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## Assessing the Long-Term Effects of Brief Behavioral Health Treatment in Primary Care Patients

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Assessing the Long-Term Effects of Brief Behavioral Health Treatment in Primary Care Patients

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy in Psychology

by

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This dissertation is approved for recommendation to the Graduate Council.

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## ABSTRACT

Although increasingly studies show brief behavioral health services are effective for primary care patients (Bridges et al., 2013; Bryan, Morrow, & Appolonio, 2009; Corso et al., 2012; Gomez et al., 2014), there is a paucity of research exploring the long-term effects of these interventions (e.g., Ray-Sannerud, 2012). The primary aim of the current study was to explore long-term effectiveness. Specifically, the current study 1) examined whether reductions in patient global distress following brief behavioral health care services were maintained long-term, 2) evaluated whether improvements were reliable and not due to regression to the mean effects, and 3) explored medical cost offset via reductions in medical visits. A secondary aim was to gather qualitative information about patient recall of their visits. Participants were 83 adults ( $M_{age} = 42.55$  years, 79.5% female, 61.4% White) who were recruited from a pool of 454 patients seen at three integrated care clinics between August 2014 and June 2016. Patients were seen for a variety of presenting concerns such as anxiety, depression, sleep, and health related conditions. Results demonstrated that, on average, participants evidenced statistically significant declines in global distress at long-term follow up as compared to global distress following their first visit. Over half of the sample evidenced reliable change above and beyond what was expected due to measurement error and regression to the mean effects. Patients did not illustrate significant reductions in medical cost offset, such that they did not have a reduction in medical service utilization in the 12 months following receipt of BH services as compared to the 12 months prior. Qualitative data revealed that a majority of patients remembered detailed information about their BH visits (e.g., recommendations received) and were largely satisfied with BH services. Interpretations, limitations, and future directions are also discussed.

*Keywords:* primary care, integrated behavioral health, long-term outcomes

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## TABLE OF CONTENTS

<b>I. INTRODUCTION</b> .....	1
<b>A. Need for Mental Health Services in the United States</b> .....	1
<b>B. Mental Health Treatment in Primary Care</b> .....	2
<b>C. Healthcare Policy</b> .....	4
<b>D. Integrated Behavioral Health Care</b> .....	5
<b>E. What We Know About IBHC Outcome Research</b> .....	7
Clinical Outcomes.....	7
Cost Effectiveness.....	8
<b>F. Areas to Expand Upon in IBHC Outcome Research</b> .....	9
Dose Effects in Traditional Mental Health Care.....	10
Dose Effects in IBHC.....	11
Regression to the Mean.....	12
Long-term Outcomes in IBHC.....	13
<b>II. PURPOSE</b> .....	14
<b>III. METHOD</b> .....	16
<b>A. Participants</b> .....	16
<b>B. Measures</b> .....	18
Medical History and Service Utilization.....	18
Qualitative Data.....	18
Global Distress.....	19
<b>C. Procedures</b> .....	20
Initial Procedures.....	20

Modified Procedures.....	22
<b>IV. RESULTS.....</b>	<b>23</b>
<b>A. Data Cleaning.....</b>	<b>23</b>
<b>B. Primary Quantitative Research Questions.....</b>	<b>23</b>
Hypothesis One.....	24
Hypothesis Two.....	25
Hypothesis Three.....	27
Follow-up Analyses.....	27
<b>C. Qualitative Data.....</b>	<b>29</b>
<b>V. DISCUSSION.....</b>	<b>32</b>
<b>A. Hypothesis One: Long-term Follow-up.....</b>	<b>33</b>
<b>B. Hypothesis Two: Reliable Change Not Due to Regression to the Mean Effects.....</b>	<b>35</b>
<b>C. Hypothesis Three: Medical Cost Offset.....</b>	<b>37</b>
<b>D. Follow-up Quantitative Analyses.....</b>	<b>38</b>
<b>E. Qualitative Data.....</b>	<b>38</b>
<b>F. Limitations.....</b>	<b>40</b>
<b>G. Implications and Future Directions.....</b>	<b>42</b>
<b>VI. REFERENCES.....</b>	<b>44</b>
<b>VII. TABLES AND FIGURES.....</b>	<b>53</b>
<b>VIII. APPENDICES.....</b>	<b>62</b>
<b>A. IRB Approval Letter.....</b>	<b>62</b>
<b>B. Community Clinic Patient Consent Form.....</b>	<b>63</b>
<b>C. Modified Informed Consent Form.....</b>	<b>64</b>

<b>D. Letter of Support from Community Clinic</b> .....	66
<b>E. Measures</b> .....	67

## **INTRODUCTION**

Integrated behavioral health care (IBHC) is a model of service delivery that aims to blend the provision of mental and medical health services in a collaborative manner. IBHC services are implemented in a variety of health care settings, including primary care. Prior research has evidenced that brief IBHC interventions (typically less than five sessions) are effective in the short-term (Bridges et al., 2013; Bryan, Morrow, & Appolonio, 2009; Bryan et al., 2012; Gomez et al., 2014). However, there is a paucity of research assessing the long-term outcomes of brief behavioral health interventions. The present study sought to aid the expansion of research in this area by 1) examining long-term effects of brief behavioral health treatments on patient global distress, 2) demonstrating reliable improvements not due to regression to the mean effects, and 3) exploring medical cost offset (decrease in medical service utilization). Patients were assessed approximately 1-3 years following receipt of behavioral health services. Secondary aims of the present study were to gather self-report information regarding the following: what patients remembered about their behavioral health appointments and recommendations given, what else patients found helpful in dealing with their problem, why patients stopped attending behavioral health sessions, and feedback regarding services received.

