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Uptake of Depression Treatment among Latinos in Integrated Primary Care:  
A mixed methods analysis

by

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A dissertation submitted in partial satisfaction of the requirements for the degree of

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in the

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University of California, Berkeley

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Elizabeth Olivia Horevitz

## Abstract

Despite high lifetime risk for depressive disorder, Latinos under-utilize mental health services as compared to non-Latino Whites, and are more likely to seek treatment for depression in primary care medical settings. Integrated behavioral health (IBH) in primary care is a promising service model for facilitating access to mental health care among Latinos. Yet, while IBH is a mandate of the Affordable Care Act (ACA), research has not addressed whether IBH facilitates entry into needed behavioral health services for Latinos. The aims of this mixed methods study are: (1) To identify specific sociodemographic and contextual factors in the referral processes that predict psychotherapy initiation for depressed Latinos within an IBH setting; and (2) To qualitatively explore why Latino patients decide to follow-up or not with behavioral health treatment upon referral. To achieve Aim 1, predictor analysis was performed on medical records data (N=431). To achieve Aim 2, qualitative semi-structured interviews were conducted with a sub-sample of depressed Latino patients (N=16) referred for IBH depression treatment. Results point to differences in treatment uptake based on referral type between English-speaking and Spanish-speaking Latinos. English-speaking Latinos were four times less likely to attend an initial visit if they received a personal introduction from their medical provider to the behavioral health provider (“warm handoff”), as compared to those who did not receive a personal introduction during referral. Qualitative findings suggest that not all warm handoff referrals are experienced as “warm”, and that the strength of the patient-provider relationship is a key component affecting patients’ experience of the referral, and subsequent decision to engage in depression treatment or not. Future studies should explore specific dimensions contributing to the quality of referral to better address the spectrum of psychosocial and cultural needs of depressed Latinos and engage them into care.

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## Chapter 1: Introduction

### Problem Statement

Latino health and mental health disparities are well documented in the literature and have been attributed to issues of inadequate access, adequacy and acceptability of services (Cabassa, Zayas & Hansen, 2006; Organista, 2007). Latinos experience similar or higher rates of mood disorders such as depression as compared to non-Latino Whites, though are less likely to seek treatment from mental health providers (Cabassa et al., 2006; Snowden & Yamada, 2005; Temkin-Greener & Clark, 1988; Vega, Kolody, Aguilar-Gaxiola & Catalano, 1999). Instead, of Latinos who seek treatment, most bring their concerns to their primary care provider, often times somatized as physical pain and bodily complaints (Vega, Kolody, & Aguilar-Gaxiola, 2001). Further, Latinos are less likely to follow up on referrals to outside specialty mental health providers and are more likely to drop out of mental health treatment than Whites (Manoleas, 2008a). Latino disparities in mental health care utilization have been associated with more distressing symptoms and worse psychological and physical health outcomes (Cabassa, Zayas, & Hansen, 2006).

Since the 1990s, the movement toward integrating mental health services within the primary care setting (also known as integrated behavioral health) has been touted as a potential solution to under-utilization of mental health services among low-SES vulnerable populations (Blount et al., 2007). Integrated behavioral health (IBH) refers to a “service that combines medical and behavioral health services to more fully address the spectrum of problems patients bring to their primary medical care providers” (Blount, 1998, p. 1). IBH within the primary care setting has become increasingly cited in the literature as a cost-efficient and clinically effective intervention model for treatment of depression and a variety of comorbid chronic medical conditions (Blount, 1998; Ell et al., 2010; Katon et al., 1999; Katon et al., 1996). Given its co-location in the primary care setting (access), the brief nature of treatment (adequacy), and its holistic orientation to health and mental health (acceptability), this model appears to meet a variety of sociocultural needs of Latino patients. More specifically, the so-called “warm-handoff” referral model wherein the health care provider invites the behavioral health specialist into the exam room to meet a depressed patient at the time of referral, appears particularly culturally compatible in light of traditional cultural values such as *personalismo* or emphasis on personal relationships even within professional settings (Manoleas, 2008b).

### Specific Aims

The purpose of this two-phase, sequential mixed-methods study is to understand how the IBH model may serve to reduce mental health disparities at one of the first points where service use disparity occurs: follow-up from initial referral to mental health services. This study will address two main questions: 1) What sociodemographic and contextual factors in the referral process predict mental health treatment initiation for depressed Latinos within an IBH setting; and 2) *Why* do Latino patients’ decide to follow up or not with behavioral health services for treatment of depression upon referral? Implications of this study are threefold: this study will help us understand if the IBH referral model actually improves follow up rates with mental health providers; results can inform best-practices in regards to improving behavioral health utilization rates for depressed Latinos; this study contributes a deeper understanding of personal reasons for following through with depression treatment (or not), and can ultimately help direct policy efforts at eliminating health and mental health disparities among Latinos.



## Literature Review

Latinos in the United States are a heterogeneous group and include Mexicans, Puerto Ricans, Cubans, Dominicans, Central and South Americans. Each group, while similar to the others in some ways, is also unique with its own history of immigration, experiences of discrimination, and ascribes to its own varying set of cultural traditions and values. As such, any discussion about Latino culture is general by nature, and the literature tends to be more focused on Mexican culture, given that they are the oldest and largest Latino group in the United States (Gonzales, 2009). Wherever possible, this review will focus on information specific to Mexican Americans because the large majority of Latinos in California (where this study is located) are of Mexican descent (Statistical Portrait of Hispanics in the United States, 2009). This paper begins with a brief overview of the literature on Latino mental health disparities; followed by a review of the research literature on IBH models of care and the relationship of these models to issues of access, adequacy and acceptability of care for Latino populations. However, because research on IBH and Latinos is in a nascent stage, the review will also draw on the larger body of literature on health and mental health services and Latino mental health utilization disparities. Major limitations in the literature are highlighted and a discussion of how this dissertation will address these gaps is provided.

### Latino Mental Health Disparities

**Epidemiology.** Prevalence of depression among Mexican Americans varies significantly by length of residency in the United States and by country of birth. Recent data indicate lifetime prevalence of depressive disorders is 14.3% among immigrant Latinos but rises to nearly 20% for U.S.-born Latinos, the latter similar to rates experienced by non-Hispanic Whites (Alegria et al., 2007). However, according to the Surgeon General's report (2001) and its supplement "Mental Health: Culture, Race and Ethnicity", Latinos have less access to mental health services, are less likely to receive mental health services, and receive a poorer quality of mental health care (i.e., guideline congruent) than Whites (Cabassa, Zayas, & Hansen, 2006; Satcher, 2001). According to the report, fewer than 1 in 11 Latinos seek care from a mental health specialist, and the rate drops for Latino immigrants to less than 1 in 20 (Satcher, 2001). Further, according to data from the Los Angeles Epidemiological Catchment Area study (LA-ECA), Mexican-Americans are half as likely as Whites to seek mental health treatment for a diagnosable mental disorder (Guarnaccia, Martinez, & Acosta, 2005). Low utilization rates among Mexican Americans have been attributed to language barriers, undocumented citizen status, and lack of insurance (Guarnaccia, et al., 2005). Under-utilization of mental health services and untreated depression among Latinos is problematic because it has been associated with more severe physical and mental health outcomes and increased medical cost (Flaskerud, 1986; Hinton & Areán, 2008; Marin, Escobar, & Vega, 2006).

Depression among Latino populations is not well understood, but has been associated with older age, low socioeconomic status, years of residency in the United States ("acculturation"), female gender, and concurrent comorbid chronic medical conditions such as diabetes and heart disease (Black, Markides, & Miller, 1998; Cook, Alegria, Lin, & Guo, 2009; Vega, Bohdan Kolody, Valle, & Hough, 1986a). There is a growing body of evidence demonstrating years of residency in the United States and being born in the United States appear detrimental to Latino mental health (Alegria et al., 2007; see also: Balls Organista, Organista, & Kurasaki, 2003 for a review of studies). The literature attributes increased depression prevalence among Latinos over time and among U.S.-born Latinos to acculturative stress (stress rooted in the process of adapting to U.S. culture), experiences of discrimination, low socioeconomic

status, and break-down of traditional “protective” cultural norms such as familism (emphasis on the family unit, a major source of social support) with greater acculturation to U.S. culture (Bazargan, Bazargan-Hejazi, Baker, 2005).

The term acculturation, as defined by Berry (2005) is a process of change characterized by population-level phases of contact, conflict, and adaptation to a new culture or host society. While lack of methodological uniformity on the measurement and definition of acculturation across studies make generalizations about the relationship between acculturation and mental health across Latinos difficult (Horevitz & Organista, 2013; Rogler, Cortes, & Malgady, 1991), major studies support the existence of a Mexican “health paradox” in the domain of mental health (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 2000; Vega et al., 1998). The data suggest that, paradoxically, newly arrived immigrants have a lower prevalence of mental illness, in particular disorders such as depression, anxiety and substance abuse than Whites, despite the significant linguistic, cultural and socioeconomic barriers they face as newly arrived immigrants. Conversely, U.S.-born Mexican Americans and subsequent generations experience a higher prevalence of mental illness than their newly arrived counterparts, contradicting assumptions about the salutary effects of assimilation (Alegria et al., 2007). The literature remains inconclusive, however, about which aspects of the acculturative experience may influence utilization of mental health services (Cabassa et al., 2006; Cook, Alegria, Lin, & Guo, 2009b; Escobar, Nervi, & Gara, 2000).

**Barriers to care and pathways to treatment.** While Latinos utilization rates of mental health services for diagnosed mood disorders have increased to approximately 34% in recent years (Alegria et al., 2006), Latinos, in particular Mexican-Americans, remain less likely to initiate and utilize specialty mental health services than Whites, and are also more likely to drop out of mental health treatment (Guarnaccia, et al., 2005; Guarnaccia, Martinez, & Acosta, 2005; Miranda & Cooper, 2004; Snowden & Yamada, 2005a). Empirical studies suggest that up to 80% of foreign-born Mexican Americans receive no treatment for psychiatric concerns (Vega et al., 1998; Vega et al., 2001). Consistent with trends in the acculturation literature, Keyes and colleagues (2012) found that higher levels of Latino ethnic-identity and being primarily Spanish-speaking predicted lower rates of mental health service utilization for mood disorders as compared to English-speaking Latinos or those who scored lower on scales of Latino ethnic-identity. The disparity in mental health utilization rates within Latino groups is not well understood, but has been attributed to stigma related to mental health concerns, lack of insurance, linguistic barriers, differential perception of and/or cultural explanation of symptoms, lack of culturally competent providers, and use of alternative providers such as *curanderos* or natural healers (Alegria et al., 2008; Keyes et al., 2012; Manoleas, 2008b).

In their review, Guarnaccia and colleagues (2005) categorize Latino barriers to mental health treatment into: provider-level barriers, such as lack of cultural competence and/or bias or discrimination, barriers in the service system, such as cost of service and lack of insurance, community-level barriers, such as lack of transportation, barriers in the social networks of people in the community, such as relying on family members for support, and person-centered barriers such as low-acculturation, stigma, self-reliant attitude, or differential perception of symptoms. These barriers have been supported in other rigorous systematic reviews of the literature (Cabassa, Zayas, & Hansen, 2006). However, despite continued documentation of disproportionate rates of under-utilization, there remains a dearth of empirical information explaining specific underlying mechanisms behind this disparity (Snowden & Yamaha, 2005; Vega et al., 1998).

In general, Latinos are more likely to seek treatment for depression from medical providers than mental health specialists, and are more likely to somatize mental health issues than Whites (Alegria et al, 2002; Snowden & Yamaha, 2004). Such tendencies have been attributed to the fact that mental health issues are often stigmatized within traditional Latino culture and that somatic symptoms are more culturally acceptable (Angel & Guarnaccia, 1989; Cook, Alegria, Lin, & Guo, 2009; Humm-Delgado & Delgado, 1983; Livingston et al., 2008; Manoleas & Garcia, 2003; Manoleas, 2008a). According to studies of Mexican Americans by Vega and colleagues (1998; 2001) experiencing comorbid mental health disorders (e.g. depression *and* anxiety), being born in the United States (a proxy for acculturation), female gender, and residence in an urban setting are positively associated with seeking mental health care from *any* provider (mental health specialists, physicians and alternative providers such as *curanderos* or natural healers). However, a more recent study found that diagnosis of an anxiety disorder was not a predictor of mental health services use among Mexican-Americans (Keyes et al., 2012). Foreign-born Mexican immigrants are least likely to seek formal care for mental health concerns and are most likely to seek help from alternative providers (i.e., *curanderos*) or from family members (Guarnaccia et al, 2005; Vega et al., 2001). However, other studies suggest that use of alternative providers does not replace use of formal mental health services, but rather structural access barriers, such as perceived cost of treatment and not knowing where to seek treatment, are at the heart of differential rates of mental health utilization (De Snyder, Diaz-Perez, Maldonado, & Bautista, 1998; Lozano Applewhite, 1995).

