

BRIEF BEHAVIORAL INTERVENTIONS IN A PRIMARY CARE SETTING: A  
COMPARISON GROUPS STUDY ANALYZING TREATMENT OUTCOMES

THESIS

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## CHAPTER 1

### INTRODUCTION

Depression and anxiety; these words have become synonymous with living in the modern world. We are beset with more chronic and acute stressors than our mothers, fathers, and even grandparents before us (McEwen, 2002). These chronic stressors plague our health and seem to engender a multitude of disorders hitherto unknown to our ancestors (McEwen, 2002). Indeed, the World Health Organization's (WHO's) Global Burden of Disease assessment places Unipolar Depression as the number one cause of disability worldwide (1990). In recent years, the estimate of the costly toll of depression has skyrocketed. In the United States alone, approximately 18.8 million adults are diagnosed annually with an affective disorder such as major depressive disorder, dysthymic disorder, and bipolar disorder (National Institute of Mental Health [NIMH], 2004). This number translates into approximately 10% of the population being diagnosed in a given year. The financial impact of treating depression is estimated at \$43 billion dollars in the United States alone. These estimates encompass direct and indirect costs, which include premature death (\$8 billion), absenteeism, and lost productivity in the workplace (\$23 billion) (Hirschfield et al., 1997).

Many people look to their primary care physicians and mental health providers for help. Unfortunately, in many areas of the country the number of practitioners adequately trained to deliver effective mental health treatment does not meet the demand for those requiring services (Scogin, Hanson, & Welsh, 2003). Additionally, many family and general medical practitioners do not have adequate training to properly diagnose and treat mental illnesses (Schulte, Isley, Link, Shealy, & Winfrey, 2004; Katon et al., 1996; Kolbasovsky, Reich, Roman, & Jaramillo, 2005; Goldman, Nielsen, & Champion, 1999). Indeed, the biomedical focus of medical education has not fully prepared these primary care physicians to address the complex behavioral issues that patients with depression and anxiety present in response to somatic complaints and health threatening behaviors (Schulte et al., 2004).

This paucity of services has engendered new and innovative methods to treat patients with limited access to services. Across the nation, Health Maintenance Organizations (HMOs), Community Health Centers (CHCs), and Community Mental Health Centers (CMHCs) have found non-traditional ways to meet increasing demands on services while at the same time ensuring that quality of care does not suffer (Upshur, 2005).

An example of this creative approach is seen at Kaiser Permanente, one of the nation's largest healthcare systems. Kaiser adopted an integrated approach to treating mild to moderate mental illness, like depression and anxiety, within a primary care system and achieved systemic success and positive patient outcomes (Feinman, Cardillo, Mitchel, & Palmer, 2000). Some of these patient outcomes included reduction in clinic utilization and reduction in depressive symptoms. This integrated approach to providing

health care is one that has been espoused as a necessary goal for the future in mental health care by the President's New Freedom Commission on Mental Health (2003). As a result, other systems across the nation are adopting this approach.

The integrated approach may encompass a number of different practice frameworks. While some primary care delivery systems utilize a type of behavioral health care, "carve out," in which providers are geographically and clinically distinct from one another, but collaborate on an individual patient's healthcare (Goldman, Nielson, & Champion, 1999), other delivery systems are using "embedded" approaches to house both physicians and psychologists together in one location working as a team (Feinman et al., 2000; Mauksh, 2001; Kolbasovsky et al., 2005; Hegel et al., 2002; Katon et al., 1996). The advantage of the former setting is that it presumably supplies specialized clinicians to take care of all patients' mental health problems while providing an optimal level of access to treatment settings. The potential disadvantages center around the fact that such care is not integrated with the patient's medical care (Goldman et al., 1999). The latter setting is the focus of this analysis. This setting provides the most favorable collaboration and communication between mental and medical health providers in order to achieve positive patient and staff outcomes (Feinman et al., 2000; Katon et al., 1996; Mauksch, 2001).

In Texas, one CMHC and CHC have partnered to create the first integrated behavioral health care service embedded in primary care. This partnership serves the indigent and underserved populations of Travis County. Patients of Austin-Travis County Community Health Centers may see a Behavioral Health Provider (BHP) within their primary care clinic for any mental health needs they may have. This linkage allows



patients with mild to moderate mental illness to be treated by a mental health provider in a primary care environment while followed by their own physician provider in a familiar and comfortable environment. Additionally, patients with moderate to severe mental illness receive the appropriate assessment and referral to the agency's partner and local mental health authority Austin Travis County Mental Health Mental Retardation Center (ATCMHMR) for a more complete psychosocial assessment and psychiatric triage if needed.

### Research Questions

Thus far, patient outcomes have been measured anecdotally in the Federally Qualified Healthcare Center system and have not been subjected to a rigorous statistical analysis. The current research proposes to assess and compare brief behavioral interventions utilizing cognitive behavioral and interpersonal therapies to determine their effectiveness in lowering usage of clinic services. This study also attempts to discover if utilization of clinic services, to be understood as total attended medical appointments (AT) and total non-attended medical appointments (NS), is greater when patients present with anxiety rather than depression (Ford, Trestman, Allen, Steinberg, & Tennen, 2004). This will be determined by quantifying the number of attended and non-attended medical visits each individual has made to the community health care center within the six months after the individual's case has been closed to the BHP. Additionally, this study examines differences between Group A (Treatment Completed) and Group B (Refused Services) in terms of treatment outcomes with respect to clinic usage, to be understood as total attended medical appointments (AT) and total non-attended medical appointments (NS), with Group B having higher rates of utilization on the variables of NS and AT. Group A

being patients who have successfully completed mental health treatment with their BHP and Group B being patients who have unsuccessfully completed mental health treatment with their BHP.

### Hypotheses

Hypothesis #1: Those patients in Group B (Refused Services) will have greater utilization of clinical services as measured by total attended medical visits (AT) and total non-attended medical visits (NS).

