feedback and discouragement from others. These seemingly contradictory findings may have been due to the fact that the negative feedback received was not from those that were closest to the participants, and thus not as impactful as the positive support received from close loved ones, a point brought up by some participants. Another explanation which has been demonstrated in the literature is that perceived need for mental health services has a stronger effect on one's use of services than the others' perception of one's needs for services (Villatoro et al., 2014). In other words, negative feedback and lack of encouragement from others may not have been impactful on participants' participation in treatment because it was outweighed by participants' perceived need for treatment.

Another enabling factor that impacted depression treatment participation in the current study was the presence of comorbid physical health conditions among participants. The impact of chronic comorbid physical and mental health conditions on the use of mental health services is complex. There is evidence for both the 'crowd-out effect' in which patients with comorbid physical health conditions are *less* likely to use mental health services than those without due to competing demands and limited time in primary care visits (Jolles, Haynes-Maslow, Roberts, & Dusetzina, 2015) and for the 'exposure effect' in which patients with comorbid conditions are *more* likely to use mental health services than those without due to more frequent visits with doctors and increased probability of recognition and treatment of mental illness (Le Cook, McGuire, Alegria, & Normand, 2011). This mixed evidence is likely due to variations in methodology and service context (Menear et al., 2015).

In the current study, having one or more comorbid physical health conditions was associated with increased number of mental health treatment visits with the DCM. However, the reason for this association remains unclear. One explanation is that participants with comorbid conditions had increased need for services due to poorer perceived health and functioning (Moussavi et al., 2007). Another explanation is that providing integrated services made it convenient for participants to schedule appointments with the DCM since they were already attending regular follow-up appointments for their medical conditions. Alternatively, increased presence in the clinic likely made it easier for the DCM and research team to follow up with participants when they missed appointments or were unable to be reached by phone. It should be noted that results from participant interviews suggest that competing medical needs may also pose as barriers to mental health treatment in integrated care settings, especially when those medical needs impact access to treatment (i.e., bedrest for pregnancy) or require receipt of services in other specialty settings (i.e., cancer treatment).

It is difficult to conclude if other personal enabling factors from the integrative framework including employment status, insurance status, and income impacted treatment participation with the DCM since these variables were not captured in the quantitative data collection for METRIC. While lack of insurance and cost of services is often a barrier to receiving mental health services among low-income, Hispanic populations (Bridges, Andrews, & Deen, 2012; Chang & Biegel, 2017; Rosales & Calvo, 2017) such as the participants of this study, these factors may not have been applicable to the current study given the setting and project set-up. The setting for the current study was an FQHC where costs of services are determined on a sliding fee scale based on ability to pay (Health Resources & Services Administration, 2018). In other studies examining mental health care utilization within these settings, insurance status and income were either not significantly associated with treatment participation outcomes (Horevitz et al., 2015) or not controlled for in analyses due to hypothesized low impact on outcomes (Bridges et al., 2014; Hochhausen et al., 2011).

Furthermore, as part of their participation in METRIC, participants were not charged for any visits with the DCM. Not having to pay for sessions was specifically mentioned by interview participants as an enabling factor for engaging in treatment. Another barrier to mental health services for low-income Hispanics is limited availability of time to seek services, especially for those that are employed and unable to take time off work (Kouyoumdjian, Zamboanga, & Hansen, 2003). In the current study, some participants described work as barrier to scheduling and keeping appointments; however, employment status was not collected in the METRIC study and, thus, unable to be accounted for in the quantitative analysis.

Finally, stigma towards mental health treatment, a factor not traditionally incorporated in Andersen's model, was conceptualized as an enabling factor in the integrative theoretical framework. Stigma towards mental health treatment as measured by the SCMHC was notably lower among participants in METRIC compared to Hispanics in other studies within community health center settings (see Interian et al. (2010) and Hernandez and Organista (2013)). The low scores on the SCMHC among METRIC participants could be due to differences in samples and measure administration. First, unlike the participants in the Interian et al. (2010) and Hernandez and Organista (2013) studies, METRIC participants met diagnostic criteria for depression and were treatment-seeking in that they had already met with the DCM and agreed to participate in the project prior to completing the SCMHC measure (Sanchez et al., 2017). Thus, it is not surprising that participants who had agreed to participate in treatment exhibited fewer stigmatizing concerns about treatment. Second, because METRIC researchers were concerned about literacy levels and comprehension of some of the measures (an issue also observed in the Hernandez and Organista (2013) study), the SCMHC was read aloud to participants by research staff rather than self-administered. This method of administration may have led to increased social desirability bias in participant responses (Krumpal, 2013), leading to less endorsement of stigmatizing concerns about mental health treatment to the DCM who administered the baseline measures.

Despite stigma scores being relatively low among the METRIC sample and even lower for those who were interviewed, a majority of interview participants endorsed having negative views towards depression and depression treatment prior to receiving treatment which included thinking depression was only for crazy people and being ashamed/concerned of the consequences for receiving treatment. Stigmatizing concerns were also specifically related to views towards antidepressant medications, a phenomenon commonly observed in the qualitative literature on Hispanic patients with depression (Cabassa et al., 2008; Caplan & Whittemore, 2013; Hansen & Cabassa, 2012; Interian et al., 2007). The discrepancy between the quantitative and qualitative results regarding stigma could, again, be due to the administration of the stigma measure in the quantitative data collection.

One issue with the stigma measure may have been the timepoint the measure was administered, which occurred with all baseline measures after participants agreed to participate in METRIC. During the interviews, some participants described having stigmatizing concerns prior to their enrollment in METRIC but explained that discussions with their primary care providers and/or DCM alleviated many of their concerns. Therefore, it is not clear whether any initial discussions prior to participants' agreement to participate in the study and completion of baseline measures had a significant impact on stigma scores. An alternative explanation is that the stigma measure utilized (SCMHC) did not adequately capture participants' stigma towards treatment. There are several unique constructs of stigma with different associated measurement tools, few of which have been validated for use in Hispanic populations (Eghaneyan & Murphy, 2019b). Therefore, the use of a different stigma measurement tool, such as a depression stigma checklist for Hispanic primary care patients developed by Vega et al. (2010) that includes questions around several aspects of stigma (stigma towards treatment in general, medication, others with depression, etc.), may have yielded different results.

Taking into consideration the potential confounding issues with the administration of the SCMHC and the overall low scores for the measure among participants, it is not surprising that SCMHC scores were not significantly related to the treatment participation outcome variables in the current study. Furthermore, previous studies using the SCMHC found that scores were not significantly related to currently being in treatment among low-income women with depression or low-income Hispanics in primary care (Interian et al., 2010; Nadeem et al., 2007). However, Interian et al. (2010) also found that higher scores on the SCMHC (more stigma towards treatment) were associated with decreased odds of having ever been in treatment. Therefore, if currently being in treatment is not significantly associated with stigma towards treatment but previously being in treatment is, there is a possibility that having been in mental health treatment can decrease a person’s stigma towards treatment. This hypothesis is supported by other research that found receiving therapy decreased mental health stigma over time for depressed Hispanics (Collado, Zvolensky, Lejuez, & MacPherson, 2019). In the current study, many participants discussed how their views towards mental health treatment had changed as a result of participating in the project and receiving treatment. Therefore, the lack of association between stigma scores and treatment participation outcomes may have also been because the act of actually receiving treatment was constantly changing participants’ views towards treatment.

Community/setting. The availability of services was endorsed by some participants as an enabling factor for engaging in treatment. Participants viewed receiving mental health treatment through their primary care clinic as a ‘good opportunity,’ especially because of the low associated cost with attending appointments. Additional access variables, including the availability of transportation and childcare, were not examined in this study but may have been relevant for participants, especially considering that the sample was primarily women and other studies with low-income, minority female samples have found logistical barriers such as not having childcare and transportation to be prominent and significantly associated with the use of depression treatment (Alvidrez & Azocar, 1999; Nadeem et al., 2007). In general, participants did not report many community or clinic-level barriers to participating in treatment. The perceived low barriers to care among those interviewed and high level of participation among participants overall could reflect the increased access to mental health treatment by offering services where they would normally receive care. This hypothesis would be consistent with a study by Arean et al. (2008) in which Hispanics with depression in primary care settings who were assigned to receive integrated care had greater access to care (attendance of initial mental health visit and total number of visits) than those that were referred to outside services.

Another enabling factor related to the treatment setting for continued use of services was treatment satisfaction among participants. While not included in the integrative theoretical framework for this study, Andersen (1995) hypothesized that outcomes of health service use, including consumer satisfaction, would subsequently influence other predisposing and enabling factors through feedback loops. As evident in the qualitative findings of this study, the positive experiences participants had in treatment, including believing treatment was effective, and their strong connection/relationship with the DCM, influenced their continued participation in treatment. These results are consistent with the research by Hansen and Cabassa (2012), which also found that a trusting relationship with their provider as well as noticing improvements in symptoms and functioning reinforced Hispanic patients' adherence to depression treatment in an integrated health care intervention.

Although not directly assessed in this study, participant experiences captured in the interview process regarding formation of a trusting and close connection with the DCM suggest the presence of a strong therapeutic relationship, or *high therapeutic alliance*. While no single definition of therapeutic alliance exists, it often refers to the quality and strength of the collaborative relationship between a client and their therapist (Horvath, 2001). In a meta-analysis conducted by Sharf, Primavera, and Diener (2010), researchers found a moderately strong relationship between psychotherapy dropout and therapeutic alliance, with weaker therapeutic alliance scores associated with being more likely to drop out of psychotherapy treatment.

Satisfaction with treatment and therapeutic alliance between participants and the DCM may be related to another factor present in the integrated theoretical framework: cultural congruence or match of the cultural and linguistic needs of patients. Along with being integrated into a community health center that serves a primarily low-income, minority population, METRIC included several culturally congruent elements of treatment including providing all materials and services in Spanish and the use of a bilingual, ethnically matched DCM. Research with clients with severe and persistent mental illness has shown that those who were ethnically matched with their clinicians reported higher therapeutic alliance than those who were not (Chao, Steffen, & Heiby, 2012). Furthermore, satisfaction with counseling among racial and ethnic minority college students has been significantly associated with ratings of their counselors' multicultural counseling competence (Constantine, 2002). Other qualitative studies using Hispanic samples have emphasized the importance of language and cultural match between therapists and clients, with participants expressing the challenges of not having a Spanish-speaking therapist even when an interpreter is used and the comfort and ease of disclosure when they felt they shared common cultural experiences with their therapists (Ishikawa et al., 2010; Uebelacker et al., 2012).

Predisposing Factors

The evidence for the impact of predisposing factors such as age, gender, and marital status on Hispanics' mental health service use is mixed (see utility of Andersen's model section of Chapter 2). In the current study, none of the demographic variables were associated with treatment engagement or retention. It should also be noted that the METRIC sample consisted primarily of Spanish-speaking women, aligning with previous research demonstrating that

Hispanic women are more likely to utilize mental health services than Hispanic men (Cho et al., 2014; Hahm, Le Cook, Ault-Brutus, & Alegria, 2015; Kim et al., 2010; Vega et al., 2001). However, it remains unclear if the sample being primarily female was due to Hispanic men's lower use of primary care services (Manuel, 2018), lower perceived need for mental health treatment (Villatoro, Mays, Ponce, & Aneshensel, 2018), or some other unknown factor.

While lower linguistic acculturation (i.e. not speaking English) has been found to be associated with less use of mental health services (Hansen & Aranda, 2012; Keyes et al., 2012), the lack of evidence for that association in the current study may be attributed to the project's ability to meet the linguistic needs of patients as discussed in the previous section. In the Horevitz et al. (2013) study, language of participants was also not associated with Hispanics' uptake of depression treatment, although it is unclear if depression treatment services were offered in Spanish. Alternatively, the little variance reported among participants' gender (88.7% female) and primary language spoken (90.7% Spanish speaking) along with the sample size may have limited the power to detect significant relationships between these variables and the treatment participation outcome variables.

Part of the adaptation of the integrative framework for the current study was to include sociocultural predisposing factors that have been shown to impact Hispanics' utilization of mental health treatment such as acculturation and immigration status (Alegria et al., 2007a; Keyes et al., 2012). While other measures of acculturation, including immigration status, were not measured/collected in the METRIC study, results of the qualitative analysis indicated that these variables may play a role in mental health treatment participation in integrated care models. Two participants in the interview sample mentioned traveling to Mexico as a barrier to attending appointments, suggesting a theme that may have been more prominent among the full METRIC sample, although this is purely speculative given it us unknown how many METRIC participants were immigrants or had ties to Mexico. Furthermore, while the community health center served clients regardless of their immigration status, increased immigration-related arrests and deportations that were taking place throughout the course of the study may have impacted attendance to appointments at the community health center in general, particularly for the participants that were undocumented (Kline, 2017; Martinez et al., 2015).

Finally, cultural values common in Hispanic populations can also serve as barriers to seeking mental health services (Abdullah & Brown, 2011; Caplan & Whittemore, 2013). While cultural values were not specifically assessed among participants, interview participants' values of family and helping others can be seen as closely related to the concept of *familismo*, which Andres-Hyman and colleagues (2006) defines as "an allocentric cultural value that stresses attachments, reciprocity, and loyalty to family members beyond the boundaries of the nuclear family" (p. 696). In this instance, the importance of family and being motivated to engage in treatment for the well-being of others led to *increased* participation in depression treatment rather than serving as a barrier to treatment. These findings contribute to the literature that argues for the impact of certain cultural values on mental health help-seeking and treatment engagement as dependent on individual enactment of that particular value (Ishikawa et al., 2010).

The final category of predisposing factors in Andersen's model, health beliefs, were included in the integrative framework in the form of mental health literacy and beliefs about causes and treatment effectiveness. In quantitative analysis, mental health literacy was operationalized as knowledge of depression and depression treatment as measured by the DKM.

DKM baseline scores were only weakly correlated to the number of sessions with the DCM (with this relationship becoming nonsignificant in the multivariate model) and not significantly related to treatment retention. There are a few factors that should be considered in the interpretation of these findings. First, there are a variety of constructs related to health beliefs, which Andersen (1995) defines as "attitudes, values, and knowledge that people have about health and health services" (p. 2), only a few of which were captured by the DKM. Self-reliant attitudes in solving problems and attitudes towards treatment, neither of which were assessed in the current study, have been found to be significantly related to Hispanics' use of mental health services (Berdahl & Torres Stone, 2009; Ortega & Alegria, 2002).

Second, intervention effects could have also influenced the relationship between the DKM and the outcome variables. One of the goals of the METRIC project was to increase depression disease literacy, specifically through the implementation of an educational intervention session (Sanchez et al., 2017). While the effects of the educational intervention have not yet been published, other studies have demonstrated that both the fotonovela and standard education pamphlet used in METRIC lead to significant improvements in DKM scores among Hispanic adults (Sanchez et al., 2019; Unger et al., 2013). Similar to stigma towards treatment, knowledge of depression and depression treatment among participants could have been influenced by the experience of receiving treatment (Mnich, Makowski, Lambert, Angermeyer, & Knesebeck, 2014). This would be consistent with the qualitative results of the study, in which the participants discussed the influence that both their referring provider and DCM had on their attitudes and knowledge about depression and depression treatment options during the referral, enrollment, and treatment process.