Of those who do engage in mental health services, Latinos are more likely than Whites to prematurely drop out of mental health treatment (Alegria et al., 2006; Guarnaccia et al., 2005). Higher attrition rates have been attributed to conflict between patient expectations of mental health treatment and lack of cultural competence on the part of the mental health provider. Cultural competence with Latinos, as defined by Organista (2007), “presumes adequate cultural sensitivity and uses such understanding to acquire, and often create, assessment and intervention skills and abilities based on the social and cultural realities, as well as the assets and human potential of Latino clients” (p. 120), and has been proposed as a necessary factor in engaging and effectively treating Latinos (Flaskerud, 1986; Livingston et al., 2008; Organista, 2007). Folk beliefs about illness and the etiology of an illness affect how one presents symptoms, if and where one seeks care (and from whom), and adherence to medical regimen. Less acculturated Latinos, particularly immigrants have been found to be more apprehensive about anti-depressant medication and their more traditional holistic view of mind-body connection is often at odds with the biomedical model which views mental and physical health as separate (Angel & Guarnaccia, 1989; Flaskerud, 1986; Kleinman, Eisenberg, & Good, 2006; Manoleas, 2008a). Such differential views may lead to misunderstandings that negatively affect both patients and providers leading to treatment attrition. Conversely, more acculturated Latinos may over-rely on medication to cure physical and mental ailments (Angel & Guarnaccia, 1989; Cabassa & Hansen, 2007; Escobar, Nervi, & Gara, 2000; Morales, Cunningham, Brown, Liu, & Hays, 1999; Vega & Alegria, 2001).

In addition to cultural beliefs regarding health and well-being, other traditional values such as *respeto* (respect for elders and other persons of authority), *confianza* (the importance of trust), *personalismo* (importance of personal relationships over institutions), and *familismo* (the importance of the family unit) are central to how traditional Latinos prefer to relate and have been suggested as key aspects of culturally competent care (Organista, 2007; Maldonado Young, 2001). However, both culturally tailored and “general” interventions have shown efficacy with

Latino populations upon engagement in treatment (Flaskerud, 1986; Miranda et al., 2005; Organista & Muñoz, 1996). Empirically, ethnic and linguistic matching between patient and mental health provider appear to be one of the strongest predictors of continued engagement (consistent follow-up), though mental health outcomes do not necessarily differ between patients who see Latino providers as opposed to non-Latino providers (Kouyoumdjian, Zamboanga, & Hansen, 2003). Most importantly, the evidence suggests that once engaged in psychopharmacologic and mental health therapy for depression, Latinos respond with improvement in symptoms (Guarnaccia et al., 2005). Thus, engagement into treatment is a critical area to understand in order to reduce mental health disparities among Latinos.

### **Integrated Behavioral Health: What Do We Know?**

**Overview.** IBH in primary care has emerged as a way to reduce medical cost associated with unnecessary medical visits due to mental health concerns, and has been implemented in numerous community-based clinics across the country, larger scale HMO's (Kaiser Permanente), as well as government health care systems such as the Veterans' Administration (Butler et al., 2008). In its intended form, IBH refers to service that effectively "combines medical and behavioral health services to more fully address the spectrum of problems patients bring to their primary medical care providers" (Blount, 1998, p. 1). Integration ostensibly provides a structure wherein collaborative treatment can occur for the "whole" patient, rather than the traditional model of dichotomizing physical health and mental health in separate settings (Butler et al., 2008). However, in practice, IBH programs take on numerous forms, ranging from fully integrated collaborative care to co-location with minimal collaboration between providers (Haas, 2004; Kessler & Stafford, 2008a; Schaefer & Davis, 2004).

Blount (2003) distinguishes the following models of mental health and health services integration: coordinated services, co-located services, and integrated services. In this continuum, coordinated services refer to a model of care where medical care and mental health care are housed in separate locales, but there is some coordination between the two providers (i.e., the medical provider may refer a patient to a specialty mental health clinic and might provide a "courtesy" call to the mental health provider to inform him/her that patient has been referred there for care). However, in this model, once the patient begins specialty mental health treatment, his/her mental health treatment is under the auspices of the psychotherapist, not the referring physician. Co-located services refer to the next step on the continuum of integration wherein medical services and mental health services may be located in the same building (Blount, 2003). This "down the hall" approach to coordinating health and mental health services may facilitate better access to care, but treatment remains "silo'd" by discipline and leaves room for slippage (Butler et al., 2008). Finally, in the integrated model, mental health and medical services are not only co-located, but actually integrated as one system of care where medical providers and behavioral health consultants work together as a team, sharing information about patient care and documenting treatment in the same medical record.

The Behavioral Health Consultant (BHC) (typically licensed social workers, psychologists, and in some cases nurses) serve as members of the health care team, with the primary care provider (PCP) remaining the main provider for a patient. The BHC, like the name implies, serves as a consultant to the PCP when psychosocial issues emerge that are outside the scope of the PCP's practice (much like a medical specialist). However, even within integrated models there is considerable variation in definitions and how models are implemented (e.g., how much communication actually occurs between providers, and how involved PCPs are in patient mental health care once referred to the BHC) (Butler et al., 2008; Kessler & Stafford, 2008a). Thus, the

use of the term “integration” has been conflated with numerous models of collaborative care making it difficult to identify a “typical” model (Blount, 2003).

**Referrals.** Referrals to BHCs are pivotal and can happen in several ways. The “ideal” mental health referral in the integrated model is referred to as a “warm hand-off” wherein the PCP invites the BHC into the room during the patient’s visit and introduces the BHC as part of the health-care team working on total health and well-being (supporting patient’s psychosocial needs) (Hunter & Goodie, 2010; Strosahl & Robinson, 2008). During this warm hand-off the BHC should provide a brief overview of what BH services entail and provide basic psycho-educational materials and in some cases a brief intervention for the patient. The purpose of the so-called warm hand-off is to provide orientation to care and instill confidence in the patient, and reduce anxiety and stigma (the mental health concern is treated as any other medical concern), and begin the BHC’s engagement process with patients (Kessler & Stafford, 2008b). Alternatively, PCPs may provide a “cold hand-off”, wherein a referral is made without an in-the-room introduction to the BHC. While the referral process and subsequent treatment is highly variable by program, the *ideal* referral type is in the warm-handoff style which builds on the strengths of the integrated care model and may be especially appealing to patient groups such as Latinos (Blount, 1998; Butler et al., 2008; Felker et al., 2004; Manoleas, 2008b; Thielke, Vannoy, & Unützer, 2007).

**Treatment.** In IBH models, treatment tends to be shorter-term than in specialty mental health settings. According to the integrated behavioral health consultation model, visits with the BHC typically last between 15-30 minutes with an average of 1-6 visits (Strosahl & Robinson, 2009). Treatment is targeted at the problem specified by the PCP, though the BHC may identify a different issue. In best-integrated models, PCPs and BHCs work closely together on the patient’s treatment plan. This differs from traditional referrals from PCPs to specialty mental health services wherein the patient is referred out for therapy and the patient becomes a client of the therapist with separate records and treatment plan.

As Blount (2003) discusses, there can be a range of mental health treatment models within integrated programs. Blount also distinguishes between targeted versus non-targeted services, and specified and unspecified treatment. Targeted services refer to BH services in integrated settings that are aimed at specific populations (e.g., patients with depression who screen positively for depression) rather than non-targeted services, wherein generalized psychological distress identified by the PCP may trigger a BH referral. Specified treatment refers to BH interventions that follow a specific model (e.g., cognitive-behavioral therapy, problem solving treatment, stepped-treatment), whereas un-specified treatment refers to interventions selected by each individual BHC depending on his/her assessment of the problem.

**Efficacy.** Given the wide variability in how IBH is implemented, it is difficult to generalize about the efficacy of the IBH model on patient outcomes, cost effectiveness, provider satisfaction among other outcome variables in the literature (Butler et al., 2008). Much of the literature is descriptive and reports on case studies of integrated models at specific clinics (Kessler & Stafford, 2008a). However, several recent randomized control trials including the Primary Care Research in Substance Abuse and Mental Health for the Elderly Study (PRISM-E), Improving Mood-Promoting Access to Collaborative Treatment Study (IMPACT) and Partners in Care studies, among others, have shown that specified depression treatment within the integrated primary care setting has positive outcomes on depressive symptoms and patient and provider satisfaction (Felker et al., 2004; Gallo et al., 2004; Gallo et al., 2004; Hunkeler et al., 2006; Katon et al., 1996; Unützer et al., 2001; Unutzer, Schoenbaum, Druss, & Katon, 2006).

For example, the PRISM-E study by Ayalon and colleagues (2007) evaluated rates of mental health and substance abuse utilization among older African Americans and Whites in IBH settings as compared to referral to outside specialty mental health. The study found that older African American patients were more likely to access services (i.e., engage in at least one mental health visit) in the IBH setting than those referred out to specialty mental health. These promising results suggest that IBH may improve access to and initiation of care for ethnic minority populations; however, it is unclear if this trend can be generalized to Latinos. With few exceptions (Ayalon, et al., 2007), the majority of the research to date has focused on the effectiveness of specific interventions within IBH settings such as problem solving treatment on health and mental health outcomes among the general population.

Manoleas (2008) has argued that IBH is particularly relevant for Latinos, given that they are more likely to present to a primary care provider for depression (or for somatic symptoms of depression), and a cultural orientation to a mind-body connection in the schema of well-being. In particular, the warm handoff referral type may tap into the Latino cultural tenant of *personalismo*, effectively building on the importance Latinos place on their relationship with their primary caregiver and naturally extending this to mental health specialist via the personal introduction (Manoleas, 2008). Further, the short duration of treatment appears to be in-line with a tendency among Latinos toward “crisis orientation” in regards to seeking care for mental health concerns as well as competing demands (Flaskerud, 1986).

Very few IBH studies have looked at ethnic differences in depression outcomes, though in their meta-analysis Ell and colleagues (2010) reviewed three RCTs that showed improvement in depressive and physical health symptoms among Latinos with other comorbid chronic illnesses. However, it is unclear if IBH treatment for depressed Latinos differs in efficacy than coordinated services in primary care such as the use of depression case managers (Miranda et al., 2005). Regardless, to this author’s knowledge, there is no empirical data available examining, specifically, how the IBH model may facilitate Latino patients’ engagement into mental health treatment, or how the warm handoff referral type may serve as a bridge to treatment uptake.

#### **Gaps in the Literature: Next Steps**

While studies on efficacy of IBH intervention show promising results in regards to improving clinical outcomes for depression (Butler et al., 2008), it remains unclear whether this model can serve the specific psychosocial needs of Latino patients, as well as address issues of access and utilization. The current intervention literature misses a critical step in addressing mental health disparities in this population: initiation into treatment. In his review of the IBH literature, Blount (2003) states “in a talk in 1995, Katon mentioned that over 90% of the patients who were offered the integrated program accepted and completed the program” (p. 8). At present, there is scant rigorous research examining actual rates of behavioral health uptake outside RCT trials. Further, the current study is the first to focus on treatment uptake among Latinos in particular, filling a major gap in the literature and addressing an urgent need for information in the health/mental health disparities literature. Finally, the majority of studies on Latino mental health utilization issues focus on urban populations and there is a dearth of literature investigating IBH mental health utilization patterns among rural or semi-rural populations.

In the wake of the Affordable Care Act’s mandate for integrated services, and promising results of targeted IBH interventions for depression continue to accrue in the literature, unless utilization among Latinos is addressed or examined, this promising model may fail to effectively serve one of the most at-risk populations. Understanding whether utilization initiation rates differ

for Latinos in IBH settings, and *how* Latinos decide to pursue behavioral health treatment upon referral is a critical issue that must be addressed in order to effectively reduce and ultimately eliminate mental health disparities in this population.

## **Theoretical Framework**

### **Behavioral Model of Health Service Use**

This research is guided by Andersen's (1995) Behavioral Model of Health Service Use (BMHS). The BMHS model emphasizes the role of predisposing, enabling and need factors in predicting service use. Predisposing factors refer to variables that affect likelihood of service use, such as race, gender, age, socioeconomic status, health beliefs and attitudes, among others. Enabling factors refer to mechanisms at the community and individual-level that may facilitate or impede service use, such as accessibility of services, knowing where to go for services, income, health insurance, familial social support, among others. Finally, need refers to both perceived need on the part of the individual and evaluated need on the part of the medical professional (Andersen, 1995).