Hypothesis #2: Those patients with the presenting concern of anxiety and mixed anxiety with depressive features will have higher utilization of clinical services as measured by total attended medical visits (AT). Patients with the presenting concern of depression will have higher utilization of clinical services as measured by total non-attended medical visits (NS).

The following chapter defines depression and anxiety, integrated approaches to health care, cognitive behavioral and interpersonal therapies, community health care centers, and gives a critical review of the literature related to these constructs.

## CHAPTER II

### LITERATURE REVIEW

#### Depression and Anxiety

Depression, anxiety, and other mental disorders are pervasive and threaten the well-being, livelihood, and functionality of the individuals and families that suffer with them (Hirschfeld et al., 1997; Katon et al., 1996; Feinman et al., 2000; Goldman et al., 1999; President's New Freedom Commission on Mental Health, 2003; WHO, 2001). In the United States alone, the indirect costs of mental illness are estimated to be \$79 billion (President's New Freedom Commission, 2003). These indirect costs encompass time lost at work due to absenteeism, lowered productivity while at work (known as presentism), premature death from suicide, and losses in the time of those who provide family care (President's New Freedom Commission, 2003).

Despite these daunting statistics, depression and anxiety remain very treatable diseases (Feinman et al., 2000; Lang, 2004). New advances in psychopharmacologic interventions with more easily tolerated medications and increased interest in the use of cognitive-behavioral and interpersonal therapies have made bold strides in the treatment of depression and anxiety (Chambless & Ollendick, 2001; Lang, 2004).

Unfortunately, in many cases people suffering from depression and anxiety spectrum disorders receive inadequate or no treatment from their health care providers

(Kolbasovsky et al., 2005; Goldman et al., 1999; Feinman et al., 2000; Katon et al., 1996). As recent studies have found, many patients feel uncomfortable seeing a psychiatrist or other mental health provider for assistance in dealing with depression, and may instead prefer to visit their primary care provider for consultation with these matters (Goldman et al., 1999; Van Voorhees et al., 2003). However, many general practitioners may not be well equipped to deal with the complex behavioral and psychosocial issues with which their patients present. In fact, primary care studies have demonstrated that as many as 50% of patients with either major or minor depression do not receive an accurate diagnosis (Katon et al., 1996). Hirschfeld et al. (1997) found that there were several factors that have influenced the undertreatment of depression. These factors can be classified into areas related to provider, patient, and health care system.

Provider factors that influence the undertreatment of depression may include an insufficient training in medical school pertaining to psychiatric diagnosis, psychopharmacology, or psychotherapeutic techniques for treatment of depression (Hirschfeld et al., 1997). Post-graduate education for primary care providers may also lack adequate information on the diagnosis and treatment of depression and related disorders. Additionally, some providers have limited training in interpersonal communication skills that can assist them in managing emotional distress. These and other factors may lead to their avoidance of addressing depression and may contribute to the undertreatment and diagnosis of this disorder (Hirschfeld et al.).

Roy-Byrne and Wagner (2004) also found similar complications for providers when dealing with Generalized Anxiety Disorder. In their study, clinicians consistently misdiagnosed anxiety as depression and additionally underdiagnosed Generalized

Anxiety Disorder approximately 34% of the time (Roy-Byrne & Wagner, 2004). Szadoczky, Rozsa, Zambori, and Furedi (2004) found similar underdiagnosis when looking at provider recognition of anxiety and depressive disorders in a primary care setting.

Hirschfeld et al. (1997) found that patient factors influenced the undertreatment of depression as well. Some patients may not recognize that they have symptoms of depression. They may instead focus on the physical manifestations of the disease for fear that those symptoms may be the only ones in which their provider is interested. The World Health Organization's [WHO] World Health Report (2001) also stated that patients may not bring these concerns to their primary care providers due to stigma over being diagnosed with a mental illness. Stigma may be defined as a mark of shame, which could result in an individual being rejected, discriminated against, and excluded from participating in a number of different areas of society (WHO, 2001). Others may recognize a problem, but fail to identify it as depression or a depression spectrum disorder (Hirschfeld et al., 1997).

Finally, health care system factors may influence the undertreatment of depression and anxiety disorders. Hirschfeld et al. (1997) stated that a lack of reimbursement for mental health services may inhibit some providers from treating these diseases. The President's New Freedom Commission on Mental Health (2003) additionally stated that insurance plans limit reimbursement for mental health services, thereby preventing many individuals from getting the appropriate care that could dramatically improve their lives. Adding to this problem, therapy services that

implement a cognitive-behavioral or brief therapy modality are often unavailable for patients in rural or underserved communities (Hirschfeld et al., 1997).

The cost of depression and anxiety not only affects the individuals that suffer from this disorder, but also their families, work-places, communities, and health care systems (Hirschfeld et al., 1997; Katon et al., 1996; Feinman et al., 2000; Goldman et al., 1999; President's New Freedom Commission on Mental Health, 2003; WHO, 2001).

With so much in each of these areas at stake, it would behoove researchers to take action to develop more comprehensive systems of care for treating depression and anxiety in a primary care environment. The next section devotes itself to explaining systems of collaborative care within the primary care environment.

### Collaborative Care

Several health care systems have adopted an integrated or collaborative model of care (Feinman et al., 2000; Hegel et al., 2002; Kolbasovsky, Reich, Romano, & Jaramillo, 2005; Katon et al., 1996; Upshur, 2005). These models of care have been endorsed as a means to provide greater access to mental health care and to provide a greater continuity of services for persons experiencing depression and anxiety disorders (WHO, 2001; President's New Freedom Commission on Mental Health, 2003; Surgeon General, 1999). Additionally, there appears to be a lessening in the experience of stigmatization as the patients are treated and cared for in the same environment in which they receive care for physical ailments (WHO, 2001). The WHO's report on mental health also found that the consolidation of mental health and primary care resources increased the ability to offset problems associated with limited access to mental health personnel and decreased long waits for mental health services (2001).