Relationships between factors. Finally, this study highlighted the complex relationship that exists between individual determinants that impact mental health treatment participation. While the integrative theoretical framework displayed in Figure 3 did not postulate any mediation or moderations effects between factors, results from the qualitative analysis indicate that these relationships should be further explored. Among the interview participants, perceived need for depression treatment was impacted by their beliefs about the illness itself as well as treatment options. These findings are consistent with Andersen's original hypothesis and other research demonstrating that perceived need for services is related to social context factors including health beliefs and social structure variables (Andersen, 1995, Breslau et al., 2017; Mendoza et al., 2015; Villatoro et al., 2018). The current study also revealed a link between participants' beliefs and knowledge about depression treatment and the stigma they had towards treatment and those receiving treatment, a relationship hypothesized in Corrigan et al.'s (2014) framework for stigma and care seeking and confirmed in other research studies using Hispanics samples (Keeler & Siegel, 2016; Lopez et al., 2018; Mendoza et al., 2015). Modification and testing of Andersen's model that includes relationships among predisposing, enabling, and need factors should continue to be conducted to further elucidate the complex relationships present among factors impacting the utilization of mental health services.

Implications

Implications for Integrated Health Care Systems

Understanding the role of integrated health care in reducing mental health disparities among minority populations requires identification of critical components of successful integrated models of care and elimination of barriers at the provider, systems, and patient levels

(Sanchez, Ybarra, Chapa, & Martinez, 2016, Caplan & Munet-Vilaro, 2016). This study highlights several key strategies that should be considered when implementing integrated health care models aimed at increasing engagement and improving outcomes for Hispanic patients.

Screening for depression. Among these strategies, a crucial first step is the implementation of universal and linguistically accurate screening among primary care patients. As evident in the findings of the current study, screening during primary care visits can lead to increased communication between providers and patients on identification of symptomology and treatment options, and increased patient recognition of diagnosis and need for treatment. Other qualitative research has emphasized the role of regular depression screening within primary care settings in increasing provider awareness of depression, increasing provider comfort in addressing and treating depression, and normalizing depression among the patient population (Kahalnik et al., 2019). While the American College of Preventive Medicine and US Preventive Services Task Force recommend screening for depression among the general adult population (Nimalasuriya, Compton, & Guillory, 2009), many primary care settings implement selective screening based on patients' presenting symptoms, contributing to high rates of unidentified and untreated depression in primary care settings (Samples, Stuart, Saloner, Barry, & Mojtabai, 2020). Certain populations are also less likely to be screened for depression in primary care settings, with Hispanics being significantly less likely to receive a depression screening compared to non-Hispanic Whites even after controlling for other sociodemographic characteristics including education, poverty status, and insurance coverage (Kato, Borsky, Zuvekas, Soni, & Ngo-Metzger, 2018). Furthermore, Hispanic patients with depression present with disproportionately more somatic symptoms, making a depression diagnosis ever harder to identify (Chong, Reinschmidt, & Moreno, 2010; Trivedi, 2004).

Several tools exist for the screening of depression in primary care and selection of tool(s) to be used by individual practices should be based on the psychometric properties of tools, prevalence of behavioral health conditions among the patient population, staffing resources, reimbursement, quality measurement, availability of follow-up from behavioral health clinicians, and primary care provider's familiarity with behavioral health conditions (Mulvaney-Day et al., 2017). The screening tool used for the current study, the PHQ-9, is the mostly commonly used depression screener in primary care and demonstrates high sensitivity and specificity for major depression, is endorsed by the National Quality Forum, and its administration is eligible for reimbursement by Medicare, Medicaid, and some commercial insurances (Caplan & Munet-Vilaro, 2016; Mulvaney-Day et al., 2017).

A shortened version of the PHQ-9, the PHQ-2, uses the first two questions of the PHQ-9 as a first step in the screening process, followed by the administration of the full PHQ-9 when there is a positive screen (Kroenke, Spitzer, & Williams, 2003). While both the Spanish and English versions of the PHQ-9 have proven to be reliable and valid in Hispanic samples (Huang et al., 2006; Merz et al., 2011), issues with the administration of the PHQ-2 may include the overidentification of depression among Spanish-speaking Hispanics (Bridges, Dueweke, Anastasia, & Rodriguez, 2018) and inadequate identification of suicidal patients (Dueweke, Marin, Sparkman, & Bridges, 2018) in primary care settings. Therefore, the administration of the full PHQ-9 to all patients, rather than the PHQ-2, may be warranted in integrated health care settings serving at-risk Hispanic populations.

Addressing mental health literacy and stigma. Previous studies have indicated that compared to non-Hispanic Whites, Hispanics have lower levels of depression disease literacy and higher levels of stigma towards treatment (Benuto, Gonzalez, Reinosa-Segovia, & Duckworth, 2019; Nadeem et al., 2007). Low levels of knowledge of symptoms and treatment options as well as stigma towards treatment are associated with lower intentions to seek formal mental health treatment and less utilization of mental health services among Hispanics (Benuto et al., 2019; Cabassa & Zayas, 2007; Interian et al., 2010; Ruiz et al., 2013), indicating the need for patient education that focuses on the identification of depression symptoms and addresses misconceptions and stigmatizing concerns about depression treatment. Similar to the study by Hernandez and Organista (2013), METRIC implemented an educational session for primary care patients (testing two different depression education tools including the fotonovela) who had met diagnostic criteria for depression. Hernandez and Organista (2013) found that while the use of the fotonovela increased participants' knowledge of depression and self-efficacy to identify the need for treatment, there were no significant differences in the experimental group and control group in the intent to seek treatment outcome.

While the purposes of the current study did not include the assessment of the educational intervention, the quantitative and qualitative results indicate that the education session did not have a significant impact on treatment engagement and retention with the DCM. Instead, patients discussed the importance of the education provided by their primary care providers and the DCM during the initial screening process, referral for treatment, and throughout the course of therapy. These results are consistent with other qualitative research emphasizing the importance of provider-patient interaction that include psychoeducational aspects to increase Hispanics' mental health treatment engagement within integrated health care models (Cabassa et al., 2008; Hansen & Cabassa, 2012).

Along with provider-based education, other methods may prove to be useful in increasing mental health literacy and decreasing stigma among Hispanic populations. For example, community health workers, or *promotoras*, who understand local cultural and health needs of the patient population and work as part of the integrated health care system, can be trained to provide psychoeducational sessions to increase disease literacy, minimize stigma, and enhance self-care management strategies among patients (Ell et al., 2017; Hernandez & Organista, 2013). Peer support specialists can also serve as part of integrated health care teams and can draw on both community life-based and lived experiences with behavioral health conditions to support engagement, recovery, and improved health activation (Daniels, Bergeson, & Myrick, 2017). In one study, a peer-delivered intervention was implemented to increase identification of low-income mothers at high risk for depression and enhance engagement in mental health services (Acri, Olin, Burton, Herman, & Hoagwood, 2014). Finally, integrated health care systems can partner with community organizations to provide community-based outreach to increase community awareness of depression and treatment options and increase help-seeking behaviors (Cabassa et al., 2007; Martinez Pincay & Guarnaccia, 2007; Uebelacker et al., 2012). One example is by Caplan and Cordero (2015), who utilized a community-based participatory research approach to partner with local churches and create a faith-based literacy intervention to address mental health stigma in a Caribbean Latino community.

Educational efforts to increase depression treatment engagement among Hispanics should be tailored to address common concerns and misconceptions about antidepressant medications.

Participants in the current study, along with Hispanics in previous research studies (Cabassa et al., 2008; Caplan & Whittemore, 2013; Hansen & Cabassa, 2012; Interian et al., 2007) primarily possessed stigmatizing concerns about mental health treatment related to the use of antidepressant medications which included fears of addictive and harmful properties of medications. Stigma towards antidepressant medications is associated with lower antidepressant treatment adherence (Fawzi, Mohsen, Hashem, & Moussa, 2012; Hunot, Horne, Leese, & Churchill, 2007; Sirey et al., 2001a), which is then associated with increased risk of relapse and poorer reduction of depressive symptoms (Melartin et al., 2005; Melfi et al., 1998). Interventions aimed at addressing concerns about antidepressant medications in Hispanic patients can be effective in increasing adherence and improving depression outcomes (Interian, Lewis-Fernandez, Gara, & Escobar, 2013).

Treating depression in people with chronic comorbid conditions. Within integrated health care models, systems should be put in place to specifically address depression that is comorbid with other chronic diseases including diabetes and heart disease. Multiple studies have found increased symptom burden, functional impairment, medical costs, and impairment of self-care and adherence to be effects of major depression on chronic disease (Katon & Ciechanowski, 2002). In a systematic review examining the effects of anxiety and depression comorbidity in patients with chronic medical illnesses, Katon, Lin, and Kroenke (2007) found that patients with comorbid depression or anxiety and chronic medical illnesses reported more medical symptoms than patients with chronic medical illnesses alone when controlling for severity of the medical disorder.

While little research has focused on the specific impact of comorbidities on Hispanics, Chong and colleagues (2010) found that in a sample of Hispanics in primary care, those with chronic medical illnesses and depression reported significantly more somatic symptoms and psychopathology than patients with chronic medical illnesses or depression alone. Furthermore, comorbid depression and chronic conditions may be particularly prevalent among Hispanics. One national survey of Hispanics found that those with cardiovascular diseases are 77% more likely to have depression than those without cardiovascular disease (Wassertheil-Smoller et al., 2014). A national survey of American adults with diabetes found that on average, 15% of the population was depressed, with Hispanics having a slightly higher average at 18% (Li, Ford, Strine, & Mokdad, 2008). However, another study consisting of predominantly low-income, Hispanic females found the rates of comorbid depression and diabetes to be as high as 29% (Ell, Katon, Lee, Guterman, & Wu, 2015). In the current study, one third of the sample had at least one comorbid chronic condition and this group demonstrated higher utilization (number of sessions) of mental health treatment with the DCM.

Within primary care settings, patients with comorbid depression and chronic physical conditions are routinely encountered (Gili et al., 2010); however, management of these patients can present many challenges including greater difficulties in recognizing and treating depression, prioritization of physical health care needs over mental health care needs, and complex pharmacologic regimens and concerns for drug-drug interactions (Kravitz & Ford, 2008). Evidence for the quality of depression treatment in primary care among those with comorbid physical health conditions is mixed – with quality of care varying based on the specific chronic conditions (or combination of conditions) examined and operationalization of variables such as disease burden and quality of care (Menear et al., 2015).

Collaborative care interventions within integrated settings have demonstrated significant improvements in depression outcomes for patients with comorbid diabetes and heart disease compared to usual care (Huang, Wei, Wu, Chen, & Guo, 2013; Tully & Baumeister, 2015). Integrated health care interventions specifically adapted for Hispanics with comorbid chronic illnesses have included psychoeducational sessions led by bilingual promotoras, patient navigation assistance, patient materials (homework, educational brochures, etc.) adapted for low health literacy, disease-focused depression care management specialists, tailored PST to enhance self-management of chronic diseases, and telephone intervention options (Ell et al., 2010; Ell et al., 2014; Ell et al., 2017).

Meeting the cultural and linguistic needs of patients. The above recommended strategies can be viewed as falling within the broader strategy of implementing ‘culturally and linguistically competent’ services for racial and ethnic minority populations. While cultural competence has various definitions, a foundational definition developed through Georgetown University Child Development Center in 1989 is “having the capacity to function effectively as an individual and an organization within the context of the cultural beliefs, behaviors, and needs presented by consumers and their communities” (Cross, Bazron, Dennis, & Issacs, 1989). Along with linguistically appropriate screening tools and services, Sanchez and colleagues (2016) argue that culturally competent models of integrated health care should include a diverse workforce and patient-centered communication approaches. Key aspects of patient-centered communication include understanding patients' perspectives of illnesses and expressing empathy (Hashim, 2017).

For Hispanics diagnosed with depression, provider attention to individual explanatory models of depression (patients' beliefs about what causes depression) and matching treatment with patient preferences result in improved patient-provider communication, treatment engagement, and quality of care (Cabassa et al., 2008; Fernandez Y Garcia, Franks, Jerant, Bell, & Kravitz, 2011; Horevitz et al., 2015). Caplan and Munet-Vilaro (2016) recommend specific assessment questions from Kleinman (1980) designed to understand the sociocultural context of patients' health care needs as a means to engage in a conversation about depression treatment that aims to help clarify treatment expectations for both the provider and patient. Examples of the questions include "what do you call the problem?," "what do you think has caused the problem?," and "what kind of treatment do you think the patient (you) should receive?".

Culturally competent delivery of care for racial/ethnic minority populations should also consider the sociodemographic characteristics of these groups that increase the likelihood of disparities, such as low socioeconomic status and immigration status (Butler et al., 2016). Therefore, as demonstrated by the findings of this study and other research (Kaltman, Pauk, & Alter, 2011; Miranda et al., 2003b; Miranda et al., 2003c; Uebelacker et al., 2012), adaptations within integrated healthcare systems designed to decrease barriers for racial and ethnic minority populations may also include extended and/or weekend operational hours, childcare services, transportation services, reduced costs of behavioral health visits, telephone visits, more relaxed policies around missed and cancelled appointments, and expansion of services to meet social service or support needs. The incorporation of case managers, specifically, can help patients address the social stressors associated with living in poverty and/or being immigrants and can lead to increased engagement and retention in mental health treatment in outpatient/integrated settings (Hochhausen et al., 2011; Miranda et al., 2003a).

Implications for Social Work

Social workers in integrated health care settings. With a growing demand to integrate mental health treatment into primary care services through the development of patient centered medical homes (PCMHs) (Kuramoto, 2014; Roy-Byrne, 2013) and increased opportunities for financing integrated services through the creation of new billing codes (Carlo, Unutzer, Ratzliff, & Cerimele, 2018), there is an expanding need for professionals who can work to provide mental health services within these settings. Social workers' training and expertise in behavioral health assessment and use of evidence-based interventions, person-in-environment perspective, and diverse clinical skills makes them uniquely qualified to work in integrated health settings (Andrews, Darnell, McBride, & Gehlert, 2013; Held et al., 2019; Stanhope, Videka, Thorning, & McKay, 2015). Furthermore, although there are new fee-for-service billing codes specifically for collaborative care management (including services such as psychiatric consultation, entering patients into a registry and tracking them, and ongoing collaboration and coordination with treating providers), payer adoption and clinical uptake have been slow (Carlo et al., 2018).

As a result of financing challenges, settings offering integrated mental health care are more likely to prioritize hiring of professionals (such as LCSWs) who can also be reimbursed for non-collaborative care management services such as traditional psychotherapy and mental health evaluations. The prioritization of hiring clinical professionals who can bill fee-for-services codes may be even higher in FQHCs and settings serving primarily uninsured populations due to the lack of collaborative care financing options (Carlo et al., 2018). In the current study, the hiring of an LCSW (rather than a social worker without clinical licensure) to serve as the DCM was imperative to clinic administrative staff so that they could bill for mental health treatment offered by the LCSW at the conclusion of the study.

Although social workers are ideal candidates for working in integrated health care settings, working as behavioral health specialists within these models requires training to address the diverse needs of patients within the fast pace and interdisciplinary setting of primary care (Blount & Miller, 2009). In a survey of social workers working in integrated behavioral health settings, Horevitz and Manoleas (2013) identified the most commonly endorsed competencies used on the job to be knowledge of psychotropic medications, cultural competence, knowledge of family systems, psychoeducation, motivational interviewing, relaxation training, and team-based care. Interviews with social workers in integrated health care settings also highlighted the importance of self-advocating among an interdisciplinary team, understanding the interrelated nature of physical and behavioral health conditions, providing brief and targeted therapeutic interventions, and strong communication and collaboration skills (Held et al., 2019). In previous research examining the implementation of integrated mental health care within a setting similar to that of the current study, clinic staff emphasized the importance of the care manager's communication skills in building relationships with providers and creating awareness of her role and expertise (Eghaneyan, Sanchez, & Mitschke, 2014).