### **Need for Mental Health Services in the United States**

Diagnosable mental disorders affect a large portion of American society. The United States National Comorbidity Survey Replication (NCS-R) was a widely conducted household survey of 9,282 English-speaking adults (Kessler, et al., 2005). The NCS-R aimed to gather information regarding participant mental health diagnostics, risk factors, consequences of disorders, and other correlates. According to the obtained data, twelve-month prevalence of having any disorder was 26.2% among responders. Of the total sample, 14.4% met criteria for



only one disorder, 5.8% of the sample had two comorbid diagnoses, and 6% of the sample had more than two disorders (Kessler, Chiu, Demler, & Walters, 2005). The most prevalent types of diagnoses were anxiety disorders (18.1%), mood disorders (9.5%), and impulse control disorders (8.9%). In terms of mental illness severity, 40.4% were classified as mild, 37.3% were classified as moderate, and 22.3% were classified as severe. The National Survey on Drug Use and Health provided similar data on behavioral health trends of respondents 12 years and older in the United States (Center for Behavioral Health Statistics and Quality [CBHSQ], 2015). Mental health trends were reported from 2008 to 2014 and estimates for adults 18 and older were reported separately from youth. Results indicated that in 2014, an estimated 43.6 million adults (18.1%) had a mental disorder and 9.8 million adults (4.1%) had a serious mental illness.

The World Health Organization [WHO] World Mental Health Survey Consortium conducted an international survey in order to examine the prevalence, severity, and unmet need for mental health treatment in 14 countries (WHO, 2004). Results indicated the mental health prevalence in the United States was 26.4%. Even though more than one fourth of the U.S. population was estimated to have a mental health disorder, reports indicated that 84.7% of respondents did not seek health care treatment for emotional or substance-use problems during the 12 months prior to their participation in the survey. Walker and colleagues (2015) published a more recent study that estimated 62% of participants with a mental health disorder did not receive treatment. These reports suggest that there is a large treatment gap between those with an identified mental health need and those who actually receive treatment services.

### **Mental Health Treatment in Primary Care**

Primary care settings have served as the *de facto* mental health care system in the United States for individuals across the lifespan (Kessler & Stafford, 2008; Regier, Goldberg, & Taube,

1978). Pediatric primary care visits often address externalizing childhood behavioral problems (O'Donohue, Byrd, Cummings, & Henderson, 2005; Polaha, Dalton, & Allen, 2011) and internalizing disorders, such as anxiety (Chavira, Stein, Bailey, & Stein, 2004; Franz, et al., 2013) and depression (Asarnow, et al., 2005; Olson, et al., 2002). For example, one study conducted in a pediatric rural setting reported that 23.6% of all primary care visits addressed issues related to behavioral, emotional, or developmental concerns (Cooper, Valleley, Polaha, Begeny, & Evans, 2006). Similarly, primary care visits for adult and geriatric populations often involve addressing common mental health issues such as depression (Hardeveld, Spijker, De Graaf, Nolen, & Beekman, 2010; Mojtabai, 2014; Park & Unützer, 2011) and anxiety (Serrano-Blanco, et al., 2010; Wolitzky-Taylor, Castriotta, Lenze, Stanley, & Craske, 2010). Adults furthermore utilize primary care services for a variety of other behavioral health needs such as medical concerns requiring behavior change or habit formation (e.g., overweight/obesity, diabetes management, chronic pain), and psychotropic medications prescribed by primary care physicians (Hunter, Goodie, Oordt, & Dobbmeyer, 2009). It is clear that mental health concerns are present in primary care settings but estimated prevalence rates have varied widely. According to Carvalho & McIntyre (2017), "Prevalence rates range from 10% to 39% for affective disorders, from 7.2% to 37.6% for anxiety disorders, and from 6.3% to 27.2% for major depressive disorders . . ." (p. 3).

When mental health concerns arise during primary care visits, medical providers are often the link between the identified problem and ensuring patients are directed to adequate treatment. Prior research on the most common concerns for which medical providers referred patients for behavioral health services determined that internalizing disorders comprised 41.8% of referrals. Specifically, 23.2% of behavior health patients were referred for depressive

disorders and 18.6% of behavioral health patients were referred for anxiety disorders (Bridges et al., 2015). Several other researchers found that primary care clinic referrals were predominantly comprised of patients with anxiety and depressive disorders (Bluestein & Cubic, 2009; Demertzis & Craske, 2006; Funderburk et al., 2011; Katon & Schulberg, 1992; Kroenke, Spitzer, Williams, Monahan, & Löwe, 2007; Olfson et al., 1997).

The provision of psychological services alongside typical medical services in primary care has become necessary for the nation's healthcare system. Providing psychological and medical services in multidisciplinary settings avoids a potential delay between identified behavioral health concerns and their treatment. Additionally, integrated health care has the ability to improve the quality and timeliness of care for those that might not otherwise receive it (Strosahl, 1998). Since such a large portion of adults living in the United States have a mental health disorder, but most do not receive care, access to treatment is particularly important.

### **Healthcare Policy**

In recognition of the high need for mental health care in America, policy changes have been endorsed. Specifically, national trends supported by government policy have shifted the weight of attention on overall health care in America. Recent health care reform policies in the U.S. have been enacted with the goal of lowering health care costs, improving health care coverage, and increasing access to a larger population to be able to receive health care services (Blumenthal & Collins, 2014; McDaniel et al., 2014; Orszag & Emanuel, 2010). The Patient Protection and Affordable Care Act (ACA), known colloquially as Obamacare, required an increase in access to insurance for all, an increased focus on preventive services, and the promotion of improved health and wellness in America (Kocher, Emanuel, & DeParle, 2010; Koh & Sebelius, 2010). According to Ali et al. (2016), "Estimates indicated that 2.8 million

adults may receive behavioral health treatment through Medicaid expansions, and 3.1 million through participation in health insurance exchanges. This represents a 40% increase in BH services utilization, primarily for mental health services” (p. 11). The ACA also aimed to establish a system for early identification and prevention of health concerns, wellness maintenance, and chronic disease management.

A prominent component of the ACA is the Patient-Centered Medical Home (PCMH), which requires team-based interprofessional environments and population-based approaches to health care delivery (Ferrante, Balasubramanian, Hudson, & Crabtree, 2010; Nutting et al., 2009; Stange et al., 2010). The PCMH includes a focus on treating individuals in their entirety (e.g., medical and mental health concerns) and medical teams are encouraged to engage in collaborative and coordinated care among diverse healthcare providers. Collaborative care includes attending to a patient’s mental health needs and often results in consultation and referrals to behavioral health professionals. PCMHs, in accordance with the ACA, promote the inclusion of mental health services and integrated care practices (Croft & Parish, 2013; McDaniel et al., 2014).