Feinman et al. (2000) found that as primary care became the de facto choice for many clients seeking help for mental health issues, the health care system needed to adjust the scope of its practice. The health care system, Kaiser Permanente, developed a team approach to treating behavioral health issues within a primary care context. Mental health providers in this system routinely collaborated with primary care providers to offer treatment and care to depressed patients and to offer psychoeducation to patients and staff as well (Feinman et al., 2000). This healthcare organization found that, by implementing an integrated approach to health care, it was able to successfully improve care for patients and increase satisfaction and efficacy of primary care providers, nursing and clerical staff members (Feinman et al., 2000).

In a study coordinated by Upshur (2005), a behavioral health care manager was embedded in a primary care clinic to determine if an on-site facilitator would increase treatment and identification of depression. Upshur found that the use of this care manager bridged the divide between primary care and behavioral health to the benefit of both patients and providers. Some of the major functions of this care manager were to ensure that patients found their way to appropriate behavioral health providers, nurture helping relationships with behavioral health providers, and to encourage and facilitate communication between behavioral health and primary care providers (Upshur, 2005). Overall, Upshur found that primary care site based care management for mental health issues was successful, especially when dealing with patients with limited resources and access to healthcare.

Kolbasovsky et al. (2005) developed a pilot program in which behavioral health psychologists were colocated and integrated into four medical centers to work

collaboratively with physicians to improve the care of patients with depression. This pilot program focused on improving physician diagnosis of depression, improving patient adherence to antidepressant medication, improving physician comfort with the diagnosis and treatment of depression, and demonstrating positive patient outcomes and physician satisfaction. These centers employed a team approach in which open communication between physician and psychologist was emphasized. While this program did not effectively demonstrate an improvement in physician diagnosis of depression, it was able to demonstrate an improved patient adherence to antidepressant medication, with an increase of 10% overall. Additionally, Kolbasovsky et al. were also able to demonstrate provider satisfaction with the pilot project with a moderate increase in patient well-being.

Hegel et al. (2002) introduced a collaborative care model that incorporated behavioral health professionals (in this case a psychiatric nurse or psychologist) into eighteen primary care clinics. These behavioral health professionals introduced a stepped care treatment program that was comprised of brief psychotherapy and medication management. The goal of this intervention was to improve depression care for patients by improving adherence to antidepressant medication and/or providing a course of brief therapy. With the introduction of behavioral health professionals into these primary care settings, these researchers were able to show an increase in patient functionality and improved adherence to antidepressant medications, which had a positive impact on patient outcomes.

Katon et al. (1996) used an integrated model in primary care treatment setting to benefit patients suffering from depression. Therapists at this site worked in tandem with primary care providers in order to provide continuity of care for patients. Therapists used



a brief therapy model and employed cognitive-behavioral and social learning theories in 4-6 sessions for treating those patients with depression. Therapists at this site additionally monitored patients for potential side effects from medication and checked patient adherence to medication regimen. Over time, this collaborative system yielded high patient adherence to medication, integrated use of adaptive coping strategies for patients, and improved the process of care for depression. One unfortunate limitation of this study was its lack of a diverse patient population. The patient population was primarily comprised of Caucasian middle class patients. However, with the integration of specialty mental health providers, this primary care facility showed impressive patient outcomes and patient satisfaction for treatment of major depression (Katon et al., 1996).

Finally, Schulte et al. (2004) wrote about changes in trends in the profession of psychology. These trends centered on the recognition that behavioral health services are essential components of a comprehensive, preventive, and cost efficient primary care system. Indeed, as primary care clinics emerge as the dominant context for the delivery of health care services, physicians are dealing with an expanded spectrum of psychological problems that their biomedical training does not adequately address. Schulte et al. stated that psychologists and other mental health professionals are trained to assess the behavioral, mental, and emotional states and needs of patients as well as the behavioral management difficulties experienced with direct patient care.

All the studies mentioned make a compelling case for integrating mental health care in primary care. Researchers have found that the benefits of these collaborations extend not only to the patient, but also the physicians, psychologists and mental health

workers, and healthcare systems as a whole. The next section will address appropriate treatment modalities for depressive and anxiety spectrum disorders in primary care.

### Treatment Modalities

With the integration of mental health services into primary care, focus has been placed on appropriate and efficacious treatment modalities in treating depressive and anxiety disorders. Brief treatment models with combinations including cognitive-behavioral therapy (CBT), interpersonal therapy, and psychopharmacologic interventions have been found to be the most efficacious forms of treating mild to moderate depressive and anxiety disorders (American Psychiatric Association's Practice Guidelines, 2000; Chambless & Ollendick, 2001; Katzelnick & Grest, 2001; Lang, 2004; WHO, 2001; Goldman et. al, 1999).

Goldman et al. (1999) found that CBT and interpersonal therapies, which are both structured and time limited in nature, have been shown to be equal in efficacy to antidepressant medication for the treatment of mild to moderate, non-bipolar, non-psychotic major depression. These types of therapies are most commonly seen in the general medical setting, and are easily modified to fit the scope and practice of the primary care environment. However, Goldman et al. (1999) additionally found that these specific therapies for major depression were different from the general supportive care offered by many physicians. Although such support may be vital to the doctor-patient relationship, many encourage medication adherence, and can be helpful to a patient, there is no empirical evidence of its efficacy as a specific treatment modality.

The American Psychiatric Association [APA] Practice Guidelines for treating Major Depressive Disorder [MDD] (2000) also endorses specific psychotherapies for the

treatment of depression. They found that CBT and interpersonal therapy are the psychotherapeutic approaches that have the best documented efficacy in the literature for the specific treatment of major depressive disorder. These therapies are well suited to a primary care environment due to their limited time span and brief session length, and thus may be easily modified to fit with the faster pace of a general medical environment.