In addition to the skills described above, social workers in integrated health care settings serving primarily racial and ethnic minority populations may require additional training and competencies. While the results of Horevitz and Manoleas (2013) study indicate social workers' awareness for the need of cultural competency in working in integrated health care settings, specific skills and practices associated with this competency are not identified. Employing their Culturally Centered Model of Behavioral Health Care, Holden and colleagues (2014) make the following recommendations for mental health practitioners working in primary care settings with ethnically and culturally diverse patients: establish strong partnerships with primary care physicians and clinical case managers to improve care coordination, assess cultural biases and stereotypes when establishing rapport with patients to promote a nonjudgmental position, use culturally sensitive methods for assessment and treatment including recognizing culturally derived practices and norms, and acknowledge the role of faith-based initiatives to increase access and utilization of health services. Additionally, mental health practitioners should utilize specific communication strategies with racial and ethnic minority patients including framing discussions based on patient models of illness, tailoring communication to patient preferences, and addressing concerns about confidentiality (Aggarwal et al., 2016). As emphasized in the current study and other research (Hansen & Cabassa, 2012; Ishikawa et al., 2010; Martinez Pincay & Guranaccia, 2007), the ability to build strong therapeutic alliances with Hispanic patients is key to engaging this population in treatment.

Educating the future workforce. In order for social workers to remain competitive among other professionals seeking positions in integrated health care settings, educational and training needs must be met by social work educators and programs (Held, Mallory, & Cummings, 2017). In the Horevitz and Manoleas (2013) study, participants felt that they learned a majority of the skills and competencies necessary to work in integrated health care settings on the job rather than through their Master of Social Work (MSW) training. While they endorsed that MSW training provided a foundation for their practice, the social workers commented that additional training would be helpful, especially training that focused on psychopharmacology, chronic disease management, and working as a member of an interdisciplinary medical team (Horevitz & Manoleas, 2013). However, since that study, advances have been made in social work education to enhance the capacity of programs to train future social workers to work in integrated health care settings including an initiative launched by the Council on Social Work Education (CSWE) in 2012 to incorporate integrated health care into the core MSW curriculum (Council on Social Work Education, n.d.). In 2014, almost all the MSW programs who participated in a national survey indicated that they were already delivering some degree of integrated health care curriculum to students or were planning to (Held et al., 2017).

For schools not already offering integrated health care within their curriculum, several challenges to implementation can arise including limited field placement options, few faculty members with integrated health expertise, and lack of integrated health organizations within their communities (Held et al., 2017). Several schools have had the opportunity to increase their capacity to train social workers to work in integrated care settings through federal funding from the Health Resources and Services Administration (HRSA) and SAMHSA. In 2014, 62 social work programs across the country were awarded more than a combined total of $26 million as part of the Behavioral Health Workforce Education and Training (BHWET) Program to prepare social workers to work in integrated health care settings with a focus on the treatment of at-risk children, adolescents, and transitional-age youth within rural and other community-based settings (U.S. Department of Health & Human Services, 2014). Between 2014 and 2018, the BHWET

Program trained over 5,000 new social workers to enter the behavioral health workforce (Health Resources & Services Administration, n.d.).

Social work programs that received funding for the BHWET Program have documented strategies to increase the capacity to train social workers in integrated health care. For example, the UNC-PrimeCare Program is a three-pronged approach that involves curricula, field education, and interprofessional (IP) educational activities to infuse content on the integrated behavioral health care approach into the existing systems within the school's MSW program (Zerden, Jones, Brigham, Kanfer, & Zomorodi, 2017). Other programs included similar approaches with varying components such as the creation of integrated health learning communities (Mattison, Weaver, Zebrack, Fischer, & Dubin, 2017) and certificate programs in integrated mental and behavioral health (Rishel & Hartnett, 2017).

While programs have been successful in increasing students' preparedness in working in integrated health care settings, their implementation has not been without challenges (Zerden et al., 2017; Mattison et al., 2017, Rishel & Hartnett, 2017). Social work programs looking to implement changes to address the growing demand to train social workers in integrated health care should consider content balance within the curriculum, instructor workload in the development of new courses, methods for increasing the number of field placements and trained field instructors, and logistical constraints with IP education (Zerden et al., 2017; Mattison et al., 2017). In the current study, an established relationship with the clinic through research led by the Principal Investigator of METRIC created the opportunity for field placements for social work students with the DCM serving as their field instructor.

Implications for Future Research

Several directions for future research have been identified by the current study. First, research examining individuals' characteristics in relation to mental health treatment engagement and retention should consider variables beyond sociodemographic variables that are commonly assessed in health research. For example, this study highlighted the importance of social support and family values while other research has demonstrated the importance of family cohesion, self-reliant attitudes, and religious-fatalistic beliefs in Hispanics' mental health services utilization (Chang & Biegel, 2017; Ortega & Alegria, 2002; Rosales & Calvo, 2017). Moreover, findings from this study and the research by Hansen and Cabassa (2012) demonstrate the need for examining interventions aimed at enhancing social support to improve continuity in mental health treatment for Hispanics. Researchers should also further explore the role that patient experience variables within integrated health care systems such as the referral process, wait times for evaluations, patient's perception of match of prescribed treatment to patient preference, and therapeutic alliance with mental health practitioners have on treatment participation (Fernandez Y Garcia et al., 2011, Hansen & Cabassa, 2012; Hochhausen et al., 2011; Horevitz et al., 2015).

Along with examining patient factors, more research on integrated health care models is needed to identify the key ingredients that are necessary to provide effective mental health treatment to minority populations in these settings (Cabassa & Hansen, 2007; Sanchez et al., 2016). Several approaches can be taken in this endeavor; however, it is crucial that future research in this area implement more qualitative and mixed methods designs. While quantitative research dominates the field of health research, qualitative research can allow for a deeper examination of critical intervention-content variables and processes present within integrated health care interventions by eliciting patient perspectives, accounting for real-world contextual conditions, and contributing insights from new concepts that may help to explain patient behavior and thinking (Yin, 2016).

Mixed methods designs have become increasingly popular in health-related research and possess many strengths including providing a broader and deeper understanding of complex human phenomena, providing context and explanation to quantitative results, conducting analyses guided by results (both quantitative and qualitative), analysis and presentation of complementary aspects of the same phenomenon, and enhancing implementation of interventions (Doyle et al., 2016; Stewart, Makwarimba, Barnfather, Letourneau, & Neufeld, 2008). As seen in both the current study and Horevitz et al. (2015) study, mixed methods research on treatment participation within integrated health care settings was more beneficial to understanding the phenomenon than if the researchers were to examine the quantitative results alone.

Finally, implementation science research should continue to be conducted to better understand how real-world settings can successfully adapt and implement integrated health care models that are effective at engaging and treating minority populations. While intervention research examines the development, efficacy, and effectiveness of interventions, implementation science examines how interventions that have been established as effective can be adopted into practice in community settings (Cabassa, 2016). Systematic reviews have been conducted examining the barriers and facilitators to implementing integrated health care into primary care settings (Overbeck, Davidsen, Kousgaard, 2016; Wood, Ohlsen, Ricketts, 2017); however, these reviews did not focus on the implementation of these models of care for racial and ethnic minority populations. Cabassa (2016) suggests that implementation science can contribute to the reduction of mental health care disparities for racial and ethnic minority communities by facilitating the implementation of empirically-supported interventions shown to be effective for these groups, designing and selecting interventions with implementation in mind, and blending the cultural adaptations of interventions with implementation science.

Limitations

Several limitations in the current study design and sample should be noted. First, the use of secondary data limited the variables that could be analyzed for the quantitative analysis, leaving out key constructs of interest from the integrative theoretical model such as immigration status, employment status, and social support. Furthermore, Hispanic subgroups of participants were not identified in this study, a variable that has been shown could impact mental health care utilization (Alegria et al., 2007a; Keyes et al., 2012). The use of secondary data analysis also limited the methodology of the mixed methods convergent design. Integration of the qualitative and quantitative components of a mixed methods study can occur at the data collection, data analysis, and interpretation phases (Creswell, 2015). However, since METRIC was not originally intended to be a mixed methods study, the integration only occurred at the interpretation phase instead of using parallel measures or assessments to facilitate data comparisons (Creswell, 2015).

The results of the study are also limited by the study sample for METRIC and the supplemental qualitative study. Both studies used convenience sampling, which led to fairly homogeneous samples. In METRIC, the participants were mainly Spanish-speaking females who had agreed to participate in treatment/the project after receiving a depression diagnosis. Therefore, results from this relatively small (N=150) sample may not be generalizable to other

Hispanic populations including men, English-speakers, and patients who have not yet received a depression diagnosis. Convenience sampling within the qualitative study of participants who completed their participation in METRIC led to recruitment of only participants who completed treatment with the DCM. This limited the ability to draw conclusions about why participants may have prematurely dropped out of treatment. Finally, participants in the study were part of a robust research intervention that included the supervision and assistance of a research team while also allowing for participants to attend sessions with the DCM free of charge. Therefore, the results of this study may not be generalizable to other real-world settings that are implementing integrated health care models without the infrastructure and support of a research team and external funding.

Conclusion

Improving mental health treatment engagement among Hispanic populations is an important step towards reducing mental health disparities experienced by these groups (Interian, Lewis-Fernandez, & Dixon, 2013). Integrated health care models can increase access and engagement in mental health treatment for Hispanics (Arean et al., 2005; Arean et al., 2008; Ell et al., 2008; Interian et al., 2013); however, more research is needed to understand what patient-level variables affect participation in treatment. The current study utilized an integrative theoretical framework to increase the understanding of how predisposing, enabling, and need factors impact engagement and retention in treatment for depression among a Hispanic population receiving services in a community health center. Results of this mixed methods study highlight the importance of universal screening for patients, patient education throughout treatment, and offering culturally and linguistically competent services to increase patient satisfaction. Future research should continue to investigate patient experiences within these models to better understand critical intervention-level factors that impact patient engagement in treatment. Social work educators and health care systems can increase the effectiveness of integrated health care models in serving Hispanics and other racial and ethnic minority populations by ensuring adequate training to future providers and engaging in implementation science research.

References

Abdullah, T., & Brown, T. L. (2011). Mental illness stigma and ethnocultural beliefs, values, and norms: An integrative review. *Clinical Psychology Review, 31*(6), 934-948. doi:10.1016/j.cpr.2011.05.003

Acri, M., Olin, S. S., Burton, G., Herman, R. J., & Hoagwood, K. E. (2014). Innovations in the identification and referral of mothers at risk for depression: Development of a peer-to-peer model. *Journal of Child and Family Studies, 23*(5), 837-843. doi:10.1007/s10826-013-9736-z

Aggarwal, N. K., Pieh, M. C., Dixon, L., Guarnaccia, P., Alegría, M., & Lewis-Fernández, R. (2016). Clinician descriptions of communication strategies to improve treatment engagement by racial/ethnic minorities in mental health services: A systematic review. *Patient Education and Counseling, 99*(2), 198-209. doi:10.1016/j.pec.2015.09.002

AIMS Center. (2019). Behavioral interventions. Retrieved from http://aims.uw.edu/collaborative-care/behavioral-interventions

Albizu-Garcia, C. E., Alegría, M., Freeman, D., & Vera, M. (2001). Gender and health services use for a mental health problem. *Social Science & Medicine, 53*(7), 865-878. doi:10.1016/S0277-9536(00)00380-4

Alegría, M., Falgas-Bague, I., Collazos, F., Carmona Camacho, R., Lapatin Markle, S., Wang, Y., . . . Shrout, P. E. (2019). Evaluation of the integrated intervention for dual problems and early action among latino immigrants with co-occurring mental health and substance misuse symptoms: A randomized clinical trial. *JAMA Network Open, 2*(1), e186927-e186927. doi:10.1001/jamanetworkopen.2018.6927

Alegria, M., Mulvaney-Day, N., Woo, M., Torres, M., Gao, S., & Oddo, V. (2007a). Correlates of past-year mental health service use among Latinos: Results from the national Latino and Asian American study. *American Journal of Public Health, 97*(1), 76-83. doi:10.2105/AJPH.2006.087197

Alegria, M., Mulvaney-Day, N., Torres, M., Polo, A., Cao, Z., & Canino, G. (2007b). Prevalence of psychiatric disorders across Latino subgroups in the united states. *American Journal of Public Health, 97*(1), 68-75. doi:10.2105/AJPH.2006.087205

Alvidrez, J., & Azocar, F. (1999). Distressed women's clinic patients: Preferences for mental health treatments and perceived obstacles. *General Hospital Psychiatry, 21*(5), 340-347. doi:10.1016/S0163-8343(99)00038-9

Alvidrez, J., Snowden, L. R., & Kaiser, D. M. (2008). The experience of stigma among Black mental health consumers. *Journal of Health Care for the Poor and Underserved, 19*, 874–893.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental sisorders DSM-IV* (4th ed.). Washington. D.C.: American Psychiatric Association.

Andersen, R. M. (1968). *Families' use of health services: A behavioral model of predisposing, enabling, and need components* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (Document No. 302351484)

Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior, 36*(1), 1-10.

Andersen, R., & Newman, J. F. (1973). Societal and individual determinants of medical care utilization in the United States. *The Milbank Memorial Fund Quaterly. Health and Society,* 51(1), 95-124. doi:10.2307/3349613

Andrés-Hyman, R. C., Ortiz, J., Añez, L. M., Paris, M., & Davidson, L. (2006). Culture and clinical practice: Recommendations for working with Puerto Ricans and other Latinas(os) in the united states. *Professional Psychology: Research and Practice, 37*(6), 694-701. doi:10.1037/0735-7028.37.6.694

Andrews, C. M., Darnell, J. S., McBride, T. D., & Gehlert, S. (2013). Social work and implementation of the affordable care act. *Health & Social Work, 38*(2), 67-71. doi:10.1093/hsw/hlt002

Angstman, K. B., Phelan, S., Myszkowski, M. R., Schak, K. M., DeJesus, R. S., Lineberry, T. W., & van Ryn, M. (2015). Minority primary care patients with depression: Outcome disparities improve with collaborative care management. *Medical Care, 53*(1), 32-37. doi:10.1097/MLR.0000000000000280

Archer, J., Bower, P., Gilbody, S., Lovell, K., Richards, D., Gask, L., Dickens, C., & Coventry, P. (2012). Collaborative care for depression and anxiety problems. *Cochrane Database of Systematic Reviews, 2012*(10). doi:10.1002/14651858.CD006525.pub2.

Areán, P. A., Ayalon, L., Hunkeler, E., Elizabeth H. B. Lin, Tang, L., Harpole, L., . . . IMPACT Investigators. (2005). Improving depression care for older, minority patients in primary care. *Medical Care, 43*(4), 381-390. doi:10.1097/01.mlr.0000156852.09920.b1

Areán, P. A., Ayalon, L., Jin, C., McCulloch, C. E., Linkins, K., Chen, H., . . . Estes, C. (2008). Integrated specialty mental health care among older minorities improves access but not outcomes: Results of the PRISMe study. *International Journal of Geriatric Psychiatry, 23*(10), 1086-1092. doi:10.1002/gps.2100

Bao, Y., Alexopoulos, G. S., Casalino, L. P., Ten Have, T. R., Donohue, J. M., Post, E. P., . . . Bruce, M. L. (2011). Collaborative depression care management and disparities in depression treatment and outcomes. *Archives of General Psychiatry, 68*(6), 627-636. doi:10.1001/archgenpsychiatry.2011.55

Benuto, L. T., Gonzalez, F., Reinosa-Segovia, F., & Duckworth, M. (2019). Mental health literacy, stigma, and behavioral health service use: The case of Latinx and non-Latinx Whites. *Journal of Racial and Ethnic Health Disparities, 6*(6), 1122-1130. doi:10.1007/s40615-019-00614-8

Berdahl, T.A., & Torres Stone, R. A. (2009). Examining Latino differences in mental healthcare use: The roles of acculturation and attitudes towards healthcare. *Community Mental Health Journal, 45,* 393-403. doi:10.1007/s10597-009-9231-6

Blount, A. (2003). Integrated primary care: Organizing the evidence. *Families, Systems, & Health, 21*(2), 121-133. doi: 10.1037/10917527.21.21.121.