### **Integrated Behavioral Health Care**

The Integrated Behavioral Health Care (IBHC) model of service delivery is well positioned to address these healthcare policy changes. Because IBHC blends the provision of medical and mental health services in a single location for the ease of patient comfort, it simultaneously improves the efficiency of providing health care to patients and may improve population wellness. The focus of IBHC, indeed, is to improve the health of a population, not just an individual. Population health is a function of *both* treatment efficacy and the number of people reached (Abrams et al., 2003). Therefore, briefer interventions that may be somewhat

less efficacious can still be more impactful to a population's well being than more efficacious interventions if more patients are able to receive treatment. IBHC thus has the ability to impact more people than traditional individualized mental health treatment. National policy changes are altering the way health care is provided and the IBHC model of service delivery is becoming increasingly warranted.

At the highest level of integration, integrated behavioral healthcare differs from traditional mental health services in several important ways. In the IBHC model, the treatment philosophy is to target improvements with patient functioning, such that patients demonstrate overall improvements, rather than complete diagnostic remission. Behavioral health consultants (BHC's) work as part of interprofessional care teams with a variety of other health professionals such as medical doctors and nursing staff (Robison & Reiter, 2007). Rapport that has been established between a patient and their primary care provider (PCP) is thought to transfer to BHCs as they are seen as direct extensions of the care team. Patient care is often provided in a multidisciplinary manner such that BHCs collaborate with a patient's PCP regarding course of treatment and patient intervention planning.

The logistics of such highly integrated practices also differ in important ways from traditional mental health care. Instead of 50-minute sessions, IBHC sessions last approximately 15-30 minutes (O'Donohue, et al., 2005). Sessions are not typically scheduled on a weekly basis but are instead spread out several weeks apart. Furthermore, typical treatment duration is much briefer in IBHC than in traditional care, with an average of one to four appointments per episode of care (Bryan et al., 2012). Same-day services to begin treatment are typical. For example, if the PCP identifies a behavioral health care concern with a patient during a medical visit, the provider prompts a BHC visit and schedules a (typically) same-day appointment. It is common

practice for behavioral health care appointments to occur in the same exam room as the medical visit or in a nearby room.

### **What We Know About IBHC Outcome Research**

**Clinical outcomes.** Behavioral health providers typically use adapted or abbreviated versions of evidence-based interventions (Bridges et al., 2013; Bryan et al., 2012; Ray-Sannerud et al., 2012). Studies have shown brief integrated behavioral health care treatment for depression and anxiety are effective. Funderburk, Shepardson, and Krennek (2015) utilized a brief behavioral activation treatment in a university primary care setting. Results illustrated that at two-week follow-up, patients reported a significant decrease in depressive symptoms on the Patient Health Questionnaire. Roy-Byrne and colleagues (2010) compared treatment as usual (TAU) versus patient choice of medication, cognitive behavioral therapy or both for patients with anxiety disorders. Primary care physicians treated those in the TAU group and no anxiety interventions were administered. Cognitive behavior therapy treatments included psychoeducation, self-monitoring, the development of fear hierarchies, breathing retraining, relapse prevention, cognitive restructuring and exposure therapy. Those in the treatment group had significantly greater improvement in quality of care and reductions in anxiety symptoms compared to those in the TAU group. Bridges and colleagues (2015) examined patient rates of functional improvement in primary care patients treated for a variety of behavioral health concerns. Results indicated the fastest rate of improvement occurred for those who were seen for depression and treated with behavioral activation and for patients who were seen for anxiety and were treated with exposure therapy.

Brief interventions provided in IBHC settings have produced clinically significant reductions in patient symptoms and improved patient functioning across a range of patient

populations. Gomez et al. (2014) examined the effectiveness of brief behavioral health interventions with pediatric populations between 1-17 years of age. Results indicated significant reductions in global distress and high caregiver satisfaction with services received. Bridges et al. (2013) examined mental health disparities with Latino and non-Latino White primary care patients who were low-income. Findings revealed that both groups evidenced clinically significant decreases in patient distress and reported high patient satisfaction. This suggests IBHC services in primary care may reduce mental health disparities for Latinos. Corso et al. (2012) examined clinical improvement and therapeutic alliance in military-based primary care integrated clinics. Results indicated strong therapeutic alliances were formed between patients and behavioral health consultants; however, strong alliances did not relate to improvements in patient clinical outcomes. Funderburk and colleagues (2012) assessed patient and provider acceptability and satisfaction with integrated behavioral health services provided at a university health center. Patients reported being satisfied with services received and a willingness to meet with behavioral health providers in the future. Providers reported satisfaction with services and that patients benefited from having an integrated care program at the health center.

**Cost effectiveness.** IBHC has demonstrated it is a cost-effective solution to addressing health care (Blount, 1998; Byrd, O'Donohue, & Cummings, 2005; WHO, 2008). Blount and colleagues (2007) conducted a review of the economic payoff of behavioral health services in medical settings. They reported that when patients with a mental health disorder received active behavioral health services at the primary care site, medical costs were reduced by as much as 17%. In comparison, patients who did not receive behavioral services had an average increase in health care costs of 12.3%.

Reiss-Brennan et al. (2016) examined health care quality, utilization rates, and cost in primary care between patients that received integrated team-based care and those that received treatment as usual. Those in the integrated care group had fewer emergency room visits and hospital admissions but there were no significant differences observed between the groups regarding number of visits to specialty care physicians and visits to urgent care facilities. Patients in the integrated care group collectively had fewer (232.8) visits with PCPs than those in the treatment as usual (250.4) group. Finally, results indicated that those in the integrated care group demonstrated significantly less actual payments to the delivery system than those in the treatment as usual group.

Although not exclusive to IBHC practices, Chiles and colleagues (1999) conducted a meta-analysis that included 91 studies. Results indicated that 90% of the studies reported that patients had a decrease in medical service utilization following the receipt of a psychological intervention. Decreases in utilization of mental/ medical services often produce institution-wide savings. Results were further examined based on psychotherapy outcome studies that utilized an intervention versus a control group. Treatment group participants exhibited a 17.1% reduction in utilization while those in the control groups increased utilization by an average of 12.3%. Additionally, projected dollar savings per person was estimated to be \$2,205, which was a 20% savings.