The World Health Organization's [WHO] World Health Report (2001) endorsed CBT and interpersonal therapy as an effective way to treat various mental and behavioral disorders, including depressive and anxiety disorders. The report stated that these therapies also help depressed patients to learn how to improve coping strategies and lessen symptom distress to improve overall functionality. The WHO report further stated that the introduction of psychotherapeutic approaches can lead to improved patient and provider satisfaction and treatment adherence which may reduce possible relapse and minimize the length of time spent in the hospital and/or the need for hospitalization.

In reviewing treatment modalities for anxiety disorder in primary care, Roy-Byrne & Wagner (2004) found that integrating medical and mental health treatment provides a more comprehensive approach to assessment and treatment, thus attending to the full range of effects of anxiety disorders. The authors endorsed CBT as an efficacious form of treatment for persons suffering from generalized anxiety disorder (GAD) in primary care. Additionally, Roy-Byrne & Wagner (2004) state that, in a twelve month follow-up, psychotherapy was found to yield superior outcomes in those who preferred this modality compared to those who were assigned to it randomly. Overall, Roy-Byrne & Wagner (2004) stated that the preponderance of evidence suggests that the majority of patients with depression who are seen in primary care want treatment, that most of these patients

would prefer not to be referred to a mental health specialty setting for this treatment, and most would prefer for their behavioral health needs to be met within the primary care setting.

In a study reported by Lang (2004), it was found that CBT significantly reduced anxiety and was superior to no treatment conditions. Additionally, treatment effects were found to endure or increase in the six to twelve months after the completion of treatment. Another recent meta-analysis reviewed by Lang (2004) examined a number of methodological issues about each of the studies reviewing CBT as an effective treatment modality, including what method was used for diagnosis, whether reliability checks were used, whether assessors were blinded, and whether treatment was conducted according to protocol. It was concluded that the studies reviewed in the meta-analysis were characterized by a relatively high degree of scientific rigor. Each study in this meta-analysis found CBT to be superior to alternative psychotherapeutic treatments (82% at post treatment and 78% at follow-up). Two other studies surveyed by Lang (2004) examined the use of anxiolytic medication combined with CBT. These studies found CBT to be equally as effective alone as when combined with anxiolytic medication, and more effective than medication or placebo alone. These outcomes mirror those found by Mynors-Wallis (1996) and Schulberg (1996).

Table 1. Effectiveness of Interventions for Depression	
Intervention	% remission after 3-8 months
Placebo	24
Tricyclics	48-52
Psychotherapy (cognitive or interpersonal)	48-60

In a study reviewed by Chambless & Ollendick (2001), CBT was found to be significantly superior to nondirective therapy in treating Generalized Anxiety Disorder

(GAD) among adults at post-test and 1-year follow up. Chambless & Ollendick (2001) conducted another study that used CBT with patients suffering from Panic Disorder. Using quality of life measures that included assessment of global impairment in work, social activities, and family life, the study compared the effects of CBT to a delayed treatment group. At post-test, the treated clients showed significantly more improvement than waiting-list clients on measures of global adjustment and on additional subscales.

In studying the use of CBT and interpersonal therapies for depressive disorders, Chambless & Ollendick (2001) described a study that compared the use of antidepressant medication, placebo, and cognitive and interpersonal therapies. While there were no differences among treatments at posttest, in an eighteen month follow up survey clients in both psychotherapy groups rated their life adjustment significantly more positively than clients in either the placebo or medication group.

This data points to the benefit of utilizing psychotherapeutic approaches, such as cognitive behavioral therapy and interpersonal therapy, in the treatment of anxiety and depressive disorders. Psychopharmacologic interventions may help patients with more moderate forms of anxiety and depression, and it has been shown that these pharmacologic interventions are most efficacious when paired with psychotherapy.

#### Community Health Centers

As the collaborative care model begins to be recognized and endorsed as the model that can effectively treat depressive and anxiety disorders, more opportunities for mental health professionals will lie in the realms of primary and community care clinics.

Community health centers (CHCs) represent the “safety net” for a significant and steadily growing proportion of the nations’ citizens. Most of these individuals are uninsured and,

according to research, face significant health status disparities as a result of ethnic and geographical considerations (Deleon, Giesting, & Kenkel, 2003). CHCs are located in, or provide services to, communities and populations that have been formally designated by the federal government as being “medically underserved.” These centers provide comprehensive primary health care, including primary medical care and behavioral health care. They provide service to the community through the use of a sliding fee scale that adjusts for family income. This ensures that low-income patients may make only nominal payments for care (Deleon et al., 2003). In some cases, behavioral health providers may waive a fee or payment so that patients may receive care regardless of their ability to pay (Deleon et al., 2003).

Patients who seek their care at CHCs often lack financial, educational, and social advantages (Deleon et al., 2003). Patients additionally present with multiple and interrelated medical, social, and mental health problems (Deleon et al., 2003). Treating these complex patients requires the collaboration of both medical and psychological providers utilizing a team approach. To attempt to deal with these problems in isolation would be an ineffective treatment modality and could even be counterproductive (Deleon, et al., 2003).

Cameron and Mauksch (2002) addressed one of the major challenges in caring for the indigent in primary care. They found in a primary care clinic serving those without insurance (no Medicaid or Medicare) that the rates of patients suffering from mental illness were very high. The Marillac clinic in their study had almost twice the proportion of patients with major and minor mental disorders as a general medical population sample (51% vs. 28%). As found in other research studies (Katon et al., 1996; Lefevre

et al., 1999), patients with mental disorders were higher users of health care services, thus pointing to the need for adequate diagnosis and treatment of mental health disorders within the community and primary care settings.