Blount, F. A., & Miller, B. F. (2009). Addressing the workforce crisis in integrated primary care. *Journal of Clinical Psychology in Medical Settings, 16*(1), 113-119. doi:10.1007/s10880-008-9142-7

Bradley, E. H., McGraw, S. A., Curry, L., Buckser, A., King, K. L., Kasl, S. V., & Andersen, R. (2002). Expanding the andersen model: The role of psychosocial factors in long-term care use. *Health Services Research, 37*(5), 1221-1242. doi:10.1111/1475-6773.01053

Breslau, J., Cefalu, M., Wong, E. C., Burnam, M. A., Hunter, G. P., Florez, K. R., & Collins, R. L. (2017). Racial/ethnic differences in perception of need for mental health treatment in a US national sample. *Social Psychiatry and Psychiatric Epidemiology, 52*(8), 929-937. doi:10.1007/s00127-017-1400-2

Bridges, A. J., Andrews, 3., Arthur R, Villalobos, B. T., Pastrana, F. A., Cavell, T. A., & Gomez, D. (2014). Does integrated behavioral health care reduce mental health disparities for latinos? initial findings. *Journal of Latina/o Psychology, 2*(1), 37-53. doi:10.1037/lat0000009

Bridges, A. J., Andrews, A. R., & Deen, T. L. (2012). Mental health needs and service utilization by hispanic immigrants residing in mid-southern united states. *Journal of Transcultural Nursing, 23*(4), 359-368. doi:10.1177/1043659612451259

Bridges, A. J., Dueweke, A. R., Anastasia, E. A., & Hernandez Rodriguez, J. (2019). The positive predictive value of the PHQ-2 as a screener for depression in Spanish-speaking latinx, English-speaking latinx, and non-latinx White primary care patients. *Journal of Latinx Psychology, 7*(3), 184-194. doi:10.1037/lat0000114

Burnett-Zeigler, I., Lee, Y., & Bohnert, K. M. (2018). Ethnic identity, acculturation, and 12-month psychiatric service utilization among Black and Hispanic adults in the U.S. *The Journal of Behavioral Health Services & Research, 45*(1), 13-30. doi:10.1007/s11414-017-9557-8

Butler, M., Kane, R. L., McAlpine, D., Kathol, R. G., Fu, S. S., Hagedorn, H., & Wilt, T. J. (2008). *Integration of menta health/substance abuse and primary care* (AHRQ

Publications No. 09-E003). Retrieved from https://www.ahrq.gov/downloads/pub/evidence/pdf/mhsapc/mhsapc.pdf

Butler, M. McCreedy, E., Schwer, N., Burgess, D., Call, K., Przedworski, J., ... & Kane, R. L. (2016). *Improving cultural competence to reduce health disparities* (AHRQ Publication No. 16-EHC006-EF). Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK361126/pdf/Bookshelf_NBK361126.pdf

Cabassa, L. J. (2016). Implementation science: Why it matters for the future of social work. *Journal of Social Work Education, 52*(sup1), S38-S50. doi:10.1080/10437797.2016.1174648

Cabassa, L. J., Gomes, A. P., Meyreles, Q., Capitelli, L., Younge, R., Dragatsi, D. . . . Lewis-Fernández, R. (2014). Primary health care experiences of Hispanics with serious mental illness: A mixed-methods study. *Administration and Policy in Mental Health and Mental Health Services Research, 41*(6), 724-736. doi:10.1007/s10488-013-0524-2

Cabassa, L. J., & Hansen, M. C. (2007). A systematic review of depression treatments in primary care for Latino adults. *Research on Social Work Practice, 17*(4), 494-503. doi:10.1177/1049731506297058

Cabassa, L. J., Hansen, M. C., Palinkas, L. A., & Ell, K. (2008). Azúcar y nervios: Explanatory models and treatment experiences of Hispanics with diabetes and depression. *Social Science & Medicine, 66*(12), 2413-2424. doi:10.1016/j.socscimed.2008.01.054

Cabassa, L. J., Lester, R., & Zayas, L. H. (2007). "It's like being in a labyrinth:" Hispanic immigrants' perceptions of depression and attitudes toward treatments. *Journal of Immigrant and Minority Health, 9*(1), 1-16. doi:10.1007/s10903-006-9010-1

Cabassa, L. J., Molina, G. B., & Baron, M. (2012). Depression fotonovela: Development of a depression literacy tool for Latinos with limited English proficiency. *Health Promotion Practice, 13*(6), 747-754. doi:10.1177/1524839910367578

Cabassa, L. J., & Zayas, L. H. (2007). Latino immigrants' intentions to seek depression care. *American Journal of Orthopsychiatry, 77*(2), 231-242. doi:10.1037/0002-9432.77.2.231

Cabassa, L.J., Zayas, L.H., & Hansen, M.C. (2006). Latino adults' access to mental health care: A review of epidemiological studies. *Administration and Policy in Mental Health and Mental Health Services Research, 33*(3), 316-330. doi:10.1007/s10488-006-0040-8

Callister, L. C., Beckstrand, R. L., & Corbett, C. (2011). Postpartum depression and help-seeking behaviors in immigrant Hispanic women. *Journal of Obstetric, Gynocologic, and Neonatal Nursing, 40*(4), 440-449. doi:10.1111/j.1552-6909.2011.01254.x

Camacho, Á., González, P., Castañeda, S. F., Simmons, A., Buelna, C., Lemus, H., & Talavera, G. A. (2015). Improvement in depressive symptoms among Hispanic/Latinos receiving a culturally tailored IMPACT and problem-solving intervention in a community health center. *Community Mental Health Journal, 51*(4), 385-392. doi:10.1007/s10597-014-9750-7

Caplan, S., & Buyske, S. (2015). Depression, help-seeking and self-recognition of depression among Dominican, Ecuadorian and Colombian immigrant primary care patients in the northeastern United States. *International Journal of Environmental Research and Public Health, 12*(9), 10450-10474. doi:10.3390/ijerph120910450

Caplan, S., & Cordero, C. (2015). Development of a faith-based mental health literacy program to improve treatment engagement among Caribbean Latinos in the Northeastern United

States of America. *International Quarterly of Community Health Education, 35*(3), 199-214. doi:10.1177/0272684X15581347

Caplan, S., Escobar, J., Paris, M., Alvidrez, J., Dixon, J. K., Desai, M. M., . . . Whittemore, R. (2013). Cultural influences on causal beliefs about depression among Latino immigrants. *Journal of Transcultural Nursing, 24*(1), 68-77. doi:10.1177/1043659612453745

Caplan, S., & Munet-Vilaro, F. (2016). Integrated depression care among Latinos. In L. T. Benuto, & W. O'Donohue (Eds.), *Enhancing behavioral health in Latino populations: Reducing disparties through integrated behavioral and primary care* (pp. 163-185). Springer International Publishing.

Caplan, S., & Whittemore, R. (2013). Barriers to treatment engagement for depression among Latinas. *Issues in Mental Health Nursing, 34*(6), 412-424. doi:10.3109/01612840.2012.762958

Carlo, A. D., Unützer, J., Ratzliff, A. D. H., & Cerimele, J. M. (2018). Financing for collaborative Care - A narrative review. *Current Treatment Options in Psychiatry, 5*(3), 334-344. doi:10.1007/s40501-018-0150-4

Center for Behavioral Health Statistics and Quality. (2016). *Key substance use and mental health indicators in the United States: Results from the 2015 National Survey on Drug Use and Health* (HHS Publication No. SMA 16-4984, NSDUH Series H-51). Retrieved from http://www.samhsa.gov/data/

Chang, C.-W. & Biegel, D. E. (2017). Factors affecting mental health service utilization among Latino Americans with mental health issues. *Journal of Mental Health*. doi:10.1080/09638237.2017.1385742

Chao, P. J., Chao, P. J., Steffen, J. J., Steffen, J. J., Heiby, E. M., & Heiby, E. M. (2012). The effects of working alliance and client-clinician ethnic match on recovery status. *Community Mental Health Journal, 48*(1), 91-97. doi:10.1007/s10597-011-9423-8

Chapman, D. P., Perry, G. S., & Strine, T. W. (2005). The vital link between chronic disease and depressive disorders. *Preventing Chronic Disease, 2*(1), A14.

Cho, H., Kim, I., & Velez-Ortiz, D. (2014). Factors associated with mental health service use among Latino and Asian americans. *Community Mental Health Journal, 50,* 960-967. doi:10.1007/s10597-014-9719-6

Chong, J., Reinschmidt, K. M., & Moreno, F. A. (2010). Symptoms of depression in a hispanic primary care population with and without chronic medical illnesses. *Primary Care Companion to the Journal of Clinical Psychiatry, 12*(3) doi:10.4088/PCC.09m00846blu

Clement, S., Schauman, O., Graham, T., Maggioni, F., Evans-Lacko, S., Bezborodovs, N., . . . Thornicroft, G. (2015). What is the impact of mental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies. *Psychological Medicine, 45*(1), 11-27. doi:10.1017/S0033291714000129

Colby, S.L.., & Ortman, J.M. (2015). *Projections of the size and composition of the U.S. population: 2014 to 2060* (Current Populations Reports, P25-1143). Retrieved from https://www.census.gov/content/dam/Census/library/publications/2015/demo/p25-1143.pdf

Collado, A., Zvolensky, M., Lejuez, C., & MacPherson, L. (2019). Mental health stigma in depressed Latinos over the course of therapy: Results from a randomized controlled trial. *Journal of Clinical Psychology, 75*(7), 1179-1187. doi:10.1002/jclp.22777

Constantine, M. G. (2002). Predictors of satisfaction with counseling: Racial and ethnic minority clients' attitudes toward counseling and ratings of their counselors' general and multicultural counseling competence. *Journal of Counseling Psychology, 49*(2), 255-263. doi:10.1037/0022-0167.49.2.255

Corrigan, P. W. (2005). *On the stigma of mental illness: Practical strategies for research and social change*. Washington, DC: American Psychological Association.

Corrigan, P. W., Druss, B. G., & Perlick, D. A. (2014). The impact of mental illness stigma on seeking and participating in mental health care. *Psychological Science in the Public Interest, 15*(2), 37-70. doi:10.1177/1529100614531398

Corrigan, P. W., & Penn, D. L. (1999). Lessons from social psychology on discrediting psychiatric stigma. *American Psychologist, 54*(9), 765-776. doi:10.1037/0003-066X.54.9.765

Corrigan, P. W., & Watson, A. C. (2002). The paradox of Self-Stigma and mental illness. *Clinical Psychology: Science and Practice, 9*(1), 35-53. doi:10.1093/clipsy.9.1.35

Costantino, G., Malgady, R. G., & Primavera, L. H. (2009). Congruence between culturally competent treatment and cultural needs of older Latinos. *Journal of Consulting and Clinical Psychology, 77*(5), 941-949. doi:10.1037/a0016341

Council on Social Work Education. (n.d.). Social work and integrated behavioral healthcare project. Retrieved from https://www.cswe.org/Centers-Initiatives/Initiatives/Social-Work-and-Integrated-Behavioral-Healthcare-P.aspx

Creedon, T. B., & Le Cook, B. (2016). Access to mental health care increased but not for substance use, while disparities remain. *Health Affairs, 35*(6), 1017-1021. doi:10.1377/hlthaff.2016.0098

Creswell, J. W. (2015). *A concise introduction to mixed methods research*. Thousand Oaks, CA: SAGE Publications, Inc.

Cross, T. L., Bazron, B. J., Dennis, K. W., & Isaacs, M. R. (1989). *Towards a culturally competent system of care: A monograph on effective services for minority children who are severely emotionally disturbed.* Retrieved from https://files.eric.ed.gov/fulltext/ED330171.pdf

Daniels, A. S., Bergeson, S., & Myrick, K. J. (2017). Defining peer roles and status among community health workers and peer support specialists in integrated systems of care. *Psychiatric Services, 68*(12), 1296-1298. doi:10.1176/appi.ps.201600378

Doherty, W. J., McDaniel, S. H., & Baird, M. A. (1996). Five levels of primary care/behavioral healthcare collaboration. *Behavioral Healthcare Tomorrow, 5*(5), 25.

Doyle, L., Brady, A., & Byrne, G. (2016). An overview of mixed methods research – revisited. *Journal of Research in Nursing, 21*(8), 623-635. doi:10.1177/1744987116674257

Dueweke, A. R., Marin, M. S., Sparkman, D. J., & Bridges, A. J. (2018). Inadequacy of the PHQ-2 depression screener for identifying suicidal primary care patients. *Families, Systems & Health*, *36*(3), 281-288. doi:10.1037/fsh0000350

Dwight-Johnson, M., Lagomasino, I. T., Hay, J., Zhang, L., Tang, L., Green, J. M., & Duan, N. (2010). Effectiveness of collaborative care in addressing depression treatment preferences among low-income Latinos. *Psychiatric Services, 61*(11), 1112-1118. doi:10.1176/ps.2010.61.11.1112

Eghaneyan, B. H., & Murphy, E. R. (2019a). Mental health help seeking experiences of Hispanic women in the United States: Results from a qualitative interpretive meta-synthesis. *Social Work in Public Health, 34*(6), 505-518. doi:10.1080/19371918.2019.1629559

Eghaneyan, B. H., & Murphy, E. R. (2019b). Measuring mental illness stigma among Hispanics: A systematic review. Stigma and Health. Advance online publication. https://doi.org/10.1037/sah0000207

Eghaneyan, B. H., Sanchez, K., & Killian, M. (2017). Integrated health care for decreasing depressive symptoms in Latina women: Initial findings. *Journal of Latina/o Psychology, 5*(2), 118-125. doi:10.1037/lat0000067

Eghaneyan, B. H., Sanchez, K., & Mitschke, D. B. (2014). Implementation of a collaborative care model for the treatment of depression and anxiety in a community health center: Results from a qualitative case study. *Journal of Multidisciplinary Healthcare, 7*, 503-513. doi:10.2147/JMDH.S69821

Ell, K., Aranda, M. P., Wu, S., Oh, H., Lee, P., & Guterman, J. (2017). Promotora assisted depression and self-care management among predominantly Latinos with concurrent chronic illness: Safety net care system clinical trial results. *Contemporary Clinical Trials, 61*, 1-9. doi:10.1016/j.cct.2017.07.001

Ell, K., Katon, W., Lee, P. J., Guterman, J., & Wu, S. (2015). Demographic, clinical and psychosocial factors identify a high-risk group for depression screening among predominantly Hispanic patients with Type 2 diabetes in safety net care. *General Hospital Psychiatry, 37*(5), 414-419. doi:10.1016/j.genhosppsych.2015.05.010

Ell, K., Katon, W., Xie, B., Lee, P., Kapetanovic, S., Guterman, J., & Chou, C. (2010). Collaborative care management of major depression among low-income, predominantly Hispanic subjects with diabetes: A randomized controlled trial. *Diabetes Care, 33*(4), 706-713. doi:10.2337/dc09-1711

Ell, K., Oh, H., Lee, P., & Guterman, J. (2014). Collaborative health literate depression care among predominantly Hispanic patients with coronary heart disease in safety net care. *Psychosomatics, 55*(6), 555-565. doi:10.1016/j.psym.2014.03.007

Ell, K., Xie, B., Quon, B., Quinn, D. I., Dwight-Johnson, M., & Lee, P. (2008). Randomized controlled trial of collaborative care management of depression among low-income patients with cancer. *Journal of Clinical Oncology, 26*(27), 4488-4496. doi:10.1200/JCO.2008.16.6371

Emery-Tiburcio, E. E., Rothschild, S. K., Avery, E. F., Wang, Y., Mack, L., Golden, R. L., . . . Powell, L. H. (2019). BRIGHTEN heart intervention for depression in minority older adults: Randomized controlled trial. *Health Psychology, 38*(1), 1-11. doi:10.1037/hea0000684

Fawzi, W., Abdel Mohsen, M. Y., Hashem, A. H., Moussa, S., Coker, E., & Wilson, K. C. M. (2012). Beliefs about medications predict adherence to antidepressants in older adults. *International Psychogeriatrics, 24*(1), 159-169. doi:10.1017/S1041610211001049

Fernandez Y Garcia, E., Franks, P., Jerant, A., Bell, R. A., & Kravitz, R. L. (2011). Depression treatment preferences of Hispanic individuals: Exploring the influence of ethnicity, language, and explanatory models. *Journal of the American Board of Family Medicine, 24*(1), 39-50. doi:10.3122/jabfm.2011.01.100118

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods Designs - principles and practices. *Health Services Research*, *48*(6pt2), 2134-2156. doi:10.1111/1475-6773.12117

Gary, F. A. (2005). Stigma: Barrier to mental health care among ethnic minorities. *Issues in Mental Health Nursing, 26*(10), 979-999. doi:10.1080/01612840500280638

Gelberg, L., Andersen, R. M., & Leake, B. D. (2000). The behavioral model for vulnerable populations: Application to medical care use and outcomes for homeless people. *Health Services Research, 34*(6), 1273-1302.