### **Areas to Expand Upon in IBHC Outcome Research**

Behavioral health episodes of care typically span (1-4) brief sessions. In integrated primary care settings, previous researchers have found that the average number of sessions in an episode of care was about 1.5 (Bridges et al., 2015; Bryan et al., 2012). These averages are considerably lower when compared to traditional mental health care settings. For example,



Olfson and Marcus (2010) examined the trends in outpatient psychotherapy and noted the national average number of therapy sessions was 9.7 in 1998 and 7.9 in 2007. Given the evident contrast in average number of sessions patients receive, it is important to consider how therapeutic dose (or number of sessions attended) relates to therapeutic effects (or improvements as a result of therapy). Dose effects should first be explored in traditional settings as the research is quite established. Within this context, preliminary research conducted in integrated primary care settings can be reviewed.

**Dose effects in traditional mental health care.** The dose-effect model of traditional outpatient therapeutic change posits that improvements in therapy have a negative acceleration pattern, with the most improvement occurring early on in treatment and then gradually tapering off as treatment continues (Stulz, Lutz, Kopta, Minami, & Saunders, 2013). This appears to be the case regardless of the duration of treatment. Initial research in traditional mental health care found that by 8 sessions of therapy, approximately 50% of patients improved considerably; by session 26, 75% of patients improved (Howard, Kopta, Krause, Orlinsky, 1986). Updated reports estimate between 13 to 18 sessions of therapy are needed in order to achieve a benchmark of 50% of patients improving (Barkham et al., 1996a; Hansen, Lambert, & Forman, 2002; Kopta, Howard, Lowry, & Beutler, 1994; Maling, Gurtman, & Howard, 1995). Researchers have also found rate of change to be inversely related to duration of treatment and longer treatments to be associated with less rapid rates of change (Stulz et al., 2013).

Howard and colleagues (1986) examined the therapy dose-treatment effect relationship for various disorders. They found that approximately 50% of patients with depression and anxiety evidenced improvements between 8 and 13 treatment sessions. Further analysis regarding rates of improvement suggested that depressed patients responded to treatment at

lower dosages (earlier in psychotherapy) as compared to anxious or borderline-psychotic patients. Barkham et al. (1996b) randomly assigned 212 patients with depression to receive either 8 or 16 sessions of psychotherapy. Their findings suggest the dose-effect relationship for depression is negatively skewed, with most improvement happening early on in treatment. The authors suggest that with depressed patients, there may be diminishing effects for longer doses of treatment.

**Dose effects in IBHC.** Bridges et al. (2015) divided their sample of primary care participants who received IBHC treatment based on number of sessions (1-7) and examined their global assessment of functioning scores (GAF) at first and last sessions. They found that all patients improved, with an increase in GAF scores, from first to last visit. Patients who attended seven sessions had the lowest GAF scores (indicating lower functioning) at baseline and patients seen for only one session had the highest GAF scores (indicating higher functioning) at baseline. As such, trends suggested that patients with lower GAF scores attended more sessions than those with higher GAF scores. Finally, results indicated that patients who attended more sessions tended to make the most gains in functioning.

Bryan et al. (2012) examined the trajectory of improvement in primary care patients who received integrated behavioral health care services. Findings indicated that a majority of patients (71.5%) improved across sessions and 40.5% demonstrated both clinically meaningful and reliable change. Patients were divided into four groups (normal, mild, moderate, and severe). Results indicated that those in the severe group improved the most, followed by those in the moderate, and lastly by those in the mild group (those in the normal group did not change). Analyses revealed about 25% of the variance in clinical improvements was uniquely accounted

for by increased number of sessions. Results also indicated that more gains in symptomatic distress were found earlier in treatment.

Corso and colleagues (2012) examined treatment outcome in the BH model utilized in a primary care setting. Results demonstrated that patients overall improved in symptoms and functioning. However, total number of patient appointments was not found to significantly predict change in global mental health scores. Overall, dose-effect studies in primary care provide additional support of the notion that patients can *and do* improve with a few number of behavioral health sessions. Studies revealed that patients with higher baseline distress typically attend more sessions than those with lower scores. However, the results are mixed as to whether number of patient sessions significantly predicts patient improvement.

**Regression to the mean.** Regression to the mean is a phenomenon that commonly threatens validity of psychotherapy outcome research. Regression to the mean refers to the notion that, with repeated assessments that utilize the same outcome measure, observed extreme scores (whether high or low) become less extreme over time (Nezu & Nezu, 2008). For example, in clinical populations patients often begin treatment with high levels of symptoms or distress as measured by various types of assessments. In fact, patients may sometimes be referred to treatment because of these elevated scores on a symptom measure, especially if it is used as a screener. Typically patients receive treatment or intervention to address their symptoms or distress. Post-intervention, patients are often given the same assessments in order to evaluate the impacts of the intervention. Regression to the mean posits that the extreme scores (high levels of symptoms or distress) frequently observed in clinical samples, after a second measurement, will on average be closer to the mean of the population distribution *even if no change had occurred*. Regression to the mean has been cited as justification for utilizing control

groups in psychotherapy outcome research (Davis, 1976; James, 1973). In the absence of true control groups, some researchers have suggested providing a statistical correction to change scores in order to account for the expectation that extreme scores will, on average, be less extreme at re-test even if the patient has not improved (see Barnett, van der Pols, & Dobson, 2005 for a review). This author is unaware of any current studies that have utilized statistical corrections in integrated behavioral health care outcome literature to adjust for a lack of an experimental control group.

**Long-term outcomes in IBHC.** To date, only a single study has investigated the long-term persistence of gains made in functioning following treatment in IBHC. Ray-Sannerud and colleagues (2012) investigated the long-term global mental health functioning of patients (e.g., active duty military personnel, their families, retirees, and retirees' families) who received behavioral health care interventions in a military run clinic. Clinicians were 16 predoctoral psychology interns and 2 licensed psychologists all trained in the primary mental health care model. Wide ranges of evidence-based interventions were given based on the presenting concerns during 30-minute appointments. Interventions were predominantly cognitive-behavioral in nature.

Approximately 1,256 patients were entered into an electronic record account of patients. Of those, researchers randomly selected approximately 50% and mailed measures to 664 patients between one and a half and three years after they received the intervention. The return rate was 10.5% for a final sample of  $N = 70$ . It was reported that 6.9% of mailed surveys were returned as undeliverable. Most respondents were female (62.9%) and White (48.6%). Patients were assessed using the Behavioral Health Measure (BHM) at each behavioral health appointment;

higher scores indicate better health. The BHM categorizes results along a global mental health scale ranging from normal to severe.