The model has been utilized in numerous studies because of its flexibility and "biopsychosocial" approach to understanding health and mental health utilization (Phillips, Morrison, Andersen, & Aday, 1998). Andersen's model, originally put forth in 1968 was modified most recently in 1995 in response to criticism to include the role of culture, environmental variables such as the role of the health care delivery system characteristics and community-level enabling factors. Additionally, it includes provider-related factors such as physician-patient relationship and gender/ethnic match in the domain of predisposing and enabling factors (Phillips, Morrison, Andersen, & Aday, 1998).

In the context of this model, the mixed-method nature of the current study is well-positioned to explore the role of predisposing factors (gender, ethnicity, age, socioeconomic status); enabling factors (patient-provider relationship, access to care, familial support); need (severity of depression score and perceived need); and environmental factors such as the health care delivery system as related to patients' decision to initiate and utilize behavioral health services for depression.

### **The Current Study**

The purpose of the current study, thus, is to systematically assess how the IBH model may serve to connect depressed Latinos with the mental health care within the naturalistic IBH setting. A main objective of the study was to examine psychosocial and contextual factors in the referral process that predict follow-up with mental health services.

**Ho1:** Patients who receive a warm hand-off referral type will be more likely to attend an initial behavioral health visit than those who receive a cold hand-off.

**Ho2:** Latino patients with English as their primary language will be more likely to attend an initial behavioral health visit than those whose first language is Spanish.

## **Chapter 2: Methods**

### **Study Design**

This sequential mixed methods study explored the phenomenon of Latino mental health initiation rates in an IBH setting. First, quantitative service use data was extracted from medical records of depressed Latino patients seeking medical care at a semi-rural IBH community health clinic. Next, qualitative data was obtained using in-depth semi-structured interviews with a sub-

sample of depressed Latino patients. Using a two-phase, sequential mixed methods study facilitated a nuanced understanding of pathways to utilization of behavioral health services for Latino patients in an IBH setting. The use of semi-structured interviews allowed for an in-depth exploration of results obtained from initial quantitative predictor analysis.

The first phase utilized a retrospective cohort study design that was based on information extracted from medical records of Latino patients referred to BH for depression at Community Health Clinic Olé (CHCO) in Napa, CA. Logistic regression was used to identify predictors of initial follow-up (uptake) with behavioral health.

Consistent with best practices for mixed methods research (Teddlie & Tashakkori, 2009) information from this first phase was explored further in a second qualitative phase wherein semi-structured interviews were used to probe significant results from Phase I by exploring aspects of the decision to follow-up (or not) with BH with a purposive sub-sample of Latino patient (N=16). Qualitative interviews were used to elucidate the *why* behind decisions to follow up or not, which is not systematically attainable from quantitative data culled from the medical record (Creswell, 2009). The sub-sample was initially estimated at approximately 20-30 interviews (divided equally between those who initiate BH services after PCP referral and those who do not), but this number was flexible and based on reaching a sufficient saturation point (Marshall, 1996). Upon completion of data analysis, the principle investigator provided an informal “report back” session at CHCO to discuss findings and obtain feedback about results from medical and behavioral health providers.

### **Participants**

The study population for Phase I of the project (N=431) consisted of medical records data from Latino patients age 18-75 who visited Community Health Clinic Olé between March 2009-August 2011 (when electronic medical records “went live”), screened positively for depression (received a score of nine or higher on the Patient Health Questionnaire given to all patients at the clinic), and were referred by their medical provider to behavioral health for treatment. Phase II of the project identified a sub-sample of Latino patients between the ages of 18-65 (N=16) who were referred to behavioral health for depression and who had signed a consent form to be contacted for purposes of the study.

**Study Site.** Napa County, known to many simply as “wine country,” has a rich history of viniculture drawing over 5 million tourists each year to taste and purchase Napa valley wines. As with any agricultural area, there is a high need for agricultural workers to tend and harvest the grapes that transform into the wines of this multi-billion dollar industry. Each year, nearly nine thousand migrant and seasonal farmworkers are employed during harvest season, most of them Latinos from Mexico. Over decades, many of these farmworker families have settled in Napa County, and gained employment in other service sectors, adding to the socioeconomic and ethnic diversity of the area. Today, just over 30% of Napa’s 134,000 residents are Latino (U.S. Census Bureau, 2010). While the wine industry produces enormous wealth for some, about 30 percent of Latinos in the county live in poverty, a striking contrast to the overall poverty rate in the county of 9 percent (Taylor, 2001; U.S. Census Bureau, 2010).

Community Health Clinic Olé (CHCO) is a Federally Qualified Health Center (FQHC) and is the only non-profit clinic in the Napa Valley. It is CHCO’s mission to provide “high-quality, affordable, compassionate and culturally sensitive primary health care” to Napa’s underserved and uninsured population ([www.clinicole.org](http://www.clinicole.org)). Opened in 1972 with the mission to provide affordable and quality health care to the migrant and seasonal agricultural workers of Napa county, the clinic now serves over 25,000 unique patients per year many of whom are not



agricultural workers. The clinic charges patients on a sliding-fee scale based on patient income. CHCO's main clinic is in the city of Napa, however, in order to meet its goal of serving the community, the clinic has several satellite clinics in nearby St. Helena, Calistoga, two homeless shelters and Napa's local community college, Napa Valley College. In addition to its host of medical services, as the main primary care provider for Napa's uninsured population, Clinic Olé offers outreach services, health education services, pharmacy assistance services and integrated behavioral health services ([www.clinicole.org](http://www.clinicole.org)).

Clinic Olé's integrated behavioral health program has been in existence for over twelve years. The behavioral health team at CHCO consists of two full-time licensed clinical social workers (LCSWs), one full-time and one part-time associate social worker (ASWs), one resource specialist and one consulting psychiatrist. The team's office is located within the main primary care clinic and is easily accessible to all PCPs and other staff. According to Blount's (2003) criteria, CHCO has an integrated IBH model of care with targeted services and non-specific treatment. CHCO's model is *targeted* because the clinic prioritizes specific patient populations for referral to BH (e.g., patients with depression, anxiety, insomnia, medication non-compliance, drug/alcohol issues). The treatment is *non-specific* because each BHC provides treatment based on his/her assessment, rather than following a specific modality. However, the most common modalities utilized by the team are behavioral activation, motivational interviewing and cognitive behavioral therapy.

The rationale for choosing CHCO to conduct this study is two-fold. First, the investigator has worked as a behavioral health consultant at the clinic since May of 2010, and is familiar with the program, providers and data management systems. The clinic itself has also expressed interest in the outcomes of this study for their own quality improvement. Buy-in from CHCO staff is particularly important for successful implementation of a research project such as this, which required staff support and space for conducting the interviews. Second, the availability of electronic medical records made the data collection process much easier than a chart-review of medical records.

### **Procedures**

This study was conducted in accordance with ethical requirements for research involving human subjects, and was approved by the Office for the Protection of Human Subjects at the University of California, Berkeley.

**Phase I.** The first phase of this study utilized a retrospective cohort design to systematically sample *all* medical records of patients meeting the criteria for entry into the study: Latino patients age 18-65 who visited the clinic between March 2009-August 2011, and who screened positively for depression and were referred to behavioral health for treatment by their medical provider. Duplicate visits (patients who visited the clinic multiple times during the study period) were accounted for by including only the first qualifying visit in the final sample (i.e., the first visit wherein they received a PHQ-9 score over 9 and were referred to behavioral health for depression treatment). The decision to include all qualifying patients into the final sample was based on an initial power analysis of the necessary sample size to sufficiently answer the questions at hand. In order to protect anonymity, medical records were de-identified (names removed) by a medical records specialist who was blinded to the study hypotheses. The medical records specialist extracted the requested data and sent the de-identified data to the primary investigator (PI) in excel. The PI then coded and transferred the data to SPSS for analysis.

**Phase II.** For the second phase (qualitative component) of this study a purposive sampling plan was utilized to recruit a sub-sample of 16 Latino patients who are between the ages of 18-65, and had been referred to behavioral health for depression. Purposive sampling frame was guided by initial analysis of predictors of initial BH follow-up from Phase I of the study. In order to investigate the multitude of factors influencing follow-up, the sample was stratified based on primary language, gender and decision to follow-up or not with behavioral health. Given the low literacy rate for this population (average education level: 6<sup>th</sup> grade) the following recruitment methods were utilized:

- 1) All adult Latino patients seeking medical attention at CHCO who scored over 9 on the PHQ-9 and who were referred to behavioral health by their medical provider were provided information about the opportunity to participate in an on-going study. During each appointment, the medical assistant verbally informed the patient that there was an opportunity to participate in the study and that participation will qualify the potential participant to receive a gift certificate in the amount of \$30.
- 2) If the patient expressed interest, the medical assistant reviewed the information and consent form with the patient and answered any potential questions. Potential participants were contacted one week after their initial BH appointment date.

The primary investigator, a bilingual (Spanish/English) female with extensive experience working with low-income Latinos in both the United States and Latin America, facilitated and conducted the semi-structured interviews. All interviews were conducted in-person and recorded. During the interview, basic demographic information was obtained including age (years), ethnicity, level of education, income, family size, employment status (and type of employment), date of depression diagnosis, other diagnoses, language preference, and time in the United States. The interviews lasted between 60-90 minutes, with the majority lasting approximately 60 minutes.

All participants were informed of the purpose of the study and why their story will help answer the research questions. In order to facilitate ease of conversation, interview questions were ordered from more general to more specific, and from emotionally neutral to those related to depression or psychosocial distress (Luker, 2008, p. 170). The final questions allowed for a “cool down” period to allow participants to “come back to a more general, emotionally detached place and get ready to finish up and let go of the interview” (Luker, 2008, p. 172). The interview schedule is listed in Appendix A of this document.

## **Measures**

### **Phase I**

***Follow-up with mental health referral.*** The dependent variable of interest was follow-up with mental health provider upon medical referral, which was operationalized as a discrete dependent variable (1= yes- followed up, 0= no- did not follow up). This information was obtained directly from the electronic medical record, where it is possible to see whether or not a patient attended a BH appointment.

***Type of referral.*** The major independent variable of interest is type of referral (“warm hand-off” versus “cold hand-off”), a dichotomous variable available directly from the medical record.

***Language.*** The second key independent variable of interest, language, was coded dichotomously. Patients’ primary language is listed in the demographic data section of their medical record.

***Severity of depression.*** Severity of depression was assessed by the Patient Health Questionnaire (PHQ-9) (Kroenke, Spitzer, & Williams, 2001), which the medical assistants give

to all patients who come in for routine medical visits and answer “yes” to the PHQ-2 (two initial symptomology questions from the PHQ-9). Medical assistants verbally ask all patients the PHQ-2 questions in their language of preference. The PHQ-9 [Appendix B] is subsequently administered by the medical assistants in either Spanish or English either verbally or in written format, depending on the patients’ stated preference. The PHQ-9, which measures depression symptoms over the past two weeks, has been tested and its reliability and validity is well-established in the general population, and more recently has been validated for Latino populations ( $\alpha > .79$ ) (Huang, Chung, Kroenke, Delucchi, & Spitzer, 2006). Each of the 9 items can be scored on a likert-type scale from 0 (not at all) to 3 (nearly every day). The scoring of the PHQ-9 is as follows: 1-4 minimal depression; 5-9 mild depression; 10-14 moderate depression; 15-19 moderately severe depression; scores greater than 20 indicate severe depression. This study assessed severity based on patient scores on the full PHQ-9, and treated severity as a continuous variable.

***Co-morbid anxiety:*** Comorbid anxiety was assessed directly from the medical record where it was possible to see if the patient carried a diagnosis of any concurrent anxiety disorder at the time of their medical visit (coded dichotomously).

***Gender/ethnic match.*** Patient gender and ethnic match with the PCP and with the BHC were coded as dichotomous independent variables (1 = match, 0 = no match) for both gender and ethnicity. This information is available from the medical record.

***Anti-depressants:*** Information regarding whether the patient had been prescribed an anti-depressant was available from the medical record and treated as a dichotomous variable (on anti-depressants or not).

***Patient-provider relationship:*** Patient-provider relationship was assessed by identifying whether the referring medical provider was also listed as the patient’s primary care provider (i.e., the patient’s “regular”) provider. This proxy measure of the patient-provider relationship was treated as dichotomous in regression analysis.