Mauksch et al. (2001) found many studies (Katon et al., 1997; Hemmings, 2000; Seaburn, Gawanski, Gunn, Lorenz, & Mauksch, 1996; Blount, 1998; Von Korff et al., 1998; Olfson, Sing, & Schelsinger, 1999) showing positive outcomes when looking at integrated approaches to mental health in primary care. Unfortunately, little is known about these issues as they relate to an indigent primary care population. Their study identified high rates of mental illness within an indigent care clinic, with mood disorder reaching 33% prevalence compared to the 16% prevalence rate within a general medical population sample (Mauksch et al., 2000).

More emphasis needs to be directed at treating mental disorders in an indigent care setting. Most notably to determine if treatment modalities such as CBT or interpersonal therapy coupled with psychopharmacologic interventions can improve symptoms of depression and anxiety.

## CHAPTER III

### METHOD

#### Participants

The participants of the study were patients of the Austin-Travis County Community Health Clinics in partnership with Austin Travis County Mental Health Mental Retardation Center's E-Merge Program. The patients of the study were males and females of diverse racial/ethnic groups above the age of 18. Patients excluded from the study include those with chronic disease such as Hepatitis C and HIV. These patients inherently attend the clinic for more crisis and intensive physical care and would thus skew the results of the study. Patients included in the study were referred by their Primary Care Provider (PCP) or Advanced Nurse Practitioner (ANP) to a Behavioral Health Provider (BHP) in response to concerns regarding possible depression, mixed anxiety and depression, or anxiety. The patients were unaware that they were participating in this study, but had signed consent forms regarding possible use of non-identifying patient health information for the use of research. This study utilized a retrospective analysis, as the analyzed data had already been gathered.

#### Design

This research study is a post-hoc, non random assignment, two-group comparison design. The primary statistical analyses will be 2x2 ANOVAs using SPSS. The independent variables used with this 2x2 factorial ANOVA are the treatment condition for each



patient (Group A or Group B) and the diagnostic category for each patient (depression or anxiety). The dependent variables of this study will be the total attended clinical visits (AT) for each patient and the total non-attended visits for each patient (NS).

Patients in Group A (Treatment Completed) have completed treatment with a BHP (i.e., met self-management goals or attended sessions to completion), whereas patients in Group B (Refused Services) have not completed treatment (i.e., refused services). The research question that this study seeks to answer is if patients in Group A (treatment) score significantly better than patients in Group B (no treatment) on measures of usage of clinical services. This study additionally seeks to understand if patients with the presenting concern of depression and patients with the presenting concern of anxiety and mixed anxiety with depressive features differ significantly on measures of usage of medical services, with higher total attended visits favoring patients with the presenting concern of anxiety and mixed anxiety with depressive features, and higher non-attended visits favoring patients with the presenting concern of depression. Diagnostic categories will consist of patients with the presenting concern of depression and anxiety. Patients whose presenting concern was mixed anxiety with depressive features are included with patients whose presenting concern was anxiety because 1) there are so few and 2) the primary diagnosis of the latter group was an anxiety spectrum disorder.

The dependent variable of usage of medical services will be measured by total attended visits (AT) and total non-attended visits (NS). An attended visit (AT) means that the patient had a scheduled appointment with a medical provider and successfully kept the appointment. A non-attended (NS) visit means that the patient had a scheduled appointment with a medical provider and did not call to cancel, reschedule, or inform the

clinic of the absence. In order to gather this information, a count was taken of each patient's attended (AT) medical or non-attended (NS) medical visits over a 6 month follow up period after the termination of behavioral health services. In this way it is analogous to a test score; that is each AT and NS is counted so that each patient is assigned a score at the end of the 6 month period.

The treatment intervention consisted of an initial 30-minute session followed by 20-minute follow up sessions. Each session focused on patients' personal strengths and combined cognitive behavioral interventions with problem solving therapy to achieve self-management goals within a limited timeframe. Each patient was seen for approximately 4-6 sessions.

Staff members of the E-Merge Integrated Behavioral Health Program carried out the intervention. These clinicians were Licensed Professional Counselors (LPC), Licensed Master Social Workers (LMSW), or Licensed Clinical Social Workers (LCSW), currently licensed to practice in the State of Texas. Each staff member had at least four years of experience within the field of mental health and was fluent in Spanish and English. Staff members were aware that their cases may be used for research purposes and agreed to be participants.

#### Controlling for group differences

A post-hoc control was used in order to determine comparability of Group A to Group B. There was no true control group in the primary care setting, thus to ensure the groups' similarities t-tests were used before proceeding with the research questions. More specifically, independent sample t-tests were used to control for possible differences in age, severity of depression as measured by the Patient Health Questionnaire-9 (PHQ-9),

total attended visits, and total non-attended visits. Each patient's attended (AT) and non-attended (NS) visit was counted in a 6 month pre-intervention time frame.

### Materials

Data from patient cases was maintained in a Microsoft Access Office 2000 database and was encrypted to avoid the misuse of personally identifying health information as mandated by HIPAA guidelines. Additional clinical and demographic information was retrieved from two separate practice management databases: Signature and NextGen. These databases meet the HIPAA guidelines of maintaining patient confidentiality. Patients were interviewed by BHPs and this information was entered onto the HIPAA compliant City of Austin's Federally Qualified Health Center's Patient Progress Note (see Appendix A). Demographic information was captured from the Patient Progress Note and then entered into the Access database. Additionally, patients were given the Patient Health Questionnaire-9 to screen for potential depression or dysthymia (see Appendix B and C).