Results indicated patients maintained gains from behavioral health interventions an average of two years after they received the intervention. Furthermore, patients made significant improvements from their first to last appointment. Patient improvement remained significant even when accounting for the receipt of additional mental health treatment subsequent to BH intervention. Ray-Sannerud et al. (2012) did not provide information regarding the size of the observed effect. Therefore, the reported standard error and population size were used to calculate Cohen's  $d$ , for a result of .74; which represents a medium effect. While this study is promising, additional studies of the long-term effects of brief integrated care treatment are sorely needed to see how generalizable these findings are.

## **PURPOSE**

As reviewed above, IBHC holds promise to address mental health service gaps in people who experience psychological symptoms but do not access traditional care. Initial studies show IBHC can reduce symptoms (Bridges et al., 2013, 2015; Corso et al., 2012; Gomez et al., 2014; Funderbunk, Shepardson, Krennek, 2015), and that these changes may persist over years (Ray-Sannerud et al., 2012), even though patients are only seen a few times. There is some suggestion that providing IBHC services can reduce medical costs (WHO, 2008). However, the research in this area remains sparse and many of these claims are only supported by one or two studies (Blount, 2007; Reiss-Brennan et al., 2016). Finally, evaluations in IBHC lacking control groups typically fail to correct for expected regression to the mean effects.

The current study therefore sought to examine the long-term effects of brief behavioral health interventions on patient global distress at three integrated primary care clinics, all part of

one federally qualified health care system. Prior research conducted at these clinics by the researcher and her colleagues demonstrated significant reductions in patient global distress following the receipt of brief behavioral health interventions (Bridges et. al., 2013; Gomez et. al., 2014). The aim of the current study was to explore the long-term effects of brief behavioral health interventions on primary care patients. Specifically, clinical gains (reductions in patient global distress), previously observed in behavioral health patients at these clinics, were examined in order to assess whether those gains were maintained during long-term follow-up. Medical service utilization was also examined as a function of treatment, such that number of medical visits preceding and following receipt of behavioral health services were examined. The following hypotheses were proposed:

1. *Hypothesis One* - Patients will have a significant decrease in global distress from their first behavioral health session to long-term follow-up after receiving behavioral health services.
2. *Hypothesis Two* – The decrease in global distress scores from first behavioral health session to long-term follow-up will be reliable and not exclusively accounted for by regression to the mean effects.
3. *Hypothesis Three* – Integrated behavioral health care services will show some medical cost offset, such that patients will have fewer medical visits in the 12 months following receipt of behavioral health services as compared to the 12 months prior to receiving behavioral health services.

Study aims also included gathering qualitative self-report information from patients in order to obtain information regarding what they recalled about the services they received. Specifically, patients were asked what they remembered about their behavioral health visits, which

recommendation(s) they remember being given, which recommendations they continue to use, what else they found helpful in dealing with their problem, why they stopped attending sessions, and were asked to provide feedback about behavioral health services received.

## **METHOD**

The present study incorporates similar methodology to that used by Ray-Sannerud and colleagues (2012) in order to assess the long-term effects of brief behavioral health interventions on primary care patients in a more ethnically diverse sample who were non-military civilians.

### **Participants**

Participants were seen in three integrated primary care clinics in a mid-southern state where integrated behavioral health care services are available for patients. Participating clinics are part of a larger network of clinics that comprise a federally qualified health center. Three pre-doctoral clinical psychology graduate students saw participating patients as part of their external practicum placements during their third year of clinical training. The graduate students worked as behavioral health (BH) interns and saw patients for an array of presenting problems. Patients were seen for concerns with mood (44.6%), anxiety (24.1%), sleep (6%), grief (4.8%), medically related ailments such as diabetes management (4.8%), and other reasons (15.7%; including alcohol problems, stress, relationship problems, and interpersonal violence). Behavioral health interventions were delivered during brief sessions lasting between 15 and 30 minutes. Long-term follow-up occurred between 1.08 and 2.80 years ( $M=1.81$ ,  $SD = .48$ ) after patients received behavioral health services.

Participants were recruited from a pool of 454 patients who were seen between August 2014 and June 2016 by BH interns. Of those patients, 163 (35.9%) could not be contacted for reasons such as the patient was deceased, the patient moved out of state, current phone numbers

were not available in patient electronic medical records, and the patient did not answer phone calls (patients were called up to six times). Upon being called, 88 (19.4%) actively declined to participate in the study. Two hundred and three patients (44.7%) indicated that they were willing to participate in the present study. However, 95 (20.9%) patients never returned mailed surveys that were sent to their current residence. A total of 108 (23.8%) patients completed the long-term follow-up surveys either over the telephone or via surveys that were mailed back to the researchers. Several patients were excluded from the final sample due to missing greater than 70 percent of data ( $n = 8$ ) or missing a global distress measure from their first visit ( $n = 17$ ). Patient recruitment information is illustrated in Figure 1.

Demographic information such as participant gender, age, insurance status, language preference, ethnicity, and race were gathered via patient electronic medical records. The clinics approved the use of patient medical records for this research purpose (Appendix A). Participants were 83 adults between the ages of 19 and 78 years old ( $M = 42.55$ ,  $SD = 11.06$ ). Participant reported race was 96.4% White, 2.4% Black, and 1.2% refused to report. In terms of ethnicity, 61.4% of participants identified as Hispanic and 38.6% identified as Non-Hispanic. Sessions were conducted in either English (54.2%) or Spanish (45.8%). Translators were used in 1.2% of sessions and 98.8% of sessions were conducted in the patient's preferred language with bilingual therapists. A majority of participants were uninsured (56.6%), some were insured via Medicaid (26.5%), others had private insurance (12%), and a few were insured via Medicare (4.8%). Demographic information is presented in Table 1.

A series of chi square analyses explored demographic differences in patients who participated in the study and patients who actively declined to participate in the study. There were no significant differences between patients who participated and those who declined



participation with regards to gender,  $X^2(1) = .74, p = .39$ ; ethnicity,  $X^2(1) = .21, p = .65$ ; preferred language,  $X^2(1) = .11, p = .72$ , and insurance status,  $X^2(3) = 3.65, p = .30$ . Results are presented in Table 2.