***Time until initial BH visit:*** The time between date of referral to BH and the actual appointment date was measured in days and treated as a continuous variable.

***Additional covariates.*** Additional covariates included insurance status (yes/no; those with insurance do not have to pay a co-pay for behavioral health visits), co-pay level (qualification for federal sliding-scale fee based on family income, coded nominally as sliding scale 1,2,3 with insured patients as the reference group because they do not have a copay for behavioral health visits at CHCO; sliding scale 1 indicates at or below poverty level; sliding scale 2 indicates up to 100% of federal poverty level; sliding scale 3 indicates between 100%-200% of federal poverty level), and age (treated as continuous) as listed in the medical record.

## **Phase II**

Qualitative semi-structured interview questions were open-ended and the interview guide was pre-tested with 2 patients to help modify the questionnaire for interviews, increasing the validity of answers. For example, an open-ended question to obtain information about the relationship between depression-related stigma and decision to follow up with BH or not, such as, “What did your medical provider say about depression and other services you might need? What did he/she say about the clinic’s behavioral health services?” were pre-tested and were subsequently modified using participants’ own words for the semi-structured interviews. Using the participants’ own words to modify questions and generate themes has been shown to contribute to the overall validity of the information obtained and is consistent with accepted qualitative interviewing methods (Kitzinger, 1995).

## Analysis of Data

### Phase I

Data analysis was performed on medical records data to assess differences in patient characteristics between those who were referred and attended an initial BH appointment and those who did not, and to describe reasons for non-referral. Descriptive statistics such as chi-square and t-tests were used to assess bivariate relationships between each independent variable (demographics, clinical characteristics, mental health, social context), and the outcome variable (attendance at initial BH appointment). Frequency distributions were employed to describe reasons for non-attendance. Univariate logistic regression was performed to examine the association between attending the initial BH appointment and each patient characteristic, provider characteristic, and referral context (warm hand-off versus cold hand-off). A multivariate logistic regression was performed utilizing the two hypothesized predictive factors in the model. Additional exploration of relationships (i.e., interaction) between key predictor variables of interest was also performed. Only variables that were statistically significant ( $p < 0.05$ ) in the initial univariate analyses, or significantly improved overall model fit were included in the final model. Model fit was assessed with goodness-of-fit tests. The potential for collinearity in the multivariate model was assessed by determining the correlation between pairs of independent variables. All analyses were performed in SPSS Version 18 statistical software.

### Phase II

Consistent with traditional qualitative methods for analyzing interview data, all interview sessions were recorded, transcribed verbatim, and translated. Translation from Spanish to English was completed by a professional translator. Once translated, the data was coded using DEDOOSE using categoric summaries, where individual interviews are summarized thematically. A bilingual/bicultural Latina research assistant assisted with coding and interpretation. We used both inductive and deductive qualitative analysis (Gilgun, 2005). Themes were identified using a variety of methods including *constant comparison* or line-by-line textual analysis (Ryan & Bernard, 2003), *social science queries* or searching for textual data related to research question, (Spradley, 1980), and coding *indigenous categories* or looking for unfamiliar phrases or phrases used in unexpected ways, (Strauss, 1987).

A combination of deductive and inductive qualitative analysis was used because the research question sought to understand the experience of referral and decision to engage in treatment. Thus, we paid particular attention to *stigma, assessment of need, patient-physician relationship, access to care, illness meaning*, etc. (deductive). Because of the iterative nature of this research project, we also searched for emergent themes in the data that may not have been initially considered (inductive). In addition to line-by-line coding, we also created summary overviews for each participant to ensure we were viewing the participant's narrative in its larger social context; not losing the forest for the trees. The latter is consistent with recommendations for descriptive qualitative research (Sandelowski, 2000). Additionally, we created a weighting system for several codes in particular (physician-patient relationship, confidence in Clinic Olé, and experience of referral to behavioral health), wherein there was great variability in participants' accounts of the quality of their experience. We weighted these codes on a scale ranging from 1-3, with one representing a negative account or experience, two representing a neutral account or experience, and three representing a positive account or experience. This allowed us to analyze relationships between, for example, quality of the physician-patient relationship among those who attended or did not attend an initial behavioral health visit and

explore how a positive, negative, or neutral relationship may have influenced the decision to follow-up with behavioral health or not.

Each interview transcript was reviewed and coded by both the PI and the research assistant. We achieved a high level of inter-rater reliability (0.83), and each transcript was discussed at-length during weekly meetings to ensure that our coding schema was accurately matching the data and to discuss and adjust for any coding discrepancies that arose.

## **Results**

Consistent with recommendations for mixed methods result, we first present the results from Phase I, followed by Phase II (Teddlie & Tashakkori, 2009).

### **Phase I**

#### **Sample Characteristics**

There were 1,537 Latino patients with qualifying PHQ-9 scores who visited the clinic during the study period. Of these, 470 (31%) were referred to behavioral health for depression treatment by their primary care provider. Of these 470 patients, 39 had missing data in more than one key study variable and were subsequently excluded from the final sample (N=431).

#### *Demographic data*

As can be seen in Table 1, the mean age was 43.5 years and females comprised three-quarters of the sample. The majority of the patients were primary Spanish-speakers (81%), over half were uninsured, and 33 individuals were missing data on insurance status and income. All uninsured patients met federal criteria for sliding-fee payments. Of the 222 the uninsured patients, 149 (67%) had income at or below the federal poverty line (sliding scale 1), 58 (26%) were between 0-100% of the federal poverty line (sliding scale 2), and 15 (7%) were between 100-200% of the federal poverty line (sliding scale 3). The large majority of the insured patients in the sample were covered by public insurance.

#### *Clinical Characteristics*

As can be seen in Table 1, the mean PHQ-9 score was 15.64, indicating moderately severe depression. At the time of their medical visit, 16% of the sample was documented as having a concurrent diagnosis of anxiety or panic. Just over half of the sample was documented as having been prescribed an anti-depressant.

#### *Contextual Factors of Referral*

As can be seen in Table 2, about 1/3 of patients received a warm hand-off referral type, while the remaining 64% received a cold-handoff. Over half of those referred to behavioral health were referred by their primary care or “regular” provider. There were a total of 22 medical providers. The majority of referrals (72%) were made by non-Latino medical providers. The majority of referring medical providers were female (73%) and accounted for 76% of all BH referrals. Only 6 of the 22 referring providers were men, and they accounted for 24% of all BH referrals. There were a total of 4 behavioral health consultants to whom patients were referred, all of them women; 2 were Latina. The mean length of time between referral date and date of behavioral health visit was 15 days.

#### **Hypothesis Testing**

In order to test Hypotheses 1 & 2, that a warm hand-off and English-language will predict follow-through with initial behavioral health visit, preliminary univariate analyses were performed on predictor variables and none were found to be significant. Next, key predictor variables (type of referral, primary language) were also tested in multiple logistic regression including additional covariates of interest, and none predicted follow through with initial

behavioral health visit. Thus, Hypotheses 1 & 2 were not supported by the data. Multicollinearity was assessed and ruled-out. Correlations were run among all predictor variables. None of the predictor variables were highly correlated. All variance inflation factors (VIF) were less than 10 (highest VIF = 1.01). The highest condition index was 7.0, which is nowhere near the cut-off of 30. Accordingly, there is no evidence to suggest significant multicollinearity between predictor variables in this sample.

Because of the exploratory nature of this study and the theoretical importance of the key explanatory variables of interest, Chi-square analyses were also conducted to assess the potential for interaction between the variables. An interaction between language and warm handoff were significant in univariate analysis: ( $\chi^2 = 4.82, p = .03$ ). This interaction term was subsequently entered into multiple logistic regression for further analysis and remained significant and was included in the final model ( $p = .03$ ). When the warm-handoff by language term was added into the equation, the first order term warm handoff significantly predicted follow through with initial behavioral health visit ( $p = .011$ ). In addition to the first order terms (warm-handoff and language), the final model included income levels (sliding fee scale) because the inclusion of this variable greatly improved model fit (reference group was persons with insurance). Although, the smallest p-value associated with the highest income level (sliding-fee scale 3) was only marginal ( $p = .067$ ), this is likely due to the small sample size in third income group ( $n = 15$ ).

As can be seen in Table 3, the odds ratio associated with warm handoff with the inclusion of the interaction term suggests that there is a significant differential effect of the warm hand-off referral type for English-speakers as compared to Spanish-speakers (for whom there was no significant relationship between receipt of a Warm handoff (WHO) referral type and treatment uptake). For English-speaking Latinos, the odds of showing up to an initial behavioral health visit if they receive a warm hand-off are approximately 75% lower than those who receive a cold hand-off. [Table 3].

Because of the significance of language as a moderating factor in the relationship between receipt of a Warm-handoff and treatment uptake, differences between English-speakers and Spanish-speakers were also explored in univariate analyses. As can be seen in Table 4, English-speaking Latinos in the study population differed significantly from their Spanish-speaking counterparts: more clinically distressed with higher mean PHQ-9 scores, and also more likely to be taking anti-depressant medication. English-speakers were also more likely to be insured than Spanish-speakers.

**Table 1.** Demographic and Clinical Characteristics of Sample.

Demographic Characteristics	Total N=431		Attended Initial Visit N = 228		Did Not Attend Initial Visit N= 203		P-Value
	n	(%)	n	(%)	n	(%)	
Gender							.927
Male	118	(27%)	62	(27%)	56	(28%)	
Female	313	(73%)	166	(73%)	147	(72%)	
Language							.373
Spanish	349	(81%)	181	(79%)	168	(83%)	
English	82	(19%)	47	(21%)	35	(17%)	
Insurance Status							.102
Uninsured	222	(56%)	116	(52%)	106	(48%)	

Insured	176	(44%)	98	(56%)	78	(44%)	
Poverty Level*							
At or below poverty	149	(67%)	75	(50%)	74	(50%)	.327
Up to 100% of poverty level	58	(26%)	37	(64%)	21	(36%)	.326
100% or more of poverty level	15	(7%)	4	(3%)	11	(73%)	.063
Anti-depressants							.695
Yes	223	(52%)	120	(53%)	103	(51%)	
No	208	(48%)	108	(47%)	100	(49%)	
Co-morbid Anxiety							.496
Yes	67	(16%)	38	(17%)	29	(14%)	
No	364	(84%)	190	(83%)	174	(86%)	
Depression Severity (PHQ-9)	Mean	(SD)	Mean	(SD)	Mean	(SD)	.800
	15.64	4.75	15.7	4.77	15.58	4.73	
Age	43.5	14.8	44.1	15.2	42.8	14.4	.365

\* Sliding fee scale for uninsured patients only. Insured patients do not have a co-pay for behavioral health visits.

**Table 2.** Contextual Factors of Referral

Contextual Factors	Total N=431		Attended Initial Visit N = 228		Did Not Attend Initial Visit N= 203		P-Value
	n	(%)	n	(%)	n	(%)	
Referral Type							.554
Warm Handoff	153	(35%)	78	(34%)	75	(37%)	
Cold Handoff	278	(65%)	150	(66%)	128	(63%)	
Referring Provider is PCP							.376
Yes	243	(56%)	124	(54%)	119	(59%)	
No	188	(44%)	104	(46%)	84	(41%)	
Gender Match with PCP							.927
Yes	280	(65%)	150	(66%)	130	(64%)	
No	151	(35%)	78	(34%)	73	(36%)	
Ethnic match with PCP							.842
Yes	123	(29%)	66	(29%)	57	(28%)	
No	308	(71%)	162	(71%)	146	(72%)	
WHO Gender match with BHC*							.609
Yes	109	(71%)	57	(37%)	52	(34%)	
No	44	(29%)	21	(14%)	23	(15%)	
WHO Ethnic match with BHC*							.406
Yes	118	(77%)	58	(38%)	60	(39%)	
No	35	(23%)	20	(13%)	15	(10%)	
Days to Initial BH visit	Mean	(SD)	Mean	(SD)	Mean	(SD)	.415
	15	8	15	9	14	7	

\*Of those who received a warm-handoff (n=153).

**Table 3.** Multivariate logistic regression model for factors associated with attending initial behavioral health appointment (N=431).