Gili, M., Ph.D, Comas, A., M.D, García-García, M., M.D, Monzón, S., M.A, Antoni, Serrano-Blanco, M.D., Ph.D, & Roca, Miquel, M.D., Ph.D. (2010). Comorbidity between common mental disorders and chronic somatic diseases in primary care patients. *General Hospital Psychiatry, 32*(3), 240-245. doi:10.1016/j.genhosppsych.2010.01.013

Givens, J. L., Houston, T. K., Van Voorhees, B. W., Ford, D. E., & Cooper, L. A. (2007). Ethnicity and preferences for depression treatment. *General Hospital Psychiatry, 29*(3), 182-191. doi:10.1016/j.genhosppsych.2006.11.002

Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Englewood Cliffs, NJ: Prentice Hall.

Golding, J. M., & Wells, K. B. (1990). Social support and use of mental health services by Mexican Americans and non-Hispanic Whites. *Basic and Applied Social Psychology, 11*(4), 443-458. doi:10.1207/s15324834basp1104_7

González, H. M., Tarraf, W., West, B. T., Croghan, T. W., Bowen, M. E., Cao, Z., & Alegría, M. (2009). Antidepressant use in a nationally representative sample of community-dwelling US Latinos with and without depressive and anxiety disorders. *Depression and Anxiety, 26*(7), 674-681. doi:10.1002/da.20561

Greenberg, P. E., Fournier, A., Sisitsky, T., Pike, C. T., & Kessler, R. C. (2015). The economic burden of adults with major depressive disorder in the united states (2005 and 2010). *The Journal of Clinical Psychiatry, 76*(2), 155.

Greenberg, P. E., Kessler, R. C., Birnbaum, H. G., Leong, S. A., Lowe, S. W., Berglund, P. A., & Corey-Lisle, P. K. (2003). The economic burden of depression in the united states: How did it change between 1990 and 2000? *The Journal of Clinical Psychiatry, 64*(12), 1465.

Griffiths, K. M., Christensen, H., Jorm, A. F., Evans, K., & Groves, C. (2004). Effect of web-based depression literacy and cognitive-behavioural therapy interventions on stigmatising attitudes to depression: Randomised controlled trial. *The British Journal of Psychiatry, 185*(4), 342-349. doi:10.1192/bjp.185.4.342

Hahm, H. C., Le Cook, B., Ault-Brutus, A., & Alegría, M. (2015). Intersection of race-ethnicity and gender in depression care: Screening, access, and minimally adequate treatment. *Psychiatric Services, 66*(3), 258-264. doi:10.1176/appi.ps.201400116

Hansen, M. C., & Aranda, M. P. (2012). Sociocultural influences on mental health service use by Latino older adults for emotional distress: Exploring the mediating and moderating role of informal social support. *Social Science & Medicine, 75*(12), 2134-2142. doi:10.1016/j.socscimed.2012.06.029

Hansen, M. C., & Cabassa, L. J. (2012). Pathways to depression care: Help-seeking experiences of low-income Latinos with diabetes and depression. *Journal of Immigrant and Minority Health, 14*(6), 1097-1106. doi:10.1007/s10903-012-9590-x

Harman, J. S., Veazie, P. J., & Lyness, J. M. (2006). Primary care physician office visits for depression by older Americans. *Journal of General Internal Medicine, 21*(9), 926-930. doi:10.1007/BF02743139

Hashim, M. J. (2017). Patient-centered communication: Basic skills. *American Family Physician, 95*(1), 29-34.

Health Resources & Services Administration. (2018). Federally Qualified Health Centers. Retrieved from https://www.hrsa.gov/opa/eligibility-and-registration/health-centers/fqhc/index.html

Health Resources & Services Administration. (n.d.). Behavioral Health Workforce Education and Training Program. Retrieved from https://bhw.hrsa.gov/sites/default/files/bhw/health-workforce-analysis/program-highlights/2018/behavioral-health-workforce-education-training-program-2018.pdf

Heath, B., Wise Romero, P., & Reynolds, K. (2013). *A review and proposed standard framework for levels of integrated healthcare*. Washington, D.C.: SAMHSA-HRSA Center for Integrated Health Solutions.

Held, M. L., Black, D. R., Chaffin, K. M., Mallory, K. C., Diehl, A. M., & Cummings, S. (2019). Training the future workforce: Social workers in integrated health care settings. *Journal of Social Work Education, 55*(1), 50. doi:10.1080/10437797.2018.1526728

Held, M. L., Mallory, K. C., & Cummings, S. (2017). Preparing social work students for integrated health care: Results from a national study. *Journal of Social Work Education, 53*(3), 435-448. doi:10.1080/10437797.2016.1269707

Henshaw, E. J., & Freedman-Doan, C. R. (2009). Conceptualizing mental health care utilization using the health belief model. *Clinical Psychology: Science and Practice, 16*(4), 420-439. doi:10.1111/j.1468-2850.2009.01181.x

Hernandez, M. Y., & Organista, K. C. (2013). Entertainment–Education? A fotonovela? A new strategy to improve depression literacy and help-seeking behaviors in at-risk immigrant Latinas. *American Journal of Community Psychology, 52*(3), 224-235. doi:10.1007/s10464-013-9587-1

Hilbe, J. (2011). *Negative binomial regression* (2nd ed.). Cambridge, NY: Cambridge University Press.

Hinton, L., & Arean, P. A. (2008). Epidemiology, assessment, and treatment of depression in older Latinos. In S. Aguilar-Gaxiola, S. & T. Gullotta, T., (Eds.) *Depression in Latinos: Prevention, assessment and treatment*. New York: Springer.

Hirai, M., Vernon, L. L., Popan, J. R., & Clum, G. A. (2015). Acculturation and enculturation, stigma toward psychological disorders, and treatment preferences in a Mexican American sample: The role of education in reducing stigma. *Journal of Latina/o Psychology, 3*(2), 88-102. doi:10.1037/lat0000035

Hochhausen, L., Le, H.-N., & Perry, D. F. (2011). Community-based mental health service utilization among low-income Latina immigrants. *Community Mental Health Journal, 47,* 14-23. doi: 10.1007/s10597-009-9253-0

Holden, K., McGregor, B., Thandi, P., Fresh, E., Sheats, K., Belton, A., . . . Satcher, D. (2014). Toward culturally centered integrative care for addressing mental health disparities among ethnic minorities. *Psychological Services, 11*(4), 357-368. doi:10.1037/a0038122

Hopko, D. R., Lejuez, C. W., Ruggiero, K. J., & Eifert, G. H. (2003). Contemporary behavioral activation treatments for depression: Procedures, principles, and progress. *Clinical Psychology Review, 23*(5), 699-717. doi:10.1016/S0272-7358(03)00070-9

Horevitz, E., & Manoleas, P. (2013). Professional competencies and training needs of professional social workers in integrated behavioral health in primary care. *Social Work in Health Care, 52*(8), 752-787. doi:10.1080/00981389.2013.791362

Horevitz, E., Organista, K. C., & Arean, P. A. (2015). Depression treatment uptake in integrated primary care: How a "warm handoff" and other factors affect decision making by latinos. *Psychiatric Services*, *66*(8), 824-830. doi:10.1176/appi.ps.201400085

Horvath, A. O. (2001). The alliance. *Psychotherapy: Theory, Research, Practice, Training, 38*(4), 365-372. doi:10.1037/0033-3204.38.4.365

Hsieh, H., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288. doi:10.1177/1049732305276687

Huang, F. Y., Chung, H., Kroenke, K., Delucchi, K. L., & Spitzer, R. L. (2006). Using the patient health questionnaire-9 to measure depression among racially and ethnically diverse primary care patients. *Journal of General Internal Medicine, 21*(6), 547-552. doi:10.1111/j.1525-1497.2006.00409.x

Huang, Y., Wei, X., Wu, T., Chen, R., & Guo, A. (2013). Collaborative care for patients with depression and diabetes mellitus: A systematic review and meta-analysis. *BMC Psychiatry, 13*(1), 260-260. doi:10.1186/1471-244X-13-260

Hunot, V. M., Horne, R., Leese, M. N., & Churchill, R. C. (2007). A cohort study of adherence to antidepressants in primary care: The influence of antidepressant concerns and treatment preferences. *The Primary Care Companion to the Journal of Clinical Psychiatry, 9*(2), 91-99. doi:10.4088/PCC.v09n0202

Interian, A., Ang, A., Gara, M. A., Link, B. G., Rodriguez, M. A., & Vega, W. A. (2010). Stigma and depression treatment utilization among Latinos: Utility of four stigma measures. *Psychiatric Services, 61*(4), 373-379. doi:10.1176/ps.2010.61.4.373

Interian, A., Lewis-Fernández, R., & Dixon, L. B. (2013). Improving treatment engagement of underserved U.S. racial-ethnic groups: A review of recent interventions. *Psychiatric Services, 64*(3), 212-222. doi:10.1176/appi.ps.201100136

Interian, A., Lewis-Fernández, R., Gara, M. A., & Escobar, J. I. (2013). A randomized-controlled trial of an intervention to improve antidepressant adherence among Latinos with depression. *Depression and Anxiety, 30*(7), 688-696. doi:10.1002/da.22052

Interian, A., Martinez, I. E., Guarnaccia, P. J., Vega, W. A., & Escobar, J. I. (2007). A qualitative analysis of the perception of stigma among Latinos receiving antidepressants. *Psychiatric Services, 58*(12), 1591-1594. doi:10.1176/ps.2007.58.12.1591

Ishikawa, R. Z., Cardemil, E. V., Alegría, M., Schuman, C. C., Joseph, R. C., & Bauer, A. M. (2014). Uptake of depression treatment recommendations among Latino primary care patients. *Psychological Services, 11*(4), 421-432. doi:10.1037/a0035716

Ishikawa, R. Z., Cardemil, E. V., & Falmagne, R. J. (2010). Help seeking and help receiving for emotional distress among Latino men and women. *Qualitative Health Research, 20*(11), 1558-1572. doi:10.1177/1049732310369140

Janz, N. K., & Becker, M. H. (1984). The health belief model: A decade later. *Health Education & Behavior, 11*(1), 1-47. doi:10.1177/109019818401100101

Jimenez, D. E., Bartels, S. J., Cardenas, V., & Alegria, M. (2013). Stigmatizing attitudes toward mental illness among racial/ethnic older adults in primary care. *International Journal of Geriatric Psychiatry, 28*, 1061–1068. doi: 10.1002/gps.3928

Jolles, M. P., Haynes-Maslow, L., Roberts, M. C., & Dusetzina, S. B. (2015). Mental health service use for patients with co-occurring mental and physical chronic health care needs in primary care settings. *Medical Care, 53*(8), 708-712. doi:10.1097/MLR.0000000000000389

Jones, E., Farina, A., Hastorf, A. H., Marcus, H., Miller, D. T., & Scott, R. A. (1984). *Social stigma: The psychology of marked relationships.* New York, NY: Freeman and Company.

Kahalnik, F., Sanchez, K., Faria, A., Grannemann, B., Jha, M., Tovian, C., . . . Trivedi, M. H. (2019). Improving the identification and treatment of depression in low-income primary care clinics: A qualitative study of providers in the VitalSign6 program. *International Journal for Quality in Health Care, 31*(1), 57-63. doi:10.1093/intqhc/mzy128

Kaltman, S., Pauk, J., & Alter, C. L. (2011). Meeting the mental health needs of low-income immigrants in primary care: A community adaptation of an Evidence-Based model. *American Journal of Orthopsychiatry, 81*(4), 543-551. doi:10.1111/j.1939-0025.2011.01125.x

Kaltman, S., Watson, M. R., Campoli, M., Serrano, A., Talisman, N., Kirkpatrick, L., . . . Green, B. L. (2019). Treatment of depression and PTSD in primary care clinics serving uninsured low-income mostly Latina/o immigrants: A naturalistic prospective evaluation. *Cultural Diversity & Ethnic Minority Psychology*. Advance online publication. doi:10.1037/cdp0000251

Karlin, B. E., Duffy, M., & Gleaves, D. H. (2008). Patterns and predictors of mental health service use and mental illness among older and younger adults in the united states. *Psychological Services, 5*(3), 275-294. doi:10.1037/1541-1559.5.3.275

Kato, E., Borsky, A. E., Zuvekas, S. H., Soni, A., & Ngo-Metzger, Q. (2018). Missed opportunities for depression screening and treatment in the United States. *Journal of the American Board of Family Medicine, 31*(3), 389-397. doi:10.3122/jabfm.2018.03.170406

Katon, W., & Ciechanowski, P. (2002). Impact of major depression on chronic medical illness. *Journal of Psychosomatic Research, 53*(4), 859-863.

Katon, W., Lin, E.H., & Kroenke, K. (2007). The association of depression and anxiety with medical symptom burden in patients with chronic medical illness. *General Hospital Psychiatry, 29*(2), 147-155. doi: 10.1016/j.genhosppsych.2006.11.005

Keeler, A. R., & Siegel, J. T. (2016). Depression, help-seeking perceptions, and perceived family functioning among Spanish-dominant Hispanics and non-Hispanic whites. *Journal of Affective Disorders, 202*, 236-246. doi:10.1016/j.jad.2016.05.017

Keyes, K. M., Martins, S. S., Hatzenbuehler, M. L., Blanco, C., Bates, L. M., & Hasin, D. S. (2012). Mental health service utilization for psychiatric disorders among Latinos living in the united states: The role of ethnic subgroup, ethnic identity, and language/social preferences. *Social Psychiatry and Psychiatric Epidemiology, 47*(3), 383-394. doi:10.1007/s00127-010-0323-y

Kim, G., Jang, Y., Chiriboga, D. A., Ma, G. X., & Schonfeld, L. (2010). Factors associated with mental health service use in Latino and Asian immigrant elders. *Aging & Mental Health, 14*(5), 535-542. doi:10.1080/13607860903311758

Kleinman, A. (1980). *Patients and healers in the context of culture.* Berkeley, CA: University of California Press.