### Instrument

The PHQ-9 (Kroenke, Spitzer, & Williams, 2001) was developed for making criteria-based diagnoses of depressive disorders commonly encountered in primary care. Using nine items, it is half the length of many other measures and has comparable sensitivity and specificity. The instrument consists of the nine criteria upon which the diagnosis of DSM-IV-TR depressive disorders is based (Kroenke, Spitzer, & Williams, 2001). In a primary care study utilizing the PHQ-9 the instrument was found to have an excellent internal reliability with a Chronbach's  $\alpha$  of .89. In a separate Ob-Gyn study the reliability was .86. The PHQ-9 is a reliable and valid measure of depression severity

(Kroenke, Spitzer, & Williams, 2001). Clinical interview by the behavioral health provider determined the diagnosis for anxiety based on DSM-IV-TR criteria and was recorded on the Patient Progress Note.

## CHAPTER IV

### RESULTS

#### Similarities of the groups before treatment intervention

Independent sample t-tests showed no difference between Group A and B and the diagnostic categories of anxiety and depression for total attended visits, non-attended visits, age and the PHQ-9 (depression scale). Table 3 on page 27 shows the demographic and diagnostic information of the patients in the two groups. Table 4 on page 28 shows the closing dates of the patients in the two groups.

#### Effectiveness of the intervention

A two-way analysis of variance showed no significant main effects for groups and presenting diagnosis or interaction in the total attended clinical visits (AT) in the 6 month follow up period. A second two-way ANOVA showed only a main effect for total non-attended visits (NS) in the 6 month follow up period between Group A ( $M = .59$ ,  $SD = .864$ ) and Group B ( $M = 1.10$ ,  $SD = 1.08$ ). This two-way ANOVA did not show a main effect or an interaction for total non-attended visits (NS) between patients presenting with depression or anxiety. Table 2 on page 26 shows the outcomes of this two-way ANOVA.

#### Follow up Data Exploration

Paired t tests for pre/post Group B visits showed no significant change for either AT or NS. Paired t tests for pre/post Group A visits showed no significant change for

AT. However, paired t-tests for pre( $M = .90$ ,  $SD = 1.01$ ) /post ( $M = .59$ ,  $SD = .86$ ),  $t(48) = 1.98$ ,  $p < .05$ . Group A visits showed a significant change for NS.

Table 2. ANOVA Outcomes for NS Visits

<b>Source</b>	<b>df</b>	<b>F</b>	<b>MS</b>	<b>P</b>
GROUP	1	5.656*	5.354	0.019
DIAG	1	0.891	0.843	0.348
GROUP*DIAG	1	1.541	1.459	0.218
Within (error)	93		0.946	
Total	97			

\*p < .05.

Table 3. Demographic Information for Group A &amp; Group B

<b>Group A (49 cases)</b>			<b>Group B (48 cases)</b>		<b>Total (97 cases)</b>	
<b>Payor Source</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
*MAP	3	6%	3	6%	6	6%
Medicaid	2	4%	0	0%	2	2%
Medicare	5	10%	2	4%	7	7%
Medicare/caid	3	6%	0	0%	3	3%
Self	28	57%	37	77%	65	67%
Sliding Scale	6	12%	5	10%	11	11%
*SSI	1	2%	1	2%	2	2%
<b>Marital Status</b>						
Divorced	3	6%	2	4%	5	5%
Married	18	37%	10	21%	28	29%
Single	16	33%	26	54%	42	43%
Unknown	11	22%	10	21%	22	23%
Widowed	1	2%	0	0%	1	1%
<b>Ethnicity</b>						
African-American	7	14%	7	15%	14	14%
Caucasian	12	24%	16	33%	28	29%
Hispanic	30	61%	25	52%	55	57%
<b>Presenting Concern</b>						
Anxiety/Depression	11	22%	15	31%	26	27%
Anxiety	9	18%	11	23%	20	21%
Depression	29	59%	22	46%	51	53%
<b>Age</b>						
Min	18		23		18	
Max	89		78		89	
Mean	46.45		42.69		44.59	
Median	46		40		44	

\*MAP-Medical Assistance Program

\*SSI-Social Security Benefits

\*No significant differences found



Table 4. Closing Dates for Group A &amp; Group B

<b>Group A (49 cases)</b>			<b>Group B (48 cases)</b>		
Month	Number	Percent	Month	Number	Percent
Sept	4	8%	Sept	1	2%
Oct	7	14%	Oct	12	25%
Nov	2	4%	Nov	9	19%
Dec	5	10%	Dec	9	19%
Jan	11	22%	Jan	10	21%
Feb	9	18%	Feb	5	10%
Mar	6	12%	Mar	1	2%
April	5	10%	April	1	2%

## CHAPTER V

### DISCUSSION

This study proposed to assess and compare brief behavioral interventions utilizing cognitive behavioral and interpersonal therapies to determine their effectiveness in lowering usage of medical services. This study additionally sought to discover if patients whose presenting concern was anxiety utilized more medical services than patients whose presenting concern was depression. This study found no significant difference between patients whose presenting concern was anxiety and patients whose presenting concern was depression in total attended medical visits (AT) or in total non-attended medical visits (NS) in a 6 month post intervention period. This study did however find a significant difference between patients in Group A (Treatment Completed) and Group B (Refused Services) on the variable of non-attended medical visits (NS) with fewer non-attended medical visits (NS) in Group A. There was no difference found between Group A and Group B on the variable of attended medical visits (AT) in the 6 month post intervention period.

In order to ascertain if a significant difference was found within groups between Group A and Group B, four paired samples t-tests were run to look at the variables of total attended medical visits (AT) and total non-attended visits (NS) during the 6 months prior to intervention. This study found no differences in Group B in the variables of total

attended medical visits (AT) or total non-attended visits (NS) at either the pre or post intervention period. The study found no difference in the AT variable for Group A at either the pre or post intervention period. There was, however, a significant difference in the NS variable for Group A. Group A had less non-attended medical visits (NS) in the 6 month follow up period than did Group B.