Predictor	B	Wald	P-Value	OR
WHO vs CHO	-1.305	6.458	.011*	.271
Span vs Eng	-.555	2.663	.103	.574
WHO*Lang	1.371	5.830	.016*	3.938
Sliding fee 1	-.174	.587	.444	.840
Sliding fee 2	.327	1.063	.303	1.386
Sliding fee 3	-1.117	3.359	.067	.327

\*Sig. at  $\alpha < 0.05$

**Table 4.** Group differences by Language.

Characteristics	Total N = 431		Primary Spanish N = 349		Primary English N= 82		P-Value
	n	%	n	%	n	%	
Anti-depressants	223	(52%)	167	(48%)	56	(68%)	** .001
Co-morbid Anxiety	67	(16%)	49	(14%)	18	(22%)	.057
Depression Severity (PHQ-9)	Mean 15.64	(SD) 4.75	Mean 15.21	(SD) 4.66	Mean 17.50	(SD) 4.70	** .000
Insurance Status Uninsured	222	(72%)	191	(59%)	31	(41%)	*.033

\*Sig. at  $\alpha < 0.05$

\*\*Sig. at  $\alpha < 0.001$

### Phase II Findings:

A total of 16 semi-structured, in-depth interviews were completed with 13 women; 3 men; 9 primary Spanish-speakers; 7 primary English-speakers. Severity of depression scores were as follows: 11 moderate; 4 moderately severe; and 2 severe. In terms of referrals, 9 received a warm handoff and 7 received a cold handoff; 7 of the participants attended their initial behavioral health visit and the remaining 9 did not.

Participants' decision to follow-up with behavioral health for depression care involved multiple inter-related contextual and personal factors. During the analysis, it became clear that each participant's decision was simultaneously influenced by factors at the individual-level (micro), clinic-level (meso) and societal/environmental level (macro). In response to the exploratory research question why did patients who received a warm handoff follow up with the behavioral health visit or not, four themes emerged from the qualitative interviews: 1) *Illness narrative* which refers to participants' understanding of the root causes and treatment preferences



for depression 2) *Connection* which refers both to participants' overall experience at Clinic Olé (i.e., sense of connection to the clinic and their PCP) as well as their experience of the referral to behavioral health 3) *Readiness* which refers to participants' readiness to engage in recommended treatment for depression; and 4) *Everyday barriers* which include poverty, scheduling issues, and adequate understanding of services being offered. Issues relating to level of acculturation (language) and gender were pervasive throughout the participants' narratives and are addressed within the context of relevant themes, below.

### **Illness Narrative**

Participants' depression narrative greatly influenced their decision to follow-up or not with behavioral health. Here, illness narrative refers to participants' perspectives on how one becomes depressed, the experience of depression, and how to heal from or treat depression. For the majority of participants, depression was intimately linked with and rooted in psychosocial stressors. The theme of socio-economic marginalization was pervasive throughout the interviews. Most prominent among these were problems with employment (loss of a job, injury on the job) and, relatedly, poverty. Nearly all of the participants were living in poverty, and this was a constant source of distress for participants. Many described feelings of humiliation associated with not being able to make ends meet for their families, and attributed their depression to poverty and under or unemployment. This was particularly true for the men, who described job and poverty related stressors as key factors in their depression, associated with feelings of inadequacy within the context of traditional gender roles (i.e., the man as family breadwinner).

*Depression, I felt like powerless to resolve my problems, that I would try to resolve my economic problems, my problems of f- family, well let's say to survive, of where to live, and uh, oh, and I felt like I had to hide in a place where no one could see me. Well if I owed anyone money, that they didn't see me, because I did not have a way of paying them back. Or, uh, or, or to be thinking "Tomorrow how am I going to come up with so much money to pay what is the, the, the rent, food, and all of that?" And uh, and, and at times I would think about, to myself I would say, I'm thinking of sleeping and not waking up tomorrow.*

- Matias, 49 year old, Spanish speaking, Mexican man with moderate depression. He received a warm handoff and followed through with the behavioral health visit

For women, financial and work-related stressors were also commonly cited sources of depression. Women also spoke about gender role stressors, particularly relating to motherhood (i.e., child-rearing), marital strife, and issues relating to aging and subsequent questions about identity, especially once their children were grown:

*And when you are left alone, because your children leave, because they leave us, and you start to feel that you are older, that you are old, ugly, used up, you begin to feel the depression... But when they start to leave and you are left alone, you start to think about yourself, and you say, "No, I'm, I'm alone. " Well, that is when you think, you start to think about yourself, right? About yourself as a woman, in how you feel, how you're doing, right? And, and you start to feel alone. Alone. Then, uh, that's when you start to feel the depression, because you*

*start to feel that emptiness, that loneliness, even though you might sometimes be surrounded by the ones you love, you feel, you have that feeling inside. Mm-hmm.*

- Anabel, 45-year-old Spanish-speaking Mexican woman, with moderate depression. She received a cold handoff, and did not follow-up with her behavioral health visit.

Additionally, comorbid chronic health conditions such as diabetes, or chronic pain also emerged as key themes in participants' depression narratives.

*Q: What do you think caused your depression?*

*A: Being not able not to do what I want to do. In the sense of like physical, like, I mean, well, since the injury I put on weight. So, that's probably problem number one. Um, and, uh, you know, I can't do what I want to do with my son, you know? Like, I can't throw a football, I can't play basketball with him, and whereas before I was really athletic. And I can't do any of that stuff anymore. You know, I can't even go grocery shopping by myself, because I can't lift the stuff. So, it's like, uh, not being able to be independent. Whereas, before, I took care of me and my son, and ... by myself. Now, it's like you have to depend on friends, family, so that-that part sucks.*

- Claudia, 32-year-old English-speaking Mexican American woman with moderate depression. She received a warm handoff and did not attend her behavioral health appointment.

The participants' view of the "root cause" of depression was inextricably linked from their beliefs about how to overcome or heal from depression.

*How to heal from depression.* Participants perspectives on this matter greatly influenced their decision to follow-up. For example, several of the men attributed their depression to loss of a job, and thus their perception of how to alleviate their depression was focused on needing services that would assist them in finding a new job. Women were more likely to describe needing to "talk it out" in terms of how to overcome depression. Others felt that medication was a crucial component of effective treatment for depression. Regardless of their views on how to cure depression, participants that sensed a match between their narrative and the services offered at Clinic Olé were more likely to follow-up with behavioral health services, barring social/environmental barriers to attending their visit illustrated in another quote by Anabel below.

*Q: What is the best way to treat depression?*

*A: The medication because the doctor prescribes it to us. And counseling – the medication is going to help us a lot, for..... the depression and that, because you can talk, like me that I'm talking to you, and, and, well, like you need to let out everything that you feel inside, like, all of our feelings, what you want, what you, uh, don't want, what has happened to us, what we, what we have lived, like, yes, I feel like that helps us relieve, about what you, what you feel, do you understand? ... So I want for you all to help me, well, like to feel in peace with myself, so that, so that my feelings could be different, so that I can see life differently. Like, I*

*need that type of help. And I feel that a Psychologist is the person most suited for this, because they are prepared to help us.*

Below, Matias describes the importance of concrete services to address the root cause of the problem.

*Q: What do you do to treat, or to reduce your depression? What makes you feel better?*

*A: Mmm. Well the best thing that makes me feel, like, talking about economic issues, try to fix the economic problems. Like, to have- to have someone here so that, if that person, example, it has, has happened to me, I owe money, there has to be a problem. There is a lot of help here, I think of, going to court, I make, them put me on a payment plan for you or something, but so that that person is not after you daily, you understand me? Like, definitely fix the problem...*

While participants had different variations regarding root cause of, and how to heal from, depression, it was their sense of whether (and how well) their needs could be met at Clinic Olé that played a particularly powerful role in their decisions to attend their behavioral health appointment. Participants' sense of the adequacy of this "match" was often presented within the broader context of their sense of overall *connection* (or lack of connection) to the clinic as a health care agency to their care providers therein.

#### **Connection to Clinic: The Patient Experience**

The participants' overall perception of Clinic Olé as an organization, the patient experience, and their individual relationships with their primary care provider played crucial roles in their treatment decision-making. Additionally, their specific experience of being referred to behavioral health for depression was critical to follow-up. The experience of the referring visit was inextricably linked to their history at the clinic, relationship with the referring provider, and perceptions of the organization as trustworthy or not.

*Feelings about CHCO.* The majority of participants described overall positive feelings about the clinic, the quality of their health care, and Latino-friendly aspects. Many listed long wait-times as a previous access barrier, but felt that this had improved more recently. As compared to Spanish-speakers, English-speakers expressed more frustration with the clinic as a whole, citing language barriers if they did not speak Spanish, as in Anabel's case, below.

*It's convenient for me. As I told you, this clinic gives me confidence, mostly because we are, there are Latinos, Latino people like us, people – well yes, Latino people that speak Spanish and everything, right? So I feel a confident coming here.*

-Anabel

*Q: So, why did you decide to utilize Ole Clinic for your medical needs?*

*A: Uh, I think that I utilized it for the way, one of the ways that, it's cheaper for me, and well, I don't have insurance, so, so it's easier to go, well, a lot, they help the Mexicans a lot, so, yeah.*

- Jose, 31-year-old Spanish-speaking Mexican man with moderate depression. He received a warm handoff and attended his behavioral health visit.

Overall, the English-speakers' narratives reflected greater apprehension about the quality of care at the clinic. While some English-speakers' narratives reflected a lack of connection to the clinic, others felt "too close" to the clinic because, for example, they had attended school with some of the medical assistants and had concerns about issues of confidentiality.

*Q: Did you have worries about going to the clinic for depression?*

*A: I was really worried another thing I was worried to is because coming here was because I went to school to medical class and there's three girls that work here that was in the class with me and they're all working here now so I was very worried like oh great they're going to see what's going on with me um which I know everything is confidential um but it was just, it was like oh hi, seen you in school when I felt so healthy and now you're working here and now I'm here for depression. So that was also another thing that kept me from coming but now I really don't care, you know I don't everyone's, nobody's perfect I'm sure everyone has their flaws you know?*

- Paola, 31-year-old English-speaking Mexican-American woman with moderate depression. She received a warm handoff and attended her behavioral health appointment.

*So, obviously I'm Hispanic but English is my first language. I think that if, and maybe this is just me, I don't know ...But I think the confusion may come when you put a primary, and you put him with, uh, a medical assistant whose primary language is Spanish. There is a lack of communication. I had a hard time understanding her [the medical assistant]. I'm not ... I can't speak for her, if she had a hard time understanding me, but I did. The accent was way too strong, and yeah. So, maybe there's confusion in there? And whether you're Russian or German or Hispanic, and speak Spanish, if your accent's that thick ...I can't really understand it.*

- Claudia

*Patient-provider relationship.* Several patients were unaware that they had a primary care provider, having seen a different medical provider at each visit, while others described a very close, trusting relationship with their medical provider. Those who described closer relationships with their providers were more likely to attend their behavioral health visit as illustrated by the contrasting quotes below.

*You know the nurses, they're very friendly, and the doctor that I have today, she's very caring. Like, she actually ... it feels like she cares about what I'm going through, so it's not just a touch-and-go type of thing. It's nice to have that good communication with her.*

- Maria, 39-year-old English-speaking Mexican American woman with moderate depression. She received a warm handoff and attended her behavioral health appointment.

*But I don't think that, at least with the first guy [doctor], he understood the whole depression part of it all... because I don't think he cared. I guess that's the best way to put it. Like, I don't know, like I tried to tell him ... you know they ask you these questions when you first come in, you know, "Have you been down for like two weeks?" or, you know, and all of the answers were pretty much "Yes." And I guess I kind of thought maybe he would elaborate on that, you know, like he ... like, "This isn't normal," you know, "How long have you been feeling this way?" And it was never a conversation or anything like that.*

- Claudia

*Context of the referring visit.* The context of the referring visit was a crucial component guiding the decision to follow-up or not with behavioral health for two main reasons: first, it addressed the *match* issue, or whether and how participants' needs would be met in regards to treating depression; and second, it was a crucial time wherein providers could address patients' concerns about their well-being, and thus enhance or detract from patients' overall sense of connection.

Many participants, especially true of Spanish-speakers, reported that the reason for their visit was a physical health complaint, but that they'd hoped the provider would address their depression symptoms (almost all of participants were familiar with the PHQ-9 and expected that those issues would be addressed during the visit). Most had hoped their medical provider would address their depression in some way, but did not know about behavioral health services at CHCO.

*Q: The day you came to see the doctor, was it for depression or for another medical problem?*

*A: No, it was for another medical problem, it was for uh, in fact they made me an- exam for the, for the blood, for the, for the thyroid. I came for the thyroid that it was, was, for another thing, I had a problem, but I don't- I don't remember, but something for the thyroid, all that. So then it was when, mmm, maybe I got the courage to just tell her that it [the depression] was bad, then...*

- Matias

*I think she [the doctor] said everything right. I was very um surprised that, that there was somebody [a counselor] here. I thought it was just internal medicine I didn't know that there was any behavioral health here.*

- Consuelo, 36-year-old English-speaking Mexican-American woman with moderate depression. She received a warm handoff and attended her behavioral health appointment.