Kline, N. (2017). Pathogenic policy: Immigrant policing, fear, and parallel medical systems in the US south. *Medical Anthropology, 36*(4), 396-410. doi:10.1080/01459740.2016.1259621

Kouyoumdjian, H., Zamboanga, B. L., & Hansen, D. J. (2003). Barriers to community mental health services for Latinos: Treatment considerations. *Clinical Psychology: Science and Practice, 10*(4), 394-422. doi:10.1093/clipsy.bpg041

Kroenke, K., & Spitzer, R. L. (2002). The PHQ-9: A new depression diagnostic and severity measure. *Psychiatric Annals, 32*(9), 509-515.

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2000). A new measure of depression severity: The PHQ-9. *Journal of General Internal Medicine, 15*, 78.

Krumpal, I. (2013). Determinants of social desirability bias in sensitive surveys: A literature review. *Quality & Quantity, 47*(4), 2025-2047. doi:10.1007/s11135-011-9640-9

Kuramoto, F. (2014). The affordable care act and integrated care. *Journal of Social Work in Disability & Rehabilitation, 13*(1-2), 44-86. doi:10.1080/1536710X.2013.870515

Lagomasino, I. T., Dwight-Johnson, M., Green, J. M., Tang, L., Zhang, L., Duan, N., & Miranda, J. (2017). Effectiveness of collaborative care for depression in public-sector primary care clinics serving Latinos. *Psychiatric Services, 68*(4), 353-359. doi:10.1176/appi.ps.201600187

Lê Cook, B., McGuire, T. G., Alegría, M., & Normand, S. (2011). Crowd-out and exposure effects of physical comorbidities on mental health care use: Implications for Racial–Ethnic disparities in access. *Health Services Research, 46*(4), 1259-1280. doi:10.1111/j.1475-6773.2011.01253.x

Lee, S., & Held, M. L. (2015). Variation in mental health service use among U.S. Latinos by place of origin and service provider type. *Psychiatric Services, 66*(1), 56-64. doi:10.1176/appi.ps.201300533

Lee, S., & Matejkowski, J. (2012). Mental health service utilization among noncitizens in the United States: Findings from the National Latino and Asian American Study. *Administration and Policy in Mental Health, 39,* 406-418. doi: 10.1007/s10488-011-0366-8

Li, C., Ford, E. S., Strine, T. W., & Mokdad, A. H. (2008). Prevalence of depression among US adults with diabetes findings from the 2006 Behavioral Risk Factor Surveillance System. *Diabetes Care, 31*(1), 105-107.

Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology, 27*(1), 363-385. doi:10.1146/annurev.soc.27.1.363

Link, B. G., Yang, L. H., Phelan, J. C., & Collins, P. Y. (2004). Measuring mental illness stigma. *Schizophrenia Bulletin, 30*(3), 511-541. doi:10.1093/oxfordjournals.schbul.a007098

Lopez, V., Sanchez, K., Killian, M. O., & Eghaneyan, B. H. (2018). Depression screening and education: An examination of mental health literacy and stigma in a sample if Hispanic women. *BMC Public Health, 18*, 646. doi:10.1186/s12889-018-5516-4

Manoleas, P. (2008). Integrated primary care and behavioral health services for Latinos: A blueprint and research agenda. *Social Work in Health Care, 47*(4), 438-454. doi:10.1080/00981380802344480

Manuel, J. I. (2018). Racial/Ethnic and gender disparities in health care use and access. *Health Services Research, 53*(3), 1407-1429. doi:10.1111/1475-6773.12705

Marin, H., Escobar, J. I., & Vega, W. A. (2006). Mental illness in Hispanics: A review of the literature. *Focus, 4*(1), 23-37. doi:10.1176/foc.4.1.23

Martinez, O., Wu, E., Sandfort, T., Dodge, B., Carballo-Dieguez, A., Pinto, R., . . . Chavez-Baray, S. (2015). Evaluating the impact of immigration policies on health status among undocumented immigrants: A systematic review. *Journal of Immigrant and Minority Health, 17*(3), 947-970. doi:10.1007/s10903-013-9968-4

Martínez Pincay, I. E., & Guarnaccia, P. J. (2007). "It's like going through an earthquake": Anthropological perspectives on depression among Latino immigrants. *Journal of Immigrant and Minority Health, 9*(1), 17. doi:10.1007/s10903-006-9011-0

Mascayano, F., Tapia, T., Schilling, S., Alvarado, R., Tapia, E., Lips, W., & Yang, L. H. (2016). Stigma toward mental illness in Latin America and the Caribbean: A systematic review. *Revista Brasileira De Psiquiatria (São Paulo, Brazil : 1999), 38*(1), 73-85. doi:10.1590/1516-4446-2015-1652

Mattison, D., Weaver, A., Zebrack, B., Fischer, D., & Dubin, L. (2017). Educating social workers for practice in integrated health care: A model implemented in a graduate social work program. *Journal of Social Work Education: Practice in Integrated Care Environments, 53*(sup1), S72-S86. doi:10.1080/10437797.2017.1288594

McField, E. (2010). *Culture, acculturation, and social capital: Latinos and use of mental health services* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3405317)

Melartin, T. K., Rytsälä, H. J., Leskelä, U. S., Lestelä-Mielonen, P. S., Sokero, T. P., & Isometsä, E. T. (2005). Continuity is the main challenge in treating major depressive disorder in psychiatric care. *The Journal of Clinical Psychiatry, 66*(2), 220.

Melfi, C. A., Chawla, A. J., Croghan, T. W., Hanna, M. P., Kennedy, S., & Sredl, K. (1998). The effects of adherence to antidepressant treatment guidelines on relapse and recurrence of depression. *Archives of General Psychiatry, 55*(12), 1128-1132. doi:10.1001/archpsyc.55.12.1128

Mendoza, H., Masuda, A., & Swartout, K. M. (2015). Mental health stigma and self-concealment as predictors of help-seeking attitudes among Latina/o college students in the united states. *International Journal for the Advancement of Counselling, 37*(3), 207-222. doi:10.1007/s10447-015-9237-4

Menear, M., Doré, I., Cloutier, A., Perrier, L., Roberge, P., Duhoux, A., . . . Fournier, L. (2015). Chronic physical comorbidity burden and the quality of depression treatment in primary care: A systematic review. *Journal of Psychosomatic Research, 78*(4), 314-323. doi:10.1016/j.jpsychores.2015.01.001

Merikangas, K. R., Ames, M., Cui, L., Stang, P. E., Ustun, T. B., Von Korff, M., & Kessler, R. C. (2007). The impact of comorbidity of mental and physical conditions on role disability in the US adult household population. *Archives of General Psychiatry, 64*(10), 1180-1188. doi:10.1001/archpsyc.64.10.1180

Merz, E. L., Malcarne, V. L., Roesch, S. C., Riley, N., & Sadler, G. R. (2011). A multigroup confirmatory factor analysis of the patient health questionnaire-9 among English- and Spanish-speaking Latinas. *Cultural Diversity and Ethnic Minority Psychology, 17*(3), 309-316. doi:10.1037/a0023883

Meyer, P.A., Yoon, P.W., & Kaufman, R.B. (2013). Introduction: CDC health disparities and inequalities report – United States, 2013. *Center for Disease Control, Morbidity and Mortality Weekly Report, 62*(3), 3-5.

Mills, S. D., Fox, R. S., Malcarne, V. L., Roesch, S. C., Champagne, B. R., & Sadler, G. R. (2014). The psychometric properties of the generalized anxiety disorder-7 scale in Hispanic Americans with English or Spanish language preference. *Cultural Diversity & Ethnic Minority Psychology, 20*(3), 463-468. doi:10.1037/a0036523

Miranda, J., Azocar, F., Organista, K. C., Dwyer, E., & Areane, P. (2003a). Treatment of depression among impoverished primary care patients from ethnic minority groups. *Psychiatric Services, 54*(2), 219-225. doi:10.1176/appi.ps.54.2.219

Miranda, J., Chung, J. Y., Green, B. L., Krupnick, J., Siddique, J., Revicki, D. A., & Belin, T. (2003b). Treating depression in predominantly low-income young minority women: A randomized controlled trial. *JAMA, 290*(1), 57-65. doi:10.1001/jama.290.1.57

Miranda, J., Duan, N., Sherbourne, C., Schoenbaum, M., Lagomasino, I., Jackson-Triche, M., & Wells, K. B. (2003c). Improving care for minorities: Can quality improvement interventions improve care and outcomes for depressed minorities? Results of a randomized, controlled trial. *Health Services Research, 38*(2), 613-630. doi:10.1111/1475-6773.00136

Mnich, E., Makowski, A. C., Lambert, M., Angermeyer, M. C., & Knesebeck, O. v. d. (2014). Beliefs about depression—Do affliction and treatment experience matter? Results of a population survey from Germany. *Journal of Affective Disorders, 164*, 28-32. doi:10.1016/j.jad.2014.04.001

Moreno, O., & Cardemil, E. (2013). Religiosity and mental health services: An exploratory study of help seeking among Latinos. *Journal of Latina/o Psychology, 1*(1), 53-67. doi:10.1037/a0031376

Moussavi, S., Chatterji, S., Verdes, E., Tandon, A., Patel, V., & Ustun, B. (2007). Depression, chronic diseases, and decrements in health: Results from the world health surveys. *The Lancet, 370*(9590), 851-858. doi:10.1016/S0140-6736(07)61415-9

Mulvaney-Day, N., Marshall, T., Downey Piscopo, K., Korsen, N., Lynch, S., Karnell, L. H., . . . Ghose, S. S. (2018). Screening for behavioral health conditions in primary care settings: A systematic review of the literature. *Journal of General Internal Medicine, 33*(3), 335-346. doi:10.1007/s11606-017-4181-0

Mynors-Wallis, L. M., Gath, D. H., Lloyd-Thomas, A. R., & Tomlinson, D. (1995). Randomised controlled trial comparing problem solving treatment with amitriptyline and placebo for major depression in primary care. *British Medical Journal, 310*(6977), 441-445. doi:10.1136/bmj.310.6977.441

Nadeem, E., Lange, J. M., Edge, D., Fongwa, M., Belin, T., & Miranda, J. (2007). Does stigma keep poor young immigrant and U.S.-born black and Latina women from seeking mental health care? *Psychiatric Services, 58*(12), 1547–1554. doi:10.1176/ps.2007.58.12.1547

National Institute of Mental Health. (2019, February). Mental illness. Retrieved from https://www.nimh.nih.gov/health/statistics/mental-illness.shtml

Nimalasuriya, K., Compton, M. T., Guillory, V. J., & Prevention Practice Committee of the American College of Preventive Medicine. (2009). Screening adults for depression in primary care: A position statement of the American College of Preventive Medicine. *The Journal of Family Practice, 58*(10), 535.

Olfson, M., Marcus, S. C., Tedeschi, M., & Wan, G. J. (2006). Continuity of antidepressant treatment for adults with depression in the united states. *American Journal of Psychiatry, 163*(1), 101-108. doi:10.1176/appi.ajp.163.1.101

Olfson, M., Mojtabai, R, Sampson, N. A., Hwang, I., Druss, B., Wang, P.S. … & Kessler, R.C. (2009). Dropout from outpatient mental health care in the united states. *Psychiatric Services, 60*(7), 898-907. doi:10.1176/ps.2009.60.7.898

Ortega, A. N., & Alegría, M. (2002). Self-reliance, mental health need, and the use of mental healthcare among island Puerto Ricans. *Mental Health Services Research, 4*(3), 131-140. doi:10.1023/A:1019707012403

Overbeck, G., Davidsen, A. S., & Kousgaard, M. B. (2016). Enablers and barriers to implementing collaborative care for anxiety and depression: A systematic qualitative review. *Implementation Science, 11*(1), 165. doi:10.1186/s13012-016-0519-y

Patient Protection and Affordable Care Act (PPACA), Pub. L. No. 111-148, 124 Stat. 119 (2010).

Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health Services Research, 34*(5), 1189-1208.

Pew Research Center. (2014). Demographic and economic profiles of Hispanics by state and county, 2014. Retrieved from https://www.pewresearch.org/hispanic/states/state/tx

Pieters, H. C., & Heilemann, M.S.V. (2010). "I can't do it on my own": Motivation to enter therapy for depression among low income, second generation, Latinas. *Issues in Mental Health Nursing, 31*(4), 279-287. doi:10.3109/01612840903308549

Rishel, C. W., & Hartnett, H. P. (2017). Meeting the challenge of preparing social workers for integrated health practice: Evidence from two MSW cohorts. *Journal of Social Work Education: Practice in Integrated Care Environments, 53*(sup1), S27-S39. doi:10.1080/10437797.2017.1288593

Rojas-Vilches, A. P., Negy, C., & Reig-Ferrer, A. (2011). Attitudes toward seeking therapy among Puerto Rican and Cuban American young adults and their parents. *International Journal of Clinical and Health Psychology, 11*(2), 313-341.

Rosales, R., & Calvo, R. (2017). "Si dios quiere": Fatalismo and use of mental health services among Latinos with a history of depression. *Social Work in Health Care, 56*(8), 748. doi:10.1080/00981389.2017.1339760

Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education & Behavior*, 2(4), 328-335. doi:10.1177/109019817400200403

Roy-Byrne, P. (2013). Collaborative care at the crossroads. *The British Journal of Psychiatry*, 203(2), 86-87. doi:10.1192/bjp.bp.113.128728

Ruiz, E., Aguirre, R.T.P., & Mitschke, D. B. (2013). What leads non-U.S.-born Latinos to access mental health care. *Social Work in Health Care, 52*(1), 1-19. doi:10.1080/00981389.2012.733326

Samples, H., Stuart, E. A., Saloner, B., Barry, C. L., & Mojtabai, R. (2020). The role of screening in depression diagnosis and treatment in a representative sample of US primary care visits. *Journal of General Internal Medicine, 35*(1), 12-20. doi:10.1007/s11606-019-05192-3

Sanchez, K., Chapa, T., Ybarra, R., & Martinez, O.N. (2012). *Enhancing the delivery of health care: Eliminating health disparities through a culturally and linguistically centered integrated health care approach*. Retrieved from the Hogg Foundation Website: http://www.hogg.utexas.edu/uploads/documents/FinalReport%20-ConsensusStatementsRecommendations.pdf

Sanchez, K., Eghaneyan, B. H., Killian, M. O., Cabassa, L., & Trivedi, M. H. (2017). Measurement, education and tracking in integrated care (METRIC): Use of a culturally adapted education tool versus standard education to increase engagement in depression treatment among Hispanic patients: Study protocol for a randomized control trial. *Trials, 18*(1), 363. doi:10.1186/s13063-017-2109-y

Sanchez, K., Killian, M. O., Eghaneyan, B. H., Cabassa, L. J., & Trivedi, M. H. (2019). Culturally adapted depression education and engagement in treatment among Hispanics in primary care: Outcomes from a pilot feasibility study. *BMC Family Practice, 20*(1), 1-9. doi:10.1186/s12875-019-1031-7

Sanchez, K., & Watt, T. T. (2012). Collaborative care for the treatment of depression in primary care with a low-income, Spanish-speaking population: Outcomes from a community-based program evaluation. *The Primary Care Companion for CNS Disorders, 14*(6) doi:10.4088/PCC.12m01385

Sanchez, K., Ybarra, R., Chapa, T., & Martinez, O. N. (2016). Eliminating behavioral health disparities and improving outcomes for racial and ethnic minority populations. *Psychiatric Services, 67*(1), 13-15. doi:10.1176/appi.ps.201400581

Schreier, M. (2014) Qualitative content analysis. In U. Flick (Ed.), *The Sage handbook of qualitative data analysis* (pp. 170-183). Thousand Oaks, CA: Sage.