The implications of this study point to the effectiveness of a brief behavioral intervention that utilized cognitive-behavioral and interpersonal therapy in reducing non-attended medical visits (NS). Studies from Goldman et al. (1999), Feinman et al. (2000), Chambless & Ollendick (2001), Katon et al. (1996), and Hegel et al. (2002) all espouse the use of cognitive-behavioral therapy in treating depression and anxiety spectrum disorders. These authors have shown this treatment to be effective in reducing the symptoms and severity of both depression and anxiety in a primary care environment.

The self-management skills that are utilized in cognitive-behavioral interventions are integral in teaching patients to take responsibility for their physical and mental health (Mynors-Wallis, 1996; Feinman et al., 2000). By becoming more active participants in advocating for their health, patients are better able to manage their medical issues and concerns. This may manifest itself through taking an active role in attending scheduled appointments or rescheduling when unable to attend appointments. In this way, patients are empowered to take charge of their health and may value health more highly as a resource or asset in combating pernicious mental illness or physical ailments.

Although there was no significant difference between Group A and Group B on total attended medical visits (AT), it may be speculated that socioeconomic factors and environmental stressors had effects on the stability of total attended medical visits

between these groups. As Cameron and Mauksch (2002) stated succinctly “poverty has a negative impact on health and wellbeing.” People with lower socioeconomic status have greater mortality, more physical and mental illness, and more impaired physical, psychological, and social functioning than people in middle and high-income brackets (Cameron & Mauksch, 2002). Indeed, low socioeconomic status may be linked to increased risk for a variety of illness including, but not limited to, hypertension, obesity, and Type II diabetes. These illnesses manifest with greater frequency in medical settings where the overall socioeconomic status of the population is lower than related samples from a general medical population (Mauksch et al., 2001). They may additionally have more difficulty managing these illnesses due to the increased psychosocial stressors they experience on a daily basis (Cameron & Mauksch, 2002).

Considering this information, it might be speculated that, while treatment had a desired effect in lowering patient non-attended visits (NS), it was confounded by other powerful factors such as socioeconomic status and environmental stressors in reducing patient attended visits (AT). The health of this population might already be at a deficit compared to a general medical population, thus necessitating a stable and continuous utilization of medical services over time.

Based on research by Ford et al. (2004), it was expected that patients with the presenting concern of anxiety would utilize clinical services at a higher rate as measured by total attended medical visits (AT). However, patients with the presenting concern of anxiety did not utilize additional clinical services as predicted. It may be speculated that the inclusion of patients with mixed anxiety with depressive features confounded the outcome of this measure.

While the results from this study are encouraging, this study has important limitations, most notably the lack of a true control group. Steps were taken to ensure that Group A and Group B were evenly matched across several categories including age, depression scale scores as measured by the PHQ-9, and total attended and non-attended medical visits in the 6 months prior to intervention. However, this does not completely make up for the lack of a control group. Because this was not possible within the clinical setting there is a need for future research involving similar integrative programs utilizing brief cognitive-behavioral and interpersonal therapies with randomized control groups.

An additional limitation of this study was the lack of medical provider and behavioral health provider factors that may have influenced the outcome of this study. Further research might focus on the level of physician comfort with the integrative model, and the level of comfort in diagnosing and treating depressive and anxiety spectrum disorders. Additionally, while each behavioral health provider practiced the cognitive-behavioral and interpersonal approach, factors should be researched to determine if the style, rapport, and ethnicity of the provider had an impact on patient outcomes.

The integration of behavioral health providers into primary care represents an area of exciting opportunities for clinicians, researchers, and administrators. Adding to the depth and breadth of research within the community care setting representing positive patient outcomes may enhance the ability of these centers to attract and retain qualified behavioral health and medical providers as well as offering training for others interested in the integrated model. The integrated model may represent a shift in practice from traditional treatment methods, but may enhance the quality and outcome of patient care.

While anecdotally this type of collaborative care setting has produced positive patient outcomes, it is encouraging and rewarding to point to the efficacy of brief behavioral interventions in primary care for the treatment of depressive and anxiety spectrum disorders through use of statistical techniques to demonstrate the same positive outcomes.

## APPENDICES

### Appendix A Patient Progress Note

### Appendix B Patient Health Questionnaire-9, English Version

### Appendix C Patient Health Questionnaire-9, Spanish Version

**APPENDIX A**  
**Patient Progress Note**

3





**City of Austin**  
**Community Health Centers**  
**Emerge Program**  
**Designated Record Set (DRS)**



Patient Label

Date: \_\_\_\_\_ ETH: \_\_\_\_\_ Reason for Referral: \_\_\_\_\_  
 OU CP  
 (circle one)  
 Session # \_\_ : Date \_\_\_\_\_ Session Status: AT NS CX RS  
 Follow Up: Yes / No Phone Letter Other Group Appt. + Date: \_\_\_\_\_ Date of Next Session: \_\_\_\_\_  
 Status: Open / Closed + Date Closed: \_\_\_\_\_ Reason for Closure: Completed Treatment/Other (circle one)

**Diagnostic Questions:**

- ☐ anxiety  
☐ mood problems  
☐ anger  
☐ somatic complaints  
☐ adjustment problems  
☐ sleep problems  
☐ depression  
☐ cognitive problems  
☐ suicidal ideation  
☐ has plan ☐ no plan ☐ contract  
☐ alcohol  
☐ other substances \_\_\_\_\_

**Self-Report:**

- ☐ academic stress  
☐ social stress  
☐ post traumatic stress  
☐ marital stress  
☐ work stress  
☐ relational problems  
☐ sexual dysfunctions  
☐ personality problems  
☐ homicidal ideation  
☐ impulse-control problems  
☐ other problems \_\_\_\_\_  
☐ MHMR Pt. ☐ current ☐ discharged