Several of those who went in for a different medical complaint were unaware of that they had symptoms of depression, and were informed by their medical provider during the visit that they had symptoms suggestive of depression:

*Q: And why didn't you think about coming to the doctor for the depression?*

*A: Well, um, how can I tell you? Like, uh, like I've always felt like this. I think that it was something normal for me, and I said: "No, perhaps I feel like this, well, from tiredness or whatever because then when I work, I work a lot." So, um, I think that I felt like this. And it's, and this was I was already working a*

*lot, so I said: “Perhaps it’s tiredness or something.” Yeah, but I never, it’s like you say, if you don’t, if something doesn’t happen to you, you don’t experience things. Something has to happen to you so that you pay attention to things. So, I think like I say, I think that if I hadn’t gone to the doctor, well, I would have continued normally and as if nothing had happened. Yeah.*

- Jose

Others came in with the explicit goal of addressing their depression and initiated a referral to behavioral health themselves, as in Maria’s case, below:

*Q: Why did you decide to make the appointment with the doctor?*

*A: Because I didn’t ... I don’t want it to get worse. I’m hoping that it don’t get worse and I know that some medications are just ... you know they don’t work or some do, so I’m at the point where I don’t even want to take ... I don’t want to take no kind of medication for what I’m feeling, because I’m already on a ton for my illness. So I’m just ... you know I don’t know, I just ... I think talking is good you know... There was a flyer [about behavioral health services] in one of the rooms, and I was like, “How can I get hooked up with this?” And then that’s when it started, one of the nurses was like, “Oh, you know what, she’s here. Maybe we can get you in today.” So that’s how it started.*

- Maria

*Referral.* The participants’ experience of referral varied greatly. In particular, the experience of the warm handoff significantly differed considerably between participants, many participants’ experiences fell far short of the “ideal” warm handoff referral type wherein the medical provider discusses depression treatment options with the patient and, in making their referral, offers a personal introduction to the behavioral health consultant. During the interviews, it became clear that this is not necessarily how participants experienced the referral. Because all patients are initially screened for depression by the medical assistant (prior to seeing their medical provider), several participants obtained a referral (either warm or cold handoff) via the medical assistant, rather than through their medical provider (in some cases, participants reported that their provider hardly addressed depression with them during the visit). Participants who received the MA-initiated referral tended to express more frustration or confusion about the process. This was especially true if they’d come to see their medical provider explicitly for depression. In these cases, participants’ narratives reflected a sense of feeling disconnected from the process, unsure as to why their doctor wouldn’t address their concerns about depression.

*Well, they don’t give me medicine to calm me down or anything... When I went [to Clinic Olé] they, they didn’t want to attend to me. They gave me medicine for – for another thing, but not for depression... The nurse[medical assistant] just gave me a little piece of paper... She told me, here the, here she said “you are going to see this one”... She told me you are coming, to uh, to this one [behavioral health consultant]...*

- Lola, 45-year-old Spanish-speaking Mexican woman with moderately severe depression. She received a cold handoff and did not attend her behavioral health appointment.

*Q: Can you tell me about your experience being referred to behavioral health?  
A: I don't know, I just kind of feel like the girls [medical assistants] ask those questions just to ask them. Like, maybe not for the benefit of them, but it feels like it's just something they have to do... You know what I mean?...And, um, because when I've come in the past they ask you them, and they never filled out a piece of paper. So, I was like, "Why are you asking me these things? Are you really gonna remember them when you go back and fill out the top of my paperwork?... It feels like something they have to do. Like protocol. I'm like, is anyone even going to ask me about this?... Next thing I know some girl [the behavioral health consultant] walks in the room...*

- Claudia

Others experienced the referral process as meaningful and reassuring. These tended to be cases where the medical provider explicitly addressed their depression and clearly explained the behavioral health program and how it could help improve their symptoms. For these participants, meeting the behavioral health consultant (in the case of a warm handoff) added a sense of comfort and enhanced their readiness to engage in treatment. Those that described their WHO referral experience as positive, described feeling a sense of relief and comfort in meeting the BHC, felt that their understanding about depression had been enhanced by the BHC, and typically received some type of same-day intervention leading to symptom relief, or increased hopefulness about symptom remission. It should be stated that these positive experiences with the warm handoff were a minority of cases (4 out of the 9 warm handoffs).

*Q: How would you describe your visit with your doctor that day?*

*A: It was good um it was um I was scared at first to tell her anything... it went good because she's seen that I was mentally and physically just and emotionally drained just I couldn't even explain to her how I felt because there was so much that I wanted to tell her.... And she did, she said okay you know that's something um that I'm willing to help you with because you know I can tell you're going through a lot. So she understood and she helped me... She talked to me about meeting with Alicia [BHC] um ah and ah meeting with her, discussing things you know um and she had talked to me about the insomnia um all my symptoms that I was doing she gave me some of the paperwork that they have in there about depression and anxiety yeah she had told me ah you know um try you know to take care of yourself more like going to the gym, going outside, reading a book, um focus on you pretty much.*

- Paola

*I actually got the [behavioral health] appointment that day; that was the same day I came is the same day I spoke to the doctor. They kind of like, took me out of the room and said I can you know, talk to her, and that's where I started feeling okay, like this is okay to do this because it's someone that ... it's a one-on-one and I can let her know how I was really feeling, so yeah. Rosa [BHC] is pretty*

*good, I mean I like the way she talks to me and I ... I'm feeling safe about it here so ... she made me feel good.*

- Maria

*Q: It says here that you saw the behavioral health consultant that day... tell me more about that meeting.*

*A: Well I felt good, it's just that, that that was what I should have done, to have come, because at that moment I had the courage to tell her my problem, I felt comfortable, from the moment I told the doctor... so then I, I felt comfortable, with the idea to see her [the counselor]. Well it was perfect, I felt more, well with more desire to come and to tell her more about what it is that was upsetting me.*

- Matias

Regardless of referral type (warm handoff or cold handoff) the presence or absence of a careful and well-matched description of the behavioral health program by the PCP had an impact on participants' attitude towards and understanding of behavioral health treatment. Participants who described visits feeling rushed, or wherein the PCP's treatment recommendations did not match to their depression narrative or symptom complaints, were less likely to attend their behavioral health visit. English-speakers were more likely to question the treatment model and were also more likely to have had outside experience with longer-term psychotherapy:

*And I think maybe, you know, three to six visits maybe would work for somebody. But I think like in my case ...I think it's taken eight months[of outside therapy] to get where I am now. You know, I think there's-I think there's different levels of depression, you know what I mean? I just have a lot of problems, you know? I just don't think three to six visits is enough.*

- Claudia

*She [the doctor] told me to go see one of the counselors. I thought, frankly, I've already seen the counselors, but what they tell me is: "Relax, um, go for a walk". And as I said I'm studying right now, sometimes I don't have time to go for a walk, that is why I need something for anxiety, so it helps me relax if I have a test or if I have to do something at school, and that is what helps me to calm down. That is why right now I haven't seen any counselor..., frankly, what you want is out of depression. Perhaps yes, I would have accepted [behavioral health treatment] if... Let's say, she would have given me the pills and the counseling at the same time. That way I could have help in the short term and long-term.*

- Roberto, 29-year-old Spanish-speaking Mexican man. He received a cold handoff and did not attend his behavioral health appointment.

While some participants left their referring visit feeling reassured about behavioral health services, others left feeling confused by the differences between behavioral health and traditional therapy, or with questions about roles.



*Well, I've had counseling before, um, separate from this, and I thought it was ... I don't know. I don't know if it's 'cause they're different or what. Obviously they are. But to me, the counselor is more like, like she'll tell you stuff, but the one I had before was like more, um, she would listen, but then she would like tell me afterwards, like you know we should probably do this or you know this or you know, you gotta think about your kids for the future instead of thinking the present. You know what I mean? And she would ... like, I don't know, it's just really different than the behavioral health, I think.*

- Cecilia, 32-year-old English-speaking Mexican-American woman with severe depression. She received a warm handoff and did not attend her behavioral health appointment.

*Well, she [the doctor] just told me that it was a program and if I wanted to, you know, participate in the program, and, uh, and my mom that's when she told me that we'll go ahead and do it. And so I wasn't really explained ... I didn't know what I was participating in.*

- Christina, 24-year-old English-speaking Mexican-American woman with moderate depression. She received a warm handoff and did not attend her behavioral health appointment.

## **Readiness**

Beyond the experience of referral, severity or acuity of symptoms greatly influenced the decision to follow-up with behavioral health. Several participants reported having previously received referrals to behavioral health, but that they had “held off” until treatment was absolutely necessary. In fact, three participants disclosed that they previously agreed to behavioral health visits and no-showed or canceled their appointment because they didn’t feel “ready”, or their symptoms.

*Q: What made you decide to come to your behavioral health appointment?*

*A: Because I felt so bad. I thought that I, I had to get all the help out there.*

*It could get worse in the future, and you have to think how to deal with it because, no, we don't want our kids ... well, I wouldn't want my kids to see me like this, since I've always been able to help them in anything they need, and you know that with depression and a lot of diseases, well, you can't even take care of yourself, not to mention your kids.*

- Rosario

*Support from family and friends.* Contributing to *readiness* was the role of family or close friends in participants’ treatment uptake. Those that reported having talked with family or friends about their depression and had received support regarding the possibility of obtaining behavioral health services were more likely to have attended an initial visit. Conversely, participants who reported keeping their depression private from family or friends were less likely to have attended their behavioral health visit.

*Q: Had you told your husband about your depression?*

*A: Yeah he knew, he's like you look exhausted you know like you're not, you go to work you come home and you don't talk like something's wrong, what's wrong with you? And I'm like well I don't know, I don't know, you know, and he's like something's wrong you need to go see a doctor or like I can't, he's, he's you know I'll go with you and I think like he said he said that I just looked horrible you know I just, I did I mean I'd get up take a shower and go to work and come home and cook dinner and then eat and go to sleep, try to go to sleep at least.*

*Q: Was his urging part of your decision to seek medical attention for depression?*

*A: I think his urging helped too because if, if he wouldn't have pointed it out so much I probably would have been like I'm fine you know like you're the crazy one to think I'm crazy you know? Um so yeah it was definitely like a joint decision.*

- Paola

*The truth? Um, they [my family] know I suffer from it [depression], but no, I don't tell them how I feel, because um, they also have their own problems and that's why I don't let them know. For example, I feel, when I feel the symptoms of depression increase at night, and they, well they are asleep and only well, well I, um, I feel, I battle with my depression... No, no, I don't want to worry them with that issue.*

- Roberto

*Ah, well, I said, I am going to see what's what, and I commented to a friend, and she said "Lordes, this is something you shouldn't leave for another day, it could give you a heart attack, this and that." "Ah," I said, "nothing will happen, it's the nerves." I said "tomorrow I will go." "No, Lordes, if you feel this way go to the hospital immediately." I said "and why will I go to the hospital, so that they can take out[money] what I don't have?" And, and here [Clinic Ole] I, I feel good, I feel good and that's why I better come here.*

- Lordes, 66-year-old Spanish-speaking Mexican woman with moderately severe depression. She received a warm handoff and attended her behavioral health appointment.

### **Everyday Barriers**

While the depression narrative and patient experience at CHCO informed participants' understanding of and attitude toward behavioral health treatment, barriers rooted in poverty, health literacy and miscommunication or misunderstanding about the behavioral health appointment further influenced whether or not participants attended their behavioral health appointment.

For many, paying to attend a BH visit posed a significant barrier to BH service utilization. It is interesting to note, however, that most participants who cited financial constraints as reason for non-attendance did not endorse this as a reason for ever missing a medical visit, which at CHCO are more expensive than behavioral health visits:

*They called me to say to come to my appointment, not to forget about it. I said yes, but they said it was going to be twenty dollars. I said, no, [my doctor] told*

*me I didn't have to pay because I can't right now; I can't; I don't have enough. She said, you can pay later. I said, no... If I feel bad and I want to keep talking to that person to feel better, I won't be able to do it. Why? Because I have to be paying and paying. So it's better to cancel the appointment; I don't want anything. Cancel it. And my son said, well, mom, if they're charging you, why do you go? Instead of that, go for a walk. So I cancelled it, and I haven't been able to see any counselor. I haven't.*

- Rodelia, 56-year-old Spanish-speaking Mexican woman with moderate depression. She received a cold handoff and did not attend her behavioral health appointment.