## **Measures**

**Medical history and service utilization.** Electronic medical records were used to gather information regarding patient medical service utilization 12 months prior to and 12 months after receiving behavioral health services. The number of medical sessions attended by participants was counted for both aforementioned time frames for each patient.

**Qualitative data.** Qualitative data were gathered using a six-item Behavioral Health Patient Survey that was created for the purposes of this study (Appendix D). Surveys were customized for each patient, such that their name, the name of the behavioral health consultant they saw, the reason for their visit, and the date of their visit were provided for their reference. Open-ended questions inquire about what patients remember from their behavioral health visit, the recommendations they were given during their visit, which recommendations (if any) they still use, if there was anything else they found helpful in dealing with the identified problem, and why they stopped attending behavioral health sessions. Finally, patients were asked to provide any feedback they had about behavioral health services offered at the clinic. A portion of patients wrote their responses via paper and pencil and mailed them back to the researchers. All other patients participated over the telephone and were asked questions in their preferred language by bilingual research assistants. RAs typed patient responses verbatim into a secure online data system (*Qualtrics*). A graduate student who is a native Spanish speaker translated all Spanish responses to English. All qualitative data were then compiled and coded for emerging themes. The primary researcher performed all data coding.

**Global distress.** Patients' global distress was assessed using the A Collaborative Outcomes Resource Network questionnaire (ACORN; Brown, 2011). The ACORN measure was available in both English and Spanish to meet the linguistic needs of the patients seen. The adult version of the measure has 14 items. The ACORN assesses global levels of psychiatric symptoms such as mood, anxiety, sleep, drug/alcohol use, self-harm ideation, and behavioral problems. There are also items that assess functional impairment in work, school, or other areas of life. Responses are scored on a 5-point scale ranging from 0 (*never*) to 4 (*very often*); scores are averaged to form a global distress score with higher scores indicating greater perceived patients distress. Reliability (i.e., Cronbach's alpha) of the ACORN has been estimated at .92 when used with adult clinical samples (Brown, 2011). In the current study, 13 ACORN items were used since item 8 (regarding drug/alcohol use) was eliminated from analyses. The Cronbach's alpha coefficient was .93 at first visit and .91 at long-term follow-up. Global distress scores from the adult version of the ACORN have previously been found to correlate significantly with the Beck Depression Inventory ( $r = .78$ ) and the Patient Health Questionnaire-9 ( $r = .82$ ). The ACORN manual specifies that benchmarks for clinically meaningful improvement are an effect size (Cohen's  $d$ ) of .50 or greater.

In the Ray-Sannerud et al. (2012) study, patients were assessed during their first visit, last visit, and were re-assessed at long-term follow-up. Researchers thus explored improvements on patients' mental health from first visit to last visit, and then explored whether these improvements were maintained long-term. For the current study, 49 participants attended only one behavioral health session in their episode of care. For the remaining 34 participants, assessment scores were not obtained for a large portion of patients (56%) during their final

appointments, thus that information is unavailable for the current study. Changes in patient global distress scores were therefore analyzed between first visit and long-term follow-up only.

## **Procedures**

**Initial procedures.** This project was approved by the Institutional Review Board at the University of Arkansas and by the Chief Executive Officer of the network of clinics (Community Clinics of Northwest Arkansas), where participants were recruited for this study. Data collection spanned a total of 12 months (from June 2016 to June 2017). The primary investigator trained a total of five undergraduate research assistants (RAs) on the procedures of this study. All RAs were female, four were Hispanic and bilingual (fluent in both Spanish and English) and one was non-Hispanic White. In addition to study protocol training all research assistants participated in orientation sessions and ethics trainings at one of the clinics and were registered as clinic volunteers.

The primary investigator gathered potential participant information from a pool of 457 patients who were seen by three pre-doctoral clinical graduate psychology students who served as Behavioral Health (BH) interns. As part of routine clinical care, behavioral health patients are given the ACORN measure after each session. Sessions with potential participants occurred between August 2014 and June 2016. Information about participants were compiled (e.g., medical record number, date of their first visit, reason for referral, intervention provided, etc.). Research personnel contacted potential participants via telephone. Patients were briefly told information about the study, including the purpose, procedures, and compensation. They were asked whether they would be interested in receiving information from investigators about the study via mail. If patients respond yes, clinic personnel verified patient's current mailing address. Only patients who consented via telephone were mailed a consent form and study

questionnaires. If potential participants did not answer the phone, research assistants left voicemails after the first and fourth phone calls. Potential participants were called up to six times. If they did not respond during that time, they were removed from the call list.

Exclusionary criteria were 1) the patient did not respond to research assistant's telephone calls, 2) the patient did not have a working phone number on file, or 3) the patient declined interest in the study.

Patients who gave consent via telephone were mailed an enveloped package containing various forms. They received a consent information sheet that explains the nature of the study (Appendix B). They were also mailed the Adult ACORN measure they filled out during their previous behavioral health visit and a Behavioral Health Patient Survey (Appendix D). All forms were translated and available in Spanish in order to fit the needs of Community Clinic patients. Participants were provided self-addressed stamped envelopes to return the surveys. Participants were informed in the consent information sheet that if they returned the surveys, they would be mailed a \$5 Walmart gift card as compensation for their participation and would be entered into a raffle for a chance to win a \$100 Walmart gift card. Implied consent was obtained if patients choose to mail back the completed surveys; no explicit consent signature was required of participants. Patients were assured information would be presented in aggregate form and would not contain details or personally identify any individual.

The primary investigator extracted additional information such as patient demographics and medical utilization information (number of visits with primary care providers pre- and post-behavioral health treatment) from patient electronic medical records. All patients receiving care from Community Clinic are required to sign a patient consent form (Appendix A). This consent form specifically states that clinic medical records are used for ongoing program evaluation and

research purposes. Therefore, no specific consent form associated with secondary data collection was required or obtained. Finally, a letter of support from the Chief Executive Officer of Community Clinic was obtained expressing approval of the proposed study (Appendix C). The letter of support provided consent for researchers to access patient medical records for limited use in accordance with the proposed study. The letter also outlined confidentiality procedures with regard to de-identifying patient information and data storage.