Comments: \_\_\_\_\_

**Frequency of Treatment:**

Assessment Dates: PHQ-9 \_\_\_\_\_ ICC \_\_\_\_\_  
 CAGE \_\_\_\_\_ MMSE \_\_\_\_\_ Assessment Scores: PHQ-9 \_\_\_\_\_ ICC 1) \_\_\_\_\_  
 2) \_\_\_\_\_ 3) \_\_\_\_\_ CAGE \_\_\_\_\_ MMSE \_\_\_\_\_ Treatment \_\_\_\_\_  
 Plan: \_\_\_\_\_

Diagnosis: Axis I \_\_\_\_\_  
 Axis II \_\_\_\_\_

Med 1 \_\_\_\_\_  
 Med 2 \_\_\_\_\_  
 Med 3 \_\_\_\_\_

Self-Management Goals: \_\_\_\_\_

Progress as of last session: ☐ getting better ☐ getting worse ☐ about the same ☐ 1<sup>st</sup> session

Prognosis as of last session: ☐ good ☐ poor ☐ guarded ☐ unsure at this time ☐ 1<sup>st</sup> session

Provider: \_\_\_\_\_ Referred: To / From \_\_\_\_\_


(Clinic) BHC

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**CHC** Community Health Centers of Austin & Travis County

## APPENDIX B



### Patient Health Questionnaire-9, English Version

 <b>Community Health Centers</b> <b>Patient Assessment</b> <b>PHQ/CAGE</b>	PLACE PATIENT LABEL HERE
-------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------

Over the past two weeks, how often have you been bothered by any of the following problems?				
Question	Not at all	Several days	More than half the days	Nearly every day
1 Little interest or pleasure in doing things?	0	1	2	3
2 Feeling down, sad or hopeless?	0	1	2	3
3 Trouble falling or staying asleep, or sleeping too much?	0	1	2	3
4 Feeling tired or having little energy?	0	1	2	3
5 Eating too much or too little?	0	1	2	3
6 Feeling bad about yourself - or that you are a failure or let yourself or your family down?	0	1	2	3
7 Trouble focusing on things, such as reading the newspaper or watching television?	0	1	2	3
8 Moving or speaking so slowly that other people could have noticed? Or the opposite - being so restless that you have been moving around a lot more than usual?	0	1	2	3
9 Thoughts that you would be better off dead or of hurting yourself in some way?	0	1	2	3
Score: _____	+	+	+	
If you checked off any problems, 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 at all difficult <input type="checkbox"/>	Somewhat difficult <input type="checkbox"/>	Very difficult <input type="checkbox"/>	Extremely difficult <input type="checkbox"/>
1 In the past two weeks, how many times have you used alcohol or drugs (other than prescribed by Dr.) to make you feel better?				
2 In the past three months, how many times have you gone to the hospital emergency room for medical care?				
3 On a scale from 1-10, with 1 being the worst health and 10 being the best health, how would you rate your physical health in the last two weeks?				
1 Do you ever feel the need to cut back on your drinking?	YES	NO	Not Applicable	
2 Do you ever feel angry when people ask you about your drinking problem?	YES	NO	Not Applicable	
3 Do you ever feel guilty when you drink?	YES	NO	Not Applicable	
4 Do you ever drink alcohol in the morning?	YES	NO	Not Applicable	
Numbers of yes answers:				

## APPENDIX C

### Patient Health Questionnaire-9, Spanish Version

  <div style="display: inline-block; vertical-align: middle;"> <b>chc</b> Community Health Centers  <b>Patient Assessment</b>  <b>PHQ/CAGE</b> </div>	PLACE PATIENT LABEL HERE
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------

¿Durante las 2 semanas pasadas, que tan a menudo le ha molestado cualquiera de los siguientes problemas?					
Pregunta		Nada	Varios días	Más de mitad los días	Casi cada día
1	¿Ha perdido el interés o gusto por hacer ciertas cosas?	0	1	2	3
2	¿Se ha sentido triste o desmotivado?	0	1	2	3
3	¿Ha tenido dificultad para dormir, quedarse dormido, o siente que duerme de más?	0	1	2	3
4	¿Se siente cansado o con poca energía?	0	1	2	3
5	¿Siente que come más o que come menos?	0	1	2	3
6	¿Se siente mal de sí mismo, que ha fracasado o defraudado a su familia?	0	1	2	3
7	¿Se le dificulta concentrarse en cosas, como leer el periódico o ver la televisión?	0	1	2	3
8	¿Se mueve o habla más despacio de lo normal tanto que los demás han notado? O por el contrario, se siente más agitado o nervioso?	0	1	2	3
9	¿Ha tenido deseos de muerte o de hacerse daño?	0	1	2	3
Score: _____		_____	_____	_____ +	_____
¿Si verificó usted cualquiera de estos problemas, que tanto se le ha dificultado hacer su trabajo, cuidar de su casa, o llevarse con otras personas?		Nada difícil <input type="checkbox"/>	Algo difícil <input type="checkbox"/>	Muy difícil <input type="checkbox"/>	Extremadamente difícil <input type="checkbox"/>
1	¿En las últimas 2 semanas, cuántas veces ha usado alcohol o drogas (que no sean recetadas por su Dr.) para sentirse mejor?				
2	¿En los últimos 3 meses, cuántas veces ha ido a una sala de urgencia de un hospital para cuidado?				
3	¿En una escala del 1-10, con el 1 siendo lo más bajo y 10 siendo lo más alto, como consideraría su bienestar físico sobre todo?				
1	¿Siente que debe reducir la cantidad de alcohol que toma?	Si	No	No Aplica	
2	¿Se enoja con otros cuando le preguntan acerca de cuanto alcohol ingiere?	Si	No	No Aplica	
3	¿Se siente culpable por tomar alcohol?	Si	No	No Aplica	
4	¿Ha tenido que beber alcohol al principio del día para calmar sus nervios o una cruda?	Si	No	No Aplica	
Number of yes answers					

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