For others, misunderstanding about the appointment time or appointment cancellation, rescheduling, etc.; resulted in lack of treatment uptake:

*Q: Can you tell me why you decided not to attend your behavioral health visit?*

*A: Because, um, they cancelled it on me. Because I apparently, she wasn't gonna make it. So um, they never rescheduled another one with me. Uh they said they were, but they never did. They just cancelled it, so I never came to talk to her.*

- Sandra, 19-year-old English-speaking Mexican-American woman with moderately severe depression. She received a warm handoff and did not attend her behavioral health appointment.

## **Discussion**

The integration of behavioral health services within the primary care setting, and the warm handoff in particular, is widely regarded as a promising model for improving access to depression treatment for Latinos who traditionally experience access barriers to mental health services and low rates of treatment uptake. The purpose of this study was to identify predictors of depression treatment uptake as well as to qualitatively understand the experience of referral and treatment decision-making process in an IBH clinic. Despite the promise of IBH, only half of Latinos referred to behavioral health for depression treatment at Clinic Olé attended an initial visit. Thus, this study's exploration treatment uptake is both timely and important.

With regard to psychosocial and contextual predictors of depression treatment uptake, none of the two main hypotheses were supported. That is, neither the warm handoff referral type (Hypothesis 1) or English-language (Hypothesis 2) predicted treatment uptake. However, supplemental analysis revealed that language had a differential effect on treatment uptake for English-speaking Latinos who received a warm handoff. Specifically, English-speaking Latinos who received a warm handoff were *less* likely to attend an initial behavioral health visit for depression than those who received a cold handoff. Thus, quantitative findings provide no support for the effectiveness of the warm-handoff in increasing treatment uptake in depressed Latino patients, and in this case seem to suggest the opposite effect for more acculturated patients. These findings raised questions about possible differences between language subsamples and more general questions about the referral process that were addressed in qualitative interviews in order to elucidate the lack of quantitative findings.

The lack of support for Hypothesis 1 is surprising, given that the warm handoff has been theorized to be culturally compatible for Latinos, particularly those who adhere to more

traditional Latino cultural values such as *personalismo* or the desire for a more personalized professional experience (Manoleas, 2008b). Unexpectedly, English-speaking Latinos (ostensibly higher in U.S. acculturation) who received a warm handoff were 73% less likely to attend an initial behavioral health visit for depression than those who received a cold handoff. Whereas, for Spanish-speakers (lower in U.S. acculturation), receipt of a warm handoff referral type was independent of treatment uptake. The lack of significance of the warm handoff for Spanish-speakers (who would be considered to adhere to more traditional Latino cultural values and norms) and the *negative* effect of the warm handoff on treatment uptake for English-speaking Latinos is in contrast to the existing literature, which shows that Latinos higher in acculturation are more likely to seek and obtain mental health services (Satcher, 2001; Vega, Kolody, Aguilar-Gaxiola, & Catalano, 1999).

One possible explanation for the lack of support for Hypothesis 1 is the variability in the implementation of the warm handoff itself. Specifically, qualitative findings revealed that the style and quality of the warm handoff varies tremendously and is not accounted for by the use of warm handoff as a dichotomous variable. Moreover, the theoretical basis suggesting the cultural compatibility of the warm handoff for Latinos (Manoleas, 2008b) assumes an “ideal” referral involving both the medical provider and behavioral health consultant working together to enhance patients’ sense of understanding and trust in behavioral health treatment. However, qualitative findings revealed that most participants’ experience of the warm handoff fell far from the ideal, and this was not accounted for in the medical records data used. A second possible explanation could be due to selection bias. It is unclear why some patients received a warm handoff versus a cold handoff, and what factors contributed to provider decision-making around this process. While assessing differences in patient characteristics between these two groups was beyond the scope of this study, anecdotal responses from CHCO medical providers during the informal report back about study results suggest that the provider decision-making process around type of referral is highly subjective. Providers cited feeling time-pressure to complete their visit with the patient, and also frustration that a behavioral health provider was not always available for a warm handoff as key reasons for a cold handoff, and cited requesting a warm handoff when they felt a patient was in crisis or “really needed it”. Certainly, more systematic research into the decision-making process is warranted to obtain a more accurate assessment of the efficacy of the warm handoff versus cold handoff.

The lack of support for Hypotheses 2 was also unexpected, given that there is robust evidence to suggest that English-speaking Latinos are more likely to seek and access mental health services (Keyes, et al., 2012; Satcher, 2001; Vega et al., 1999). Taken together, findings from Phase I suggest a more complex process of referral and treatment uptake than what was captured by medical records data. Thus, the ability to qualitatively explore patients’ the experience of referral and treatment uptake decision-making process in Phase II helped clarify and expand on quantitative results.

Qualitative findings point to the importance of contextual factors contributing to treatment uptake among Latinos in IBH settings, and elucidated how the experience of referral and expectations of care may differ by level of acculturation. Of particular importance was the role of the patient narrative about depression (i.e., beliefs about causes and treatment preferences), the primacy of the relationship with the medical provider and participants’ overall experience of referral to behavioral health. Additionally, qualitative findings highlighted the role of environmental barriers to accessing care such as cost of treatment.

Participants' *illness narrative* impacted whether or not they felt that behavioral health was an appropriate treatment. One of the key aspects of the *illness narrative* theme was whether participants felt that the treatment offered matched their beliefs about and preferences for treatment. This was true for participants who desired medication and for those who believed in the importance of "talking it out" through therapy. Gendered narratives of depression and how to heal from it were prevalent, with men endorsing a need for concrete solutions to depression such as assistance obtaining employment, in addition to therapy, whereas women mainly preferred to "let it all out" or *desahogarse* via therapy.

The importance of eliciting and matching patient treatment preference has been echoed in the broader literature on help-seeking and treatment adherence (Fernandez y Garcia, Franks, Jerant, Bell, & Kravitz, 2011). In fact, several recent studies have found a positive relationship between matching treatment preference to treatment uptake and improved adherence among Latinos and other depressed populations (Fernandez y Garcia, Franks, Jerant, Bell, & Kravitz, 2011; Lin et al., 2005). Wrap-around services for depression including offering case management in addition to therapy to address concrete needs associated with lower SES has also been shown to improve depression treatment uptake and outcomes for Latinos (Miranda, Azocar, Organista, Dwyer, & Areane, 2003; Miranda et al., 2005).

Participants who reported stronger relationships with their primary care provider and greater overall sense of trust in the clinic (*connection*) were more likely to attend an initial behavioral health visit, regardless of warm or cold handoff. The patient experience of the referring visit and referral process, varied significantly among participants. Participants who described feeling listened-to and understood by their PCP, and whose concerns about depression were directly addressed during the referring medical visit were more likely to attend an initial behavioral health visit. Interestingly, English-speakers (in particular those who did not speak Spanish) were more likely to describe their relationship with the clinic or with their PCP in negative terms, citing lack of trust in the clinic as a whole, and disjointed or frustrating experiences with their PCP.

The importance of the provider-patient relationship in treatment adherence and outcomes has long been emphasized in the psychotherapy literature (see for example: Horvath & Symonds, 1991; Krupnick et al., 1996; Lambert & Barley, 2001). More recently, this relationship has been examined and supported as a predictor of adherence and patient satisfaction in the medical literature (Fuertes, Boylan, & Fontanella, 2009). In fact, a recent study by Kravitz and colleagues (2011) found that trust in the PCP, and the PCP's ability to convey competence when discussing depression treatment was a crucial component of depression help-seeking in primary care.

For participants who described a positive, trusting relationship with their PCP and/or Clinic Olé, the receipt of a warm handoff (meeting the BHC) versus cold handoff became less of a factor in the decision-making process around treatment uptake. For others, the warm handoff was a cornerstone component of treatment uptake in terms of reducing stigma and enhancing sense of engagement with the BHC. An "ideal" warm handoff, according to participants, involved interactions with the BHC wherein participants felt listened to and "comfortable with" the BHC, learned about depression and its treatment, and received some sort of intervention leading to immediate symptom relief or hope about treatment. However, less than half of patients interviewed reported a positive experience with the warm handoff. Most participants interviewed found the warm handoff experience to be confusing, and disconnected from their overall sense of care. These tended to be cases where participants felt their medical providers had not adequately addressed their concerns about depression and treatment, or where the referral was initiated by

the medical assistant with no or little explanation from the medical provider about what was happening or why it was happening. In these cases, the warm handoff was experienced more as a splintering, rather than an integration of care; an event they found confusing, or, at best, simply not memorable. Thus, the mere receipt of a warm handoff appears to not be sufficient to engage patients into care, especially when confusing or not experienced as particularly “warm”.

Even in “ideal” referral scenarios, *everyday barriers* related to poverty as well as health literacy interfered with treatment uptake. Many participants described readiness and a strong intention to engage in behavioral health treatment, but ultimately did not attend an initial visit due to concern about the cost of treatment. Others have found similar results when assessing *intention to treat* versus actual treatment uptake (Ishikawa, 2013), and have also highlighted the role of environmental barriers to accessing care in spite of a desire to obtain treatment. For example, despite a sliding-fee scale for uninsured patients at CHCO, the reduced cost of \$20 for a behavioral health visit represented a catch-22 for many participants whose depression narratives often attributed the cause of depression to living in poverty and not being able to make ends meet for their families. Thus, having to pay for a behavioral health visit was experienced by some as exacerbating the root cause of depression, even when they described feeling that behavioral health treatment would be helpful. It is important to note, however, that most participants who cited financial reasons for non-attendance did not cite this as a reason for having missed a medical visit in the past, suggesting the perception of medical treatment as more important than behavioral health treatment.

For others, in particular monolingual Spanish-speakers, low health literacy related to understanding the nature of services being offered or confusion about when or how to make an appointment correspond to a lack of *enabling* factors as outlined in Anderson’s (1995) behavioral model of health service utilization. Environmental barriers corresponding to Latinos’ sociopolitical and marginalized status in the United States are consistent with the broader help-seeking literature, which emphasizes that barriers related to poverty, stigma and low-literacy levels are serious impediments to obtaining mental health treatment for Latinos (Alegría et al., 2008; Cabassa & Zayas, 2007; Guarnaccia et al., 2005; Satcher, 2001; Vega & Alegría, 2001; Woodward, Dwinell, & Arons, 1992). Although IBH appears to address commonly cited barriers for Latinos such as *access to care* and *knowing where to seek care* (Cabassa et al., 2006; Snowden & Yamada, 2005a; W. A. Vega & Lopez, 2001a), poverty and health-literacy related barriers were commonly cited as reasons for non-attendance for interviewees.

This study is constrained by several limitations. First, results from this study may not be generalizable beyond the clinic at which the study was conducted. CHCO is a Latino-serving clinic, meaning that there is an emphasis on “culturally competent” intervention, which may not be representative of the experience of care at other community clinics that do not explicitly seek to serve the Latino community in a culturally competent manner. However, at a broader level the results are useful to guide models of care for CHCO and other similar IBH centers. A second important limitation of this study is selection bias. Because all participants were recruited from CHCO, the information obtained is not representative of the larger Latino population in that the study population is a self-selecting group already seeking medical care for mental health/health concerns (i.e., as compared to those who may not seek medical attention for physical/psychological distress).

Because of the retrospective cross-sectional nature of Phase I of this study, the data only captured a “snap shot” of the patients receiving care at CHCO. Furthermore, data were limited to that which was documented in the medical record, which is subject to human error. Additionally,

out of the initial sample of 1,537 who screened positively for depression, only 470 patients were referred to behavioral health for treatment (receiving either a warm handoff or cold handoff). It was beyond the scope of this study to assess why less than 1/3 of Latinos who screened positively for depression were referred to behavioral health. Moreover, medical records data could not account for the reasons why some patients received a WHO versus CHO referral type. As mentioned previously, anecdotal evidence from the report back to providers suggest that the provider decision-making process around referral and what type of referral (WHO or CHO) is highly subjective, and bias in this process may have influenced the ability to accurately assess the impact of the predictor variables on treatment uptake.

Additionally, as was highlighted by qualitative findings, the construct validity of certain variables such as the WHO is limited, given that it could not account for the more nuanced characteristics such as *quality* of the referral. However, the mixed methods nature of this study (i.e., qualitative follow-up) allowed some exploration beyond the limitations inherent in using cross-sectional medical records data.

With regards to the qualitative interview component of this study, personal information about mental illness is sensitive by nature, and is often associated with stigma (Vega & Lopez, 2001). As such, interviewees may have been reticent to be forthcoming with information about their experience of depression and choices to follow up or not with treatment. Conversely, social desirability bias may have influenced participants' reports about their feelings about CHCO and plans for following-up to depression treatment. A further potential challenge was the fact that the primary investigator, although bilingual, is not is not Latina and participants' willingness to open up to a non-Latina may have been limited by this factor.