Sharf, J., Primavera, L. H., & Diener, M. J. (2010). Dropout and therapeutic alliance: A meta-analysis of adult individual psychotherapy. *Psychotherapy: Theory, Research, Practice, Training, 47*(4), 637-645. doi:10.1037/a0021175

Sirey, J., Bruce, M. L., Alexopoulos, G. S., Perlick, D. A., Friedman, S. J., & Meyers, B. S. (2001a). Perceived stigma and patient-rated severity of illness as predictors of antidepressant drug adherence. *Psychiatric Services, 52*(12), 1615–1620.

Sirey, J., Bruce, M. L., Alexopoulos, G. S., Perlick, D. A., Raue, P., Friedman, S. J., & Meyers, B. S. (2001b). Perceived stigma as a predictor of treatment discontinuation in young and older outpatients with depression. *American Journal of Psychiatry, 158*(3), 479–481.

Spitzer, R.L., Kroenke, K., Williams, J.B., & Lowe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092-1097. doi:10.1001/archinte.166.10.1092

Stanhope, V., Videka, L., Thorning, H., & McKay, M. (2015). Moving toward integrated health: An opportunity for social work. *Social Work in Health Care, 54*(5), 383. doi:10.1080/00981389.2015.1025122

Staudt, M. (2007). Treatment engagement with caregivers of at-risk children: Gaps in research and conceptualization. *Journal of Child and Family Studies, 16*(2), 183-196. doi:10.1007/s10826-006-9077-2

Stewart, M., Makwarimba, E., Barnfather, A., Letourneau, N., & Neufeld, A. (2008). Researching reducing health disparities: Mixed-methods approaches. *Social Science & Medicine, 66*(6), 1406-1417. doi:10.1016/j.socscimed.2007.11.021

Substance Abuse and Mental Health Services Administration (SAMHSA). (2015). *Racial/ethnic differences in mental health service use among adults* (HHS Publication No. SMA-15-4906). Retrieved from http://www.samhsa.gov/data/

Swift, J. K., & Greenberg, R. P. (2012). Premature discontinuation in adult psychotherapy: A meta-analysis. *Journal of Consulting and Clinical Psychology, 80*(4), 547-559. doi:10.1037/a0028226

Thielke, S., Vannoy, S., & Unutzer, J. (2007). Integrating mental health and primary care. *Primary Care: Clinics in Office Practice, 34*(3), 571-592. doi:10.1016/j.pop.2007.05.007

Trivedi, M. H. (2004). The link between depression and physical symptoms. *Primary Care Companion to the Journal of Clinical Psychiatry, 6*(Suppl 1), 12-16.

Tully, P. J., & Baumeister, H. (2015). Collaborative care for comorbid depression and coronary heart disease: A systematic review and meta-analysis of randomised controlled trials. *BMJ Open, 5*(12), e009128. doi:10.1136/bmjopen-2015-009128

Turan, J. M., Elafros, M. A., Logie, C. H., Banik, S., Turan, B., Crockett, K. B., . . . Murray, S. M. (2019). Challenges and opportunities in examining and addressing intersectional stigma and health. *BMC Medicine, 17*(1), 7. doi:10.1186/s12916-018-1246-9

Uebelacker, L. A., Marootian, B. A., Pirraglia, P. A., Primack, J., Tigue, P. M., Haggarty, R., . . . Miller, I. W. (2012). Barriers and facilitators of treatment for depression in a Latino community: A focus group study. *Community Mental Health Journal, 48*(1), 114-126. doi:10.1007/s10597-011-9388-7

Uebelacker, L. A., Wang, P. S., Berglund, P., & Kessler, R. C. (2006). Clinical differences among patients treated for mental health problems in general medical and specialty mental health settings in the national comorbidity survey replication. *General Hospital Psychiatry, 28*(5), 387-395. doi:10.1016/j.genhosppsych.2006.05.001

Unger, J. B., Cabassa, L. J., Molina, G. B., Contreras, S., & Baron, M. (2013). Evaluation of a fotonovela to increase depression knowledge and reduce stigma among Hispanic adults. *Journal of Immigrant and Minority Health, 15*(2), 398-406. doi:10.1007/s10903-012-9623-5

Unutzer, J., Katon, W., Williams, J. W., Callahan, C. M., Harpole, L., Hunkeler, E. M.,… & Langston, C. A. (2001). Improving primary care for depression in late life: The design of a multicenter randomized trial. *Medical Care, 39*(8), 785-799. doi:10.1097/00005650-200108000-00005

Unutzer, J., Schoenbaum, M., Druss, B.G., & Katon, W.J. (2006). Transforming mental health care at the interface with general medicine: Report for the President's commission. *Psychiatric Services, 57*(1), 37-47. doi:10.1176/appi.ps.57.1.37

U.S. Department of Health & Human Services. (2014, September 22). HHS announces $99 million in new grants to improve mental health services for young people. Retrieved from https://wayback.archive-it.org/3926/20170128114939/https://www.hhs.gov/about/news/2014/09/22/hhs-announces-99-million-in-new-grants-to-improve-mental-health-services-for-young-people.html

Vega, W. A., Kolody, B., & Aguilar-Gaxiola, S. (2001). Help seeking for mental health problems among Mexican Americans. *Journal of Immigrant Health, 3*(3), 133-140.

Vega, W. A., Rodriguez, M. A., & Ang, A. (2010). Addressing stigma of depression in Latino primary care patients. *General Hospital Psychiatry, 32*, 182–191. doi: 10.1016/ j.genhosppsych.2009.10.008

Vera, M., Alegría, M., Freeman, D. H., Robles, R., Pescosolido, B., & Peña, M. (1998). Help seeking for mental health care among poor Puerto Ricans: Problem recognition, service use, and type of provider. *Medical Care, 36*(7), 1047-1056. doi:10.1097/00005650-199807000-00011

Villatoro, A. P., Mays, V. M., Ponce, N. A., & Aneshensel, C. S. (2018). Perceived need for mental health care: The intersection of race, ethnicity, gender, and socioeconomic status. *Society and Mental Health, 8*(1), 1-24. doi:10.1177/2156869317718889

Villatoro, A. P., Morales, E. S., & Mays, V. M. (2014). Family culture in mental health help-seeking and utilization in a nationally representative sample of Latinos in the United States: The NLAAS. *The American Journal of Orthopsychiatry, 84*(4), 353-363. doi:10.1037/h0099844

Vogel, D. L., Wade, N. G., & Hackler, A. H. (2007). Perceived public stigma and the willingness to seek counseling: The mediating roles of self-stigma and attitudes toward counseling. *Journal of Counseling Psychology, 54*(1), 40-50. doi:10.1037/0022-0167.54.1.40

Wagner, E. H., Austin, B. T., & Von Korff, M. (1996). Organizing care for patients with chronic illness. *The Milbank Quarterly, 74*(4), 511-544. doi:10.2307/3350391

Wang, P. S., Demler, O., Olfson, M., Pincus, H. A., Wells, K. B., & Kessler, R. C. (2006). Changing profiles of service sectors used for mental health care in the united states. *American Journal of Psychiatry, 163*(7), 1187-1198. doi:10.1176/ajp.2006.163.7.1187

Wang, P. S., Lane, M., Olfson, M., Pincus, H. A., Wells, K. B., & Kessler, R. C. (2005). Twelve-month use of mental health services in the united states: Results from the national comorbidity survey replication. *Archives of General Psychiatry, 62*(6), 629-640. doi:10.1001/archpsyc.62.6.629

Wassertheil-Smoller, S., PhD, Arredondo, E. M., PhD, Cai, J., PhD, Castaneda, S. F., PhD, Choca, J. P., PhD, Gallo, L. C., PhD, . . . Zee, Phyllis C., PhD, MD. (2014). Depression, anxiety, antidepressant use, and cardiovascular disease among Hispanic men and women of different national backgrounds: Results from the Hispanic community health Study/Study of Latinos. *Annals of Epidemiology, 24*(11), 822-830. doi:10.1016/j.annepidem.2014.09.003

Weisberg, R. B., & Magidson, J. F. (2014). Integrating cognitive behavioral therapy into primary care settings. *Cognitive and Behavioral Practice, 21*(3), 247-251. doi:10.1016/j.cbpra.2014.04.002

Weissman, M. M., Hankerson, S. H., Scorza, P., Olfson, M., Verdeli, H., Shea, S., . . . Wainberg, M. (2014). Interpersonal counseling (IPC) for depression in primary care. *American Journal of Psychotherapy, 68*(4), 359-383. doi:10.1176/appi.psychotherapy.2014.68.4.359

Wells, K. B., Golding, J. M., Hough, R. L., Burnam, M. A., & Karno, M. (1989). Acculturation and the probability of use of health services by Mexican Americans. *Health Services Research, 24*(2), 237-257.

Wells, K. B., Sherbourne, C., Schoenbaum, M., Duan, N., Meredith, L., Unützer, J., . . . Rubenstein, L. V. (2000). Impact of disseminating quality improvement programs for depression in managed primary care: A randomized controlled trial. *Journal of the American Medical Association, 283*(2), 212-220. doi:10.1001/jama.283.2.212

Wells, K., Sherbourne, C., Schoenbaum, M., Ettner, S., Duan, N., Miranda, J., . . . Rubenstein, L. (2004). Five-year impact of quality improvement for depression: Results of a group-level randomized controlled trial. *Archives of General Psychiatry, 61*(4), 378-386. doi:10.1001/archpsyc.61.4.378

Whiteford, H. A., Degenhardt, L., Rehm, J., Baxter, A. J., Ferrari, A. J., Erskine, H. E., . . . Vos, T. (2013). Global burden of disease attributable to mental and substance use disorders: Findings from the global burden of disease study 2010. *The Lancet*, *382*, 1575-1586. doi:10.1016/S0140-6736(13)61611-6

Wood, E., Ohlsen, S., & Ricketts, T. (2017). What are the barriers and facilitators to implementing collaborative care for depression? A systematic review. *Journal of Affective Disorders, 214*, 26-43. doi:10.1016/j.jad.2017.02.028

Yang, L. H., Thornicroft, G., Alvarado, R., Vega, E., & Link, B. G. (2014). Recent advances in cross-cultural measurement in psychiatric epidemiology: Utilizing 'what matters most' to identify culture-specific aspects of stigma. *International Journal of Epidemiology, 43*(2), 494-510. doi:10.1093/ije/dyu039

Yin, R.K. (2016). *Qualitative research from start to finish* (2nd ed.). New York, NY: The Guilford Press.

Zerden, L. d. S., Jones, A., Brigham, R., Kanfer, M., & Zomorodi, M. (. (2017). Infusing integrated behavioral health in an MSW program: Curricula, field, and interprofessional educational activities. *Journal of Social Work Education: Practice in Integrated Care Environments, 53*(sup1), S59-S71. doi:10.1080/10437797.2017.1288595

APPENDIX A

IRB APPROVAL DOCUMENT FOR METRIC

UNIVERSITY OF TEXAS ARLINGTON
OFFICE OF RESEARCH ADMINISTRATION
REGULATORY SERVICES

August 17, 2015

Dr. Katherine Sanchez
School of Social Work
University of Texas at Arlington
Box 19129

FULL BOARD APPROVAL OF HUMAN SUBJECT RESEARCH

IRB No.: 2015-0839
Title: *METRIC: Measurement, Education and Tracking in Integrated Care: Strategies to Increase Patient Engagement and Reduce Mental Health Disparities among Hispanics*
Approval Date: **August 11, 2015**
Expiration Date: August 11, 2016

Approved number of participants: **150** **(Do not exceed without prior IRB approval)**

The University of Texas at Arlington Institutional Review Board (IRB) approved the above-referenced study during the convened meeting on **August 11, 2015.** IRB approval for the research shall continue until **August 11, 2016.** In order for the research to continue, Continuing Review must be completed within the month preceding the date of expiration indicated above. A reminder notice will be forwarded to the attention of the Principal Investigator (PI) at that time.

APPROVED NUMBER OF PARTICIPANTS:

This protocol has been approved for enrollment of a maximum of 150 participants and is not to exceed this number. If additional data are needed, the researcher must submit a modification request to increase the number of approved participants **before** the additional data are collected. Exceeding the number of approved participants is considered an issue of non-compliance and will result in the destruction of the data collected beyond the approval number and will be subject to deliberation set forth by the IRB.

INFORMED CONSENT DOCUMENT:

The IRB approved informed consent document (ICD), showing the stamped approval and expiration date of the article must be used when prospectively enrolling volunteer participants into the study. The use of a copy of any consent form on which the IRB-stamped approval and expiration dates are not visible, or are replaced by typescript or handwriting, is prohibited. The signed consent forms must be securely maintained on the UTA campus for the duration of the study plus three years. The complete study record is subject to inspection and/or audit during this time period by entities including but not limited to the UT Arlington IRB, Regulatory Services staff, OHRP/FDA and by study sponsors (if the study is funded).

MODIFICATION TO AN APPROVED PROTOCOL:

Pursuant to Title 45 CFR 46.103(b)(4)(iii), investigators are required to, "promptly report to the IRB *any* proposed changes in the research activity, and to ensure that such changes in approved research, during the period for which IRB approval has already been given, are **not initiated without prior IRB review and approval** except when necessary to eliminate apparent immediate hazards to the subject." Modifications include but are not limited to: Changes in protocol personnel, number of approved participants, and/or updates to the protocol procedures or instruments and must be submitted via the electronic submission system. Failure to obtain approval for modifications is considered an issue of non-compliance and will be subject to review and deliberation by the IRB which could result in the suspension/termination of the protocol.

ANNUAL CONTINUING REVIEW:

In order for the research to continue beyond the first year, a Continuing Review must be completed via the online submission system within 30 days preceding the date of expiration indicated above. Full Board protocols require approval during the convened meeting. A reminder notice will be forwarded to the attention of the Principal Investigator (PI) 30 days prior to the expiration date, however, this date does not reflect when the IRB meeting will be held. The PI is responsible for submitting a continuing review request no later than 1 week prior to the IRB meeting scheduled prior to the study expiration date to ensure adequate review time and approval determination. Continuing review of the protocol serves as a progress report and provides the researcher with an opportunity to make updates to the originally approved protocol. Failure to obtain approval for a continuing review will result in automatic ***expiration of the protocol*** all activities involving human subjects must cease immediately. The research will not be allowed to commence by any protocol personnel until a new protocol has been submitted, reviewed, and approved by the IRB. Per federal regulations and UTA's Federalwide Assurance (FWA), there are no exceptions and no extensions of approval granted by the IRB. The continuation of study procedures after the expiration of a protocol is considered to be an issue of non-compliance and a violation of federal regulations. Such violations could result in termination of external and University funding and/or disciplinary action.

ADVERSE EVENTS:

Please be advised that as the principal investigator, you are required to report local adverse (unanticipated) events to The UT Arlington Office of Research Administration; Regulatory Services within 24 hours of the occurrence or upon acknowledgement of the occurrence.

TRAINING

All investigators and key personnel identified in the protocol must have filed an annual Conflict of Interest Disclosure (COI) and have documented *Human Subjects Protection (HSP)* training on file with this office prior to protocol approval. HSP training certificates are valid for 2 years from completion date.

COLLABORATION:

If applicable, approval by the appropriate authority at a collaborating facility is required prior to subject enrollment. If the collaborating facility is *engaged in the research*, an OHRP approved Federalwide Assurance (FWA) may be required for the facility (prior to their participation in research-related activities). To determine whether the collaborating facility is engaged in research, go to: http://www.hhs.gov/ohrp/humansubjects/assurance/engage.htm

CONTACT FOR QUESTIONS:
The UT Arlington Office of Research Administration; Regulatory Services appreciates your continuing commitment to the protection of human research subjects. Should you have questions or require further assistance, please contact Alyson Stearns at astearns@uta.edu or Regulatory Services at regulatoryservices@uta.edu or 817-272-2105.