**Modified procedures.** The previously outlined procedures were implemented for six months (from June 2016 to December 2016). Within that timeframe, nine participants were recruited such that they returned completed surveys in the mail and were sent their Walmart gift card compensation. The response rate during that time was 6.4%. It was similar to the response rate in the Ray-Sannerud and colleagues (2012) article, which reported a 10.5% response rate. In an attempt to recruit a larger sample at an accelerated pace, the recruitment procedures were modified. The primary investigator obtained permission from both the University of Arkansas Institutional Review Board and the Chief Executive Officer of the primary care clinics to revise the study protocol.

Modified procedures involved research assistants calling potential participants from the compiled call list as previously indicated. If patients answered the phone call they were informed about the nature of the study and given the opportunity to answer the ACORN and Behavioral Health Patient Survey questionnaires over the phone. Research assistants read each question to patients and entered their responses verbatim directly into a secure online database (*Qualtrics*). Responses were saved using the patient medical record numbers instead of identifiable demographic information. If patients did not want to answer questions on the phone

they were still given the opportunity to receive surveys in the mail as previously outlined. The modified procedure increased the overall study response rate to 33.1%.

## **RESULTS**

### **Data Cleaning**

Preliminary data analyses were conducted and descriptive statistics were derived for all key variables. Seven participants were eliminated from inclusion in data analyses because they were missing greater than 70% of responses on the ACORN measure at first visit, long-term follow-up, or both. Item number eight on the ACORN is, “Over the past two weeks, how often did someone express concern about your alcohol or drug use?” This item had 11% missing data from participants that appeared to be missing at random. The remainder of responses on item eight was skewed such that 80% of responders rated this item as “Never.” The skew may be due to a potential social desirability response bias by responders or because drug and alcohol use is truly a low base rate occurrence in the sample. However, that information is unknown. Upon further inspection of the item, average patient distress at first session was calculated and there was only one-tenth of a difference in scores when item eight was included and excluded. The primary research therefore eliminated item eight from inclusion in the remaining analyses.

### **Primary Quantitative Research Questions**

Out of 83 participants in the study, 49 (59%) attended only one session. Of the remaining 34 participants, assessment scores were obtained during the final visit in episodes of care for 15 participants (44%). For these patients, their first visit ACORN distress scores were higher ( $M=2.84$ ,  $SD=.61$ ) than during their final visit ( $M=2.45$ ,  $SD=.76$ ). The difference was not statistically significant  $t(14)=1.70$ ,  $p=.11$ . The obtained effect size was Cohen’s  $d=.56$ , a medium effect, similar to those found in previous studies (e.g., Bridges et al., 2015) and

exceeding the benchmark for clinically significant improvement (Brown, 2011). Since the sample size was low and analysis likely underpowered, the current study acknowledges the observed reduction in global distress scores but the primary focus was to examine differences in patient global distress from first visit to long-term follow-up.

**Hypothesis one.** It was expected that participants would experience a significant decrease in ACORN global distress scores from their first visit to long-term follow-up. Long-term data were collected between 1.08 and 2.80 years after patients' first session in their episode of care. The data were initially checked to see if assumptions were met for normal distribution, skewedness, and kurtosis. The data were deemed acceptable and met all assumptions. A paired samples *t*-test explored differences in patient global distress between first visit and long-term follow-up. Results indicated significantly lower patient ACORN scores ( $M = 1.77, SD = .87$ ) at long-term follow-up as compared to patient ACORN scores ( $M = 2.25, SD = .90$ ) after the first visit,  $t(82) = 5.38, p < .01$ . The obtained effect size was Cohen's  $d = .54$ , a medium effect.

As part of additional analyses, participant ACORN global distress scores were divided into two groups. According to the ACORN manual, the mean global distress score for adults in clinical treatment was reported to be 2.10 (Brown, 2011). As such this was used as a clinical cutoff score. Participant scores were divided into low risk (ACORN scores below the cutoff of 2.10) and high risk (ACORN scores at or above the cutoff of 2.10). A mixed between-within subjects analysis of variance was conducted to assess the impact of clinical risk (low risk and high risk) on participants' ACORN distress scores at two time points (first visit and long-term follow-up). There was a significant interaction between level of risk and global distress scores, Wilks' Lambda = .77,  $F(1, 81) = 23.88, p < .01$ , partial eta squared = .23, such that participants in the low risk group showed minimal reductions in global distress scores from first visit to long-

term follow up, but participants in the high risk group displayed the greatest reductions in global distress from first visit to long-term follow-up. According to commonly used guidelines, the observed effect size was small (Cohen, 1988). Results indicate there was a main effect for time point, Wilks' Lambda = .72,  $F(1, 81) = 31.89$ ,  $p < .01$ , partial eta squared = .28, such that distress scores were higher at first visit than during long-term follow-up (see Table 3); the observed effect size was small. There was also a significant main effect for risk level  $F(1, 81) = 80.01$ ,  $p < .01$ , partial eta squared = .50, such that patients had lower distress scores in the low risk group as compared to the high risk group; the observed effect was substantially large.

The hypothesis that participants would have a significant reduction in global distress from their first session to long-term follow-up was supported. However, reductions were only significant for the high risk group; the low risk group experienced a non-significant decline in global distress from first session to long-term follow-up.

**Hypothesis two.** It was expected that the decrease in global distress scores from first behavioral health session to long-term follow-up would be reliable and not simply a function of regression to the mean effects. In order to address previously outlined concerns regarding regression to the mean in psychotherapy outcome research, the Gulliksen-Lord-Novick method (Hsu, 1989, 1999) was used. This method calculates a reliable change index in order to demonstrate that observed change was due to actual change and not measurement error. The method also corrects for expected regression towards the mean by estimating the mean and standard deviation toward which scores would be expected to regress (Atkins, Bedics, McGlinchey, & Beauchaine, 2005). Results indicate that 43 out of 83 participants showed reliable improvements in ACORN scores at long-term follow-up. Thus, 52% of the sample



improved beyond what would be expected from measurement error and regression towards the mean alone.