As recognition that a dichotomized health and mental health system is insufficient to address health and mental health disparities among Latinos and other ethnic minority populations grows, research is urgently needed to understand *what works* in the rapidly proliferating IBH settings not only in terms of treatment intervention, but also in regards to *how to engage patients into treatment* in integrated settings. This study adds to the growing literature exploring the potential of integrated primary care to reduce mental health utilization disparities among Latinos. More specifically, this dissertation is the first to evaluate the effectiveness of the IBH model, including barriers to behavioral health treatment for depression among Latinos in a naturalistic Latino-serving IBH setting.

Although IBH is widely considered a promising mental health treatment model for Latinos and other underserved populations (Cabassa & Hansen, 2007; Manoleas, 2008b; Sanchez, Chapa, Ybarra, & Martinez, 2012; Simon et al., 2001), the results from this study suggest that depression treatment uptake among Latinos remains a problem in this population, even when structural barriers are removed via co-location of services. Reducing disparities in depression treatment uptake for Latinos will require more than co-location of services and a recommendation for follow-up from the PCP. This study has shown that good patient-centered care wherein Latino patients feel listened to and genuinely cared about by their medical provider is a cornerstone of adherence to recommendations about depression treatment. Findings from this study also suggest that eliciting patient's illness narrative and carefully matching treatment recommendations with treatment preferences is critical. Such elements of medical care will be increasingly important in the context of health care reform and the patient-centered medical home. Research on best-practices for eliciting patient preferences and patient empowerment during the medical visit is gaining attention (Alegría et al., 2008; Cortes, Mulvaney-Day,

Fortuna, Reinfeld, & Alegría, 2009), and future research specific to how these elements should be incorporated in IBH settings should be included on the health services research agenda.

Additionally, while the warm handoff has been touted as a best practice of IBH care, this study highlighted a gap between “ideal” and “real world” implementation of this practice. That the majority of interview participants either did not receive a warm handoff, and of those that did, many found it confusing is indicative of a need to engage in research that can further identify specific elements of the warm handoff that work to engage patients into care. A randomized study assessing the role of the warm handoff on treatment uptake is a necessary next step to better understand the effectiveness of the warm handoff versus cold handoff, and would help address the limitation of selection bias in the present study.

Moreover, given the differential effects of the warm handoff depending on language, more research is urgently needed to address how to tailor this referral practice to patients with distinct language abilities and with varying degrees of health literacy, experience in the health care system, and with differing expectations and preferences for depression care. A reasonable next step would be to ask: for which patients is the warm handoff referral (versus a cold handoff referral) appropriate or necessary, and what specific elements comprise an effective warm handoff for those individuals? Identifying the key dimensions of effective referrals could lead to the development of quality measures to improve the effectiveness of warm handoff referrals. Certainly the patient-provider relationship, trust, and provider-initiated discussion of patient treatment preferences (matching) should be included and further operationalized in future studies.

The gap between ideal and real-world implementation of the warm handoff also points to a significant health care policy concern that may be contributing to the fragmented or rushed feeling described by many of the interview participants in this study, as well as by the providers during the informal report back to CHCO. Namely, public insurance do not reimburse clinics for warm handoff referrals. Despite the fact that the patient has a face-to-face visit with a behavioral health provider who (ideally) provides some sort of same-day intervention, this practice cannot be billed to insurers because it is considered a same-day visit as the medical visit ([www.cms.gov](http://www.cms.gov)). While such a policy is useful for preventing over-billing and reducing costs to the health care system, the unintended consequence of such a policy may be that (1) there is less incentive to offer warm handoffs; and (2) that when offered, there is less incentive to spend the time needed to make it high-quality (i.e., rewarding brief “meet-and-greet” warm handoffs, rather than longer, more in-depth sessions). Policies that enable clinics to offer same-day initial visits with the behavioral health consultant (as well as other same-day services) might eliminate a significant barrier to care for patients (<http://www.ccalac.org>). Future qualitative studies could also help inform such policies by examining the provider perspective on behavioral health referrals, and their perceived barriers to “ideal” implementation in real-world IBH settings.

Latinos in the U.S. disproportionately experience high levels of poverty, and larger scale policies and interventions aimed at improving fair employment opportunities is an undeniable broad implication of this study. On a more immediate level, the hesitance to pay for behavioral health visit also highlights that, for low-income uninsured Latinos, medical care may be valued over mental health care in terms of perceived necessity. Thus, educational and outreach campaigns to promote understanding of mental health and emphasizing the importance of caring for mental health would benefit this population and, with a preventive focus, might be able to reduce overall treatment necessity (Reinschmidt & Chong, 2007; Vega & Lopez, 2001a). Additionally, there is a need for holistic wrap-around interventions attending to the social



realities of Latino patients. Features of such interventions include comprehensive case management, as well as the ability to offer telephone-based therapy (Ell et al., 2010; Garcia, Franks, Jerant, Bell, & Kravitz, 2011; Katon et al., 1996; Williams et al., 2004), to improve access to care. Presently, community health clinics are not reimbursed for case management or telephone-based psychotherapy ([www.ibhp.org](http://www.ibhp.org)). Federal and state-level policies allowing for reimbursement of these activities in IBH clinics will be necessary in order to incentivize comprehensive care that can better serve Latinos and other underserved populations. Although case management and outreach are traditional components of community health clinics, these services have been excluded from much of the IBH literature and subsequent practice models, which tends to emphasize behavioral interventions rather than holistic psychosocial interventions for depression. Future research should examine how additional service components could further enhance availability and accessibility of comprehensive depression care for Latinos in IBH settings.

## Appendix A

### Interview Schedule

Introduction: purpose of research, tape recorder/confidentiality, conduct of interview

### CLINIC HISTORY

1. How long have you been a patient at Clinic Olé?  
*Prompt:* Why did you choose Clinic Ole to receive medical care?
2. How do you feel about the quality of health care you receive at Clinic Olé?  
*Probe:* Why? What makes you feel this way?
3. Do you have a regular provider that you usually see at Clinic Olé?  
*Prompt:* How would you describe your relationship with your health care provider?

### DEPRESSION NARRATIVE

TRANSITION: (“I’d like to talk with you a little bit more specifically about your experience with sadness or depression...”)

*At your last medical appointment you answered questions on a screening form that indicated that you have been experiencing symptoms of depression or sadness.*

4. Can you explain what depression feels like to you?  
*Probe:* tiredness, sadness, lack of energy, anxiety, anger, irritability, sleep disruption, etc.
5. Do you do anything to take care of your depression?  
*Prompt:* What makes you feel better? What makes you feel worse? (Tell me more about that)
6. Does your family know you have symptoms of depression?  
*Prompt:* Can you describe how they have reacted to your symptoms?
7. Do you ever feel concerned about what others might think about your depression?  
*Prompt:* Why is that?

### DEPRESSION TREATMENT

8. On the day your provider became concerned about your depression symptoms, why had you gone to the clinic?  
*Probe:* family, symptoms, functioning  
Expectations of the visit?
9. Prior to coming into the clinic, how had you been feeling?  
*Probe:* Why now? Sought treatment elsewhere? Tried other remedies/sources of support (e.g. church, friend, family)? First experience with depression?
10. How would you describe the quality of your relationship with the health care provider you saw that day?  
*Prompt:* Was it your usual care provider? How would you describe your comfort level with that provider?

11. Did your health care provider talk with you about depression at that visit?  
*Prompt: What do you recall him/her saying?*

### **REFERRAL**

*Transition: At Clinic Ole, we have a team of specialists or counselors that help treat depression. Many times patients are referred to a counselor for depression treatment.*

12. Do you remember if you were referred to a specialist/counselor for depression?  
*Prompt: How did you know that you'd been referred?*
13. Tell me about that visit day when your doctor referred you for a counseling appointment for depression.  
*Prompt: What was your experience like?*  
What did your doctor say about the counseling program?
14. Sometimes our health care providers send in a specialist or counselor to talk with patients about depression symptoms: did he/she send in someone like to talk with you more about your depression?  
*Prompt: Who did he/she send in?*  
How was that person introduced to you?  
What did that person speak with you about?
15. How would you describe your experience with the specialist?  
*Probes: understanding of the program, reaction to BHC*
16. How did you feel about the idea of seeing the counselor for your depression?  
*Probes: Hopeful about psychotherapy treatment? Feelings about medication vs psychotherapy vs alternate treatment, hx of previous counseling/psychotherapy?*
17. Who told you that you were being given an appointment to follow up with the counselor?  
*Probes: how did you know when your appointment was? What did you think the appt was for?*

### **PATHWAYS/DECISION TO FOLLOW-UP**

*TRANSITION: I'd like to ask you a little bit more specifically about your decision to follow up or not on the appointment*

18. Did you visit/not visit the specialist/counselor? Why or why not?
19. What were your expectations about what would happen when you went to see the counselor?  
*Prompt: How many visits did you think you'd go to with the counselor?*
20. What were your hopes about seeing the counselor?
21. What were your fears or doubts about seeing the counselor?
22. Do you know or talk to anyone else who has been to see one of the counselors?  
*Prompt: What did they tell you about the experience?*

23. Sometimes people like their family to know that they are going to talk to a counselor about depression. Did you talk with your family about this? (Why? Why not?)
24. How did (or would) your family react to the idea of you talking with a counselor about depression?
25. How did (or would) your friends react to the idea of you talking with a counselor about depression?

**COOL DOWN**

TRANSITION: *Thank you for talking with me about all of these memories. I know it can be difficult.*

26. In thinking about improving access to depression care for Latinos, what else do you think I should know?
27. In thinking about Clinic Olé, how might services be improved for people experiencing depression?

THANK YOU

## Appendix B

### Patient Health Questionnaire (PHQ-9)

1. Over the *last 2 weeks*, how often have you been bothered by any of the following problems?

	Not at all	Several days	More than half the days	Nearly every day
	0	1	2	3
a. Little interest or pleasure in doing things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Feeling down, depressed, or hopeless.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Trouble falling/staying asleep, sleeping too much.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Feeling tired or having little energy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Poor appetite or overeating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Feeling bad about yourself – or that you are a failure or have let yourself or your family down.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Trouble concentrating on things, such as reading the newspaper or watching television.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Thoughts that you would be better off dead or of hurting yourself in some way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. If you checked off any problem on this questionnaire so far, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## Appendix C

### Variables and Measures

Variable	Measure
<b>DEPEDENT:</b> Follow-up with mental health referral	Dichotomous yes/no. Data extracted from medical record.
Type of referral (warm handoff vs cold handoff)	Dichotomous coding (warm handoff yes/no). Data extracted from the medical record. Provider indicates warm handoff or cold handoff at time of referral.
Language (Spanish vs English)	Dichotomous coding (Spanish yes/no; English yes/no). Data extracted from medical record.
Severity of depression.	Based on PHQ-9 score available in medical record. Scores on PHQ-9 typically categorized as follows: 1-4 minimal depression; 5-9 mild depression; 10-14 moderate depression; 15-19 moderately severe depression; scores greater than 20 indicate severe depression. Only scores of 9 or higher were used in this study, and depression severity was coded as a continuous variable.
Co-morbid anxiety	Dichotomous. Data extracted from medical records.
Gender/ethnic match with PCP	Patient gender and ethnic match with the PCP was coded as dichotomous independent variables (1 = match, 0 = no match) for both gender and ethnicity. This information is available from the medical record.
Gender/ethnic match with BHC	Patient gender and ethnic with the BHC were coded as dichotomous independent variables (1 = match, 0 = no match) for both gender and ethnicity. This information is available from the medical record.
Anti-depressants	Information regarding whether the patient had been prescribed an anti-depressant was available from the medical record and treated as a dichotomous variable (on anti-depressants or not).
Patient-provider relationship	Patient-provider relationship was assessed by identifying whether the referring medical provider was also listed as the patient's

	primary care provider (i.e., the patient’s “regular”) provider. This proxy measure of the patient-provider relationship was treated as dichotomous in regression analysis.
Time until initial BH visit	The time between date of referral to BH and the actual appointment date was measured in days and treated as a continuous variable. Data extracted from medical record.
Insurance status	Dichotomous yes/no. Data extracted from medical record.
Copay level	Qualification for federal sliding fee scale based on family income. Coded nominally as sliding scale 1, 2, 3, with insured patients as the reference group.
Age	Continuous variable. Data extracted from medical record.

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