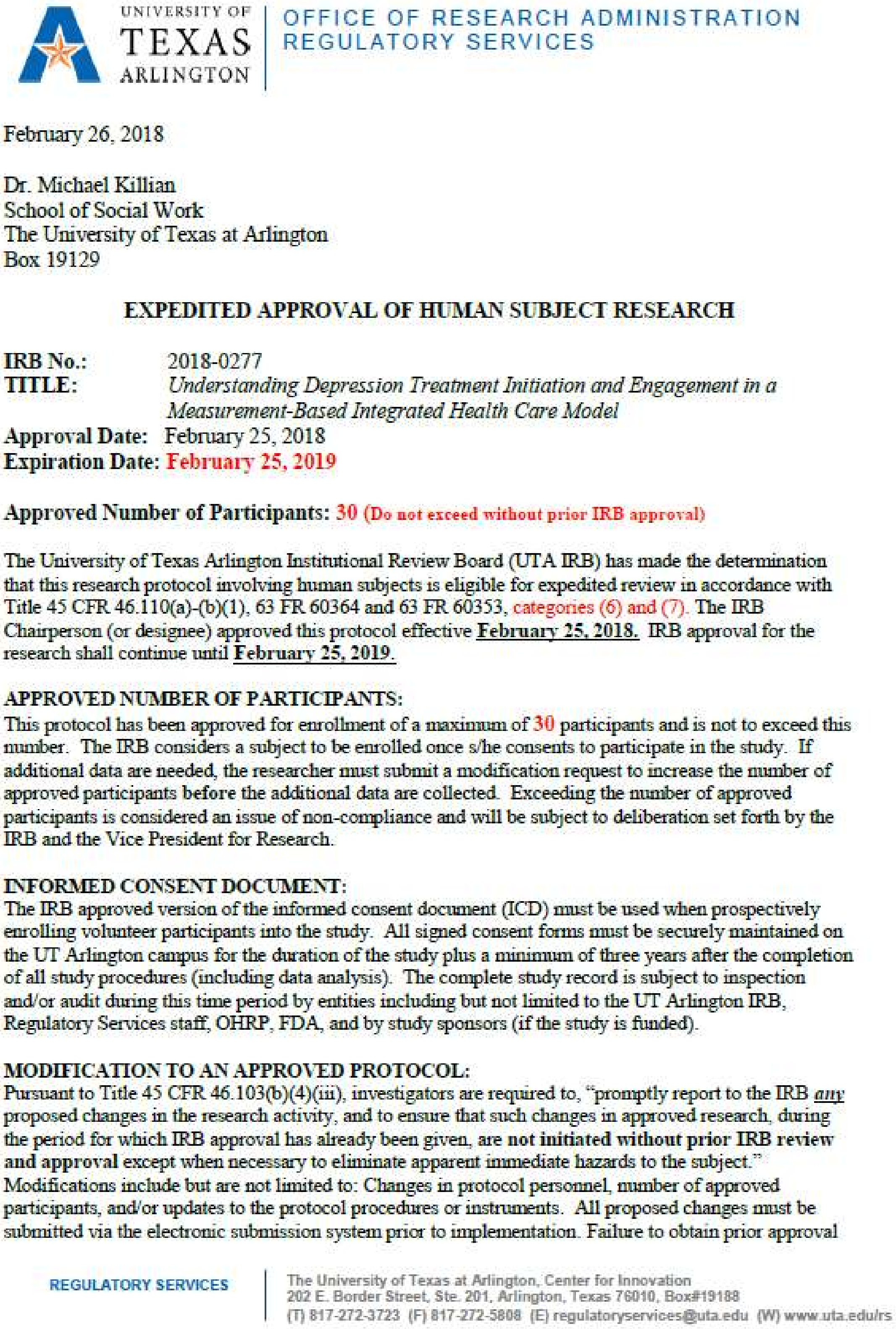
Sincerely,

Christopher Ray
Digitally signed by Christopher Ray
DN: postalCode=76019, o=The University of Texas at Arlington, street=701 South Nedderman Drive, st=TX, l=Arlington, c=US, cn=Christopher Ray, email=chrisray@uta.edu
Date: 2015.08.18 13:25:21 -05'00'

Christopher Ray, PhD, ATC, CSCS
Associate Professor, Department of Kinesiology
UT Arlington IRB Chair

APPENDIX B

IRB APPROVAL DOCUMENT FOR QUALITATIVE STUDY



UNIVERSITY OF TEXAS ARLINGTON
OFFICE OF RESEARCH ADMINISTRATION
REGULATORY SERVICES

February 26, 2018

Dr. Michael Killian
School of Social Work
The University of Texas at Arlington
Box 19129

EXPEDITED APPROVAL OF HUMAN SUBJECT RESEARCH

IRB No.: 2018-0277
TITLE: *Understanding Depression Treatment Initiation and Engagement in a Measurement-Based Integrated Health Care Model*
Approval Date: February 25, 2018
Expiration Date: **February 25, 2019**

Approved Number of Participants: **30** **(Do not exceed without prior IRB approval)**

The University of Texas Arlington Institutional Review Board (UTA IRB) has made the determination that this research protocol involving human subjects is eligible for expedited review in accordance with Title 45 CFR 46.110(a)-(b)(1), 63 FR 60364 and 63 FR 60353, categories (6) and (7). The IRB Chairperson (or designee) approved this protocol effective **February 25, 2018.** IRB approval for the research shall continue until **February 25, 2019.**

APPROVED NUMBER OF PARTICIPANTS:

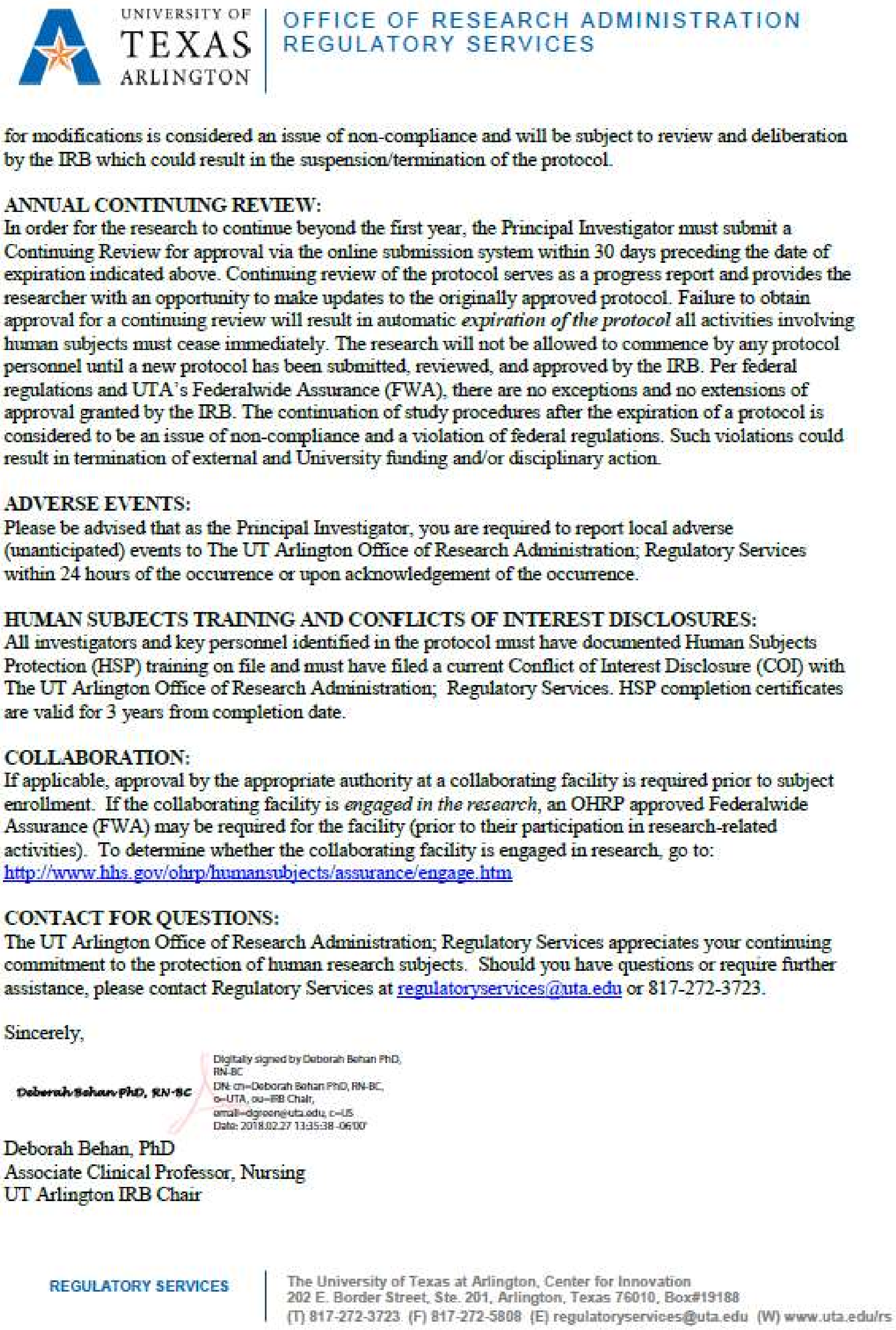
This protocol has been approved for enrollment of a maximum of **30** participants and is not to exceed this number. The IRB considers a subject to be enrolled once s/he consents to participate in the study. If additional data are needed, the researcher must submit a modification request to increase the number of approved participants before the additional data are collected. Exceeding the number of approved participants is considered an issue of non-compliance and will be subject to deliberation set forth by the IRB and the Vice President for Research.

INFORMED CONSENT DOCUMENT:

The IRB approved version of the informed consent document (ICD) must be used when prospectively enrolling volunteer participants into the study. All signed consent forms must be securely maintained on the UT Arlington campus for the duration of the study plus a minimum of three years after the completion of all study procedures (including data analysis). The complete study record is subject to inspection and/or audit during this time period by entities including but not limited to the UT Arlington IRB, Regulatory Services staff, OHRP, FDA, and by study sponsors (if the study is funded).

MODIFICATION TO AN APPROVED PROTOCOL:

Pursuant to Title 45 CFR 46.103(b)(4)(iii), investigators are required to, "promptly report to the IRB *any* proposed changes in the research activity, and to ensure that such changes in approved research, during the period for which IRB approval has already been given, are **not initiated without prior IRB review and approval** except when necessary to eliminate apparent immediate hazards to the subject." Modifications include but are not limited to: Changes in protocol personnel, number of approved participants, and/or updates to the protocol procedures or instruments. All proposed changes must be submitted via the electronic submission system prior to implementation. Failure to obtain prior approval



for modifications is considered an issue of non-compliance and will be subject to review and deliberation by the IRB which could result in the suspension/termination of the protocol.

ANNUAL CONTINUING REVIEW:
In order for the research to continue beyond the first year, the Principal Investigator must submit a Continuing Review for approval via the online submission system within 30 days preceding the date of expiration indicated above. Continuing review of the protocol serves as a progress report and provides the researcher with an opportunity to make updates to the originally approved protocol. Failure to obtain approval for a continuing review will result in automatic *expiration of the protocol* all activities involving human subjects must cease immediately. The research will not be allowed to commence by any protocol personnel until a new protocol has been submitted, reviewed, and approved by the IRB. Per federal regulations and UTA's Federalwide Assurance (FWA), there are no exceptions and no extensions of approval granted by the IRB. The continuation of study procedures after the expiration of a protocol is considered to be an issue of non-compliance and a violation of federal regulations. Such violations could result in termination of external and University funding and/or disciplinary action.

ADVERSE EVENTS:
Please be advised that as the Principal Investigator, you are required to report local adverse (unanticipated) events to The UT Arlington Office of Research Administration; Regulatory Services within 24 hours of the occurrence or upon acknowledgement of the occurrence.

HUMAN SUBJECTS TRAINING AND CONFLICTS OF INTEREST DISCLOSURES:
All investigators and key personnel identified in the protocol must have documented Human Subjects Protection (HSP) training on file and must have filed a current Conflict of Interest Disclosure (COI) with The UT Arlington Office of Research Administration; Regulatory Services. HSP completion certificates are valid for 3 years from completion date.

COLLABORATION:
If applicable, approval by the appropriate authority at a collaborating facility is required prior to subject enrollment. If the collaborating facility is *engaged in the research*, an OHRP approved Federalwide Assurance (FWA) may be required for the facility (prior to their participation in research-related activities). To determine whether the collaborating facility is engaged in research, go to: http://www.hhs.gov/ohrp/humansubjects/assurance/engage.htm

CONTACT FOR QUESTIONS:
The UT Arlington Office of Research Administration; Regulatory Services appreciates your continuing commitment to the protection of human research subjects. Should you have questions or require further assistance, please contact Regulatory Services at regulatoryservices@uta.edu or 817-272-3723.

Sincerely,

Deborah Behan PhD, RN-BC

Digitally signed by Deborah Behan PhD, RN-BC
DN: cn=Deborah Behan PhD, RN-BC, o=UTA, ou=IRB Chair, email=dgreen@uta.edu, c=US
Date: 2018.02.27 13:35:38 -06'00'

Deborah Behan, PhD
Associate Clinical Professor, Nursing
UT Arlington IRB Chair

APPENDIX C

INTERVIEW QUESTIONS

Interview Questions for METRIC Participants

Introduction: This interview is about your experiences in the last year while you were in the METRIC Project – beginning with when you first met the social worker.

1. What is depression? *Potential follow up questions:*
    a. What causes depression?
    b. What are the symptoms?

2. How did you know you were depressed?

3. Why did you participate in the METRIC project for treatment for your depression? *Potential follow up questions:*
    a. What was your main motivation?
    b. Did you have any concerns or hesitations about participating?

4. Tell me about the education session you received – either the fotonovela or standard education. *Potential follow up questions:*
    a. Did you find the information helpful? In what way? Or how was it helpful?
    b. What did you like and not like about it?
    c. Did it change the way you thought about depression and/or depression treatment?

5. What do you remember about your meetings with the Depression Care Manager (social worker)? *Potential follow up questions:*
    a. What did you do/she do during the sessions?
    b. What was helpful about the sessions?

6. About how many appointments did you have with the Depression Care Manager (social worker?) Over what period of time?
    a. Do you think you needed to attend more sessions with her? Less?
    b. If **more**, what prevented you from doing so?
    c. If **less**, why do you think that?

7. What was your experience with the clinic like while you were enrolled in the METRIC Project? *Potential follow up questions*:
    a. Did you have any issues with the clinic staff or your provider?
    b. Did you experience any barriers making appointments with the depression care manager or getting to your appointments?

8. Who or what affected coming to appointments with the Depression Care Manager (social worker)?
    a. What did your family/loved ones think of you getting treatment for depression?
    b. With the barriers you experienced, why did you still come to appointments? OR Sometimes people stop coming to appointments/treatment before they are better or before they have finished. Why did you keep coming to appointments?

9. What do you think about taking medications for depression?

10. During your time in the METRIC project, were you ever prescribed medications for your depression or did the Depression Care Manager ever encourage you to consider the option of antidepressant medications?
    a. If **yes**, did you ever take/have you taken antidepressant medication during your participation in the METRIC study? Why?
        i. What was your experience taking the medications?
        ii. Did you always take your medication as prescribed? Why or why not?

11. Has being in the METRIC Project (getting treatment for depression) made a difference in your life? *Potential follow up questions*:
    a. Did being in the METRIC Project change the way you think or feel about depression and/or depression treatment?
    b. Did being in the METRIC Project help your depression?
    c. Was there anything you wish METRIC could have done/offered that it didn't?