A series of follow-up analyses explored differences between those who evinced reliable improvement and those who did not. Chi square analyses were conducted to examine categorical demographic and patient risk level differences. No differences emerged between those who demonstrated reliable improvements and those who did not with regards to gender,  $X^2(1) = .85, p = .36$ ; ethnicity,  $X^2(1) = .88, p = .35$ ; preferred language,  $X^2(1) = .27, p = .60$ , insurance status,  $X^2(3) = 1.32, p = .73$ , and ACORN risk status (high and low),  $X^2(1) = .01, p = .93$ . All chi square results are presented in Table 6. A series of one-way between-groups analyses of variance (ANOVAs) were conducted to examine differences between patients who improved reliably from those who did not on continuous predictors. There was no significant difference in age between patients who reliably improved and those who did not  $F(1, 81) = .90, p = .35$ . There was also no significant difference based on number of behavioral health visits between patients who reliably improved and those who did not  $F(1, 81) = .18, p = .67$ . There was no significant difference in baseline ACORN distress scores between patients who reliably improved and those who did not  $F(1, 81) = .05, p = .82$ .

Overall, results partially supported the hypothesis that observed decreases in global distress scores would be reliable and not simply a function of regression to the mean effects. More than half the sample (52%) demonstrated reliable improvement beyond what would be expected from measurement error and regression to the mean effects. Upon further inspection, no significant differences in categorical demographic, risk level variables, or continuous predictor variables emerged between those who did and did not demonstrate reliable change.

**Hypothesis three.** It was expected that receipt of integrated behavioral health services would result in some medical cost offset, such that patients would have fewer medical visits in the 12 months following BH services than during the 12 months prior. The data were initially checked to see if assumptions were met for normal distribution, skewedness, and kurtosis. The data appeared to be positively skewed and did not meet assumptions of normality. Therefore, the data were transformed utilizing the square root method (Tabachnick & Fidell, 2001). After the transformation of data was complete, assumptions were rechecked and appeared to be satisfied. A paired samples *t*-test explored differences in medical service in the year prior to and following the receipt of behavioral health care services. Results indicated no significant differences in medical service utilization during the 12 months following receipt of behavioral health services ( $M = 3.75, SD = 2.71$ ) as compared to the 12 months prior to receipt of behavioral health services ( $M = 3.58, SD = 2.77$ ),  $t(82) = -.27, p = .79$ . Results revealed that medical service utilization slightly increased in the 12 months following BH services as compared to the 12 months prior to receipt of BH services; thus, hypothesis three was not supported.

**Follow-up analyses.** Additional analyses were conducted in order to investigate possible predictors of long-term follow-up patient distress scores. A hierarchical multiple regression was conducted in order to determine whether number of behavioral health visits and time between first visit and long-term follow-up accounted for additional variance above and beyond the previously demonstrated significant relation between ACORN scores at first visit and scores at long-term follow-up. Prior to conducting the analyses, assumptions of this statistical procedure were checked. The sample size of 82 was deemed sufficient given that 3 variables would be included in the total model. The singularity assumption was also met, as the independent variables (ACORN scores at first visit, number of visits in the episode of care, and time between

first visit and long-term follow-up) were not comprised of other independent variables. Obtained residual and scatter plots revealed that the assumptions of normality, linearity, and homoscedasticity were met.

A three stage hierarchical multiple regression was conducted with ACORN distress scores at long-term follow-up as the dependent variable. ACORN distress at the first visit was entered at stage one of the regression to control for baseline distress scores. Number of patient visits in the episode of care was entered at stage two and time between first visit and long-term follow-up was entered at stage three. Variables were entered in this order since sequentially, first visit distress scores were initially obtained, the patients then participated in their episode of care, and finally long-term follow-up occurred. Intercorrelations between variables used in the analysis are presented in Table 4 and regression statistics are summarized in Table 5. Results of the hierarchical multiple regression demonstrate that the stage one variable (first visit ACORN distress scores) contributed significantly to the regression model,  $F(1, 81) = 40.63, p < .01$  and accounted for 33.4% of the variance in global distress scores at long-term follow-up. Adding the number of sessions in the episode of care did not explain additional variance in global distress scores at long-term follow-up,  $F(1, 80) = .01, p = .91$ . The addition of time between first visit and long-term follow-up explained an additional .4% of the variation in distress scores at long-term follow-up, and the change in  $R^2$  was not significant,  $F(1,79) = .52, p = .47$ .

In order to further examine the non-significant findings in the previously presented hierarchical multiple regression, correlations between key variables were examined. Correlations were conducted using the non-significant predictors (number of sessions in the episode of care and time between first visit and long-term follow-up) and changes in ACORN distress scores. ACORN change scores were calculated by subtracting long-term follow-up

ACORN distress scores from first session ACORN distress scores. Results indicated there was not a significant association between ACORN change scores and the number of sessions in a patient's episode of care,  $r = .15, p = .18$ . Additionally, there was not a significant association between ACORN change scores and time between a patient's first visit and their long-term follow-up,  $r = .18, p = .11$ .

### **Qualitative Data**

The secondary aim of the current study was to gather qualitative self-report information regarding what primary care patients remember about the behavioral health services they received. A subset of participants wrote their responses to open-ended questions directly on Behavioral Health Patient Surveys and mailed them back to the researchers ( $n = 12$ ). All other participants ( $n = 71$ ) responded to questions over the telephone. Those that participated over the telephone were asked questions by bilingual research assistants and were able to respond in their preferred language. Research assistants typed patient responses verbatim into *Qualtrics*. A graduate student who is a native Spanish speaker translated all Spanish responses to English. All qualitative data were then compiled and coded for emerging themes. The themes were then categorized into four groups: a) what patients remembered about their visit and the recommendations that were given, b) other things patients found helpful in dealing with their identified problem, c) why patients stopped attending sessions, and d) feedback regarding services received. Qualitative themes are presented in Table 7.

Patients were asked to recall their appointments in an open-ended question format. They were also asked to recall the recommendations they were given. A majority of patients (69.1%) remembered being given recommendations for their presenting concern. Some patients

remembered highly specific details (60.3%) while others recalled generally (9.6%) what they were told to do. For example one patient reported the following in great detail:

*Turn off the television. That when I go to sleep to not use my telephone or the television. To not drink things with caffeine before sleeping. That if I woke up at midnight, I should read* (48-year-old Hispanic female, seen for sleep problems).

Out of all participants, 30.1% reported that they could not remember anything about their behavioral health visits. One patient stated that too much time had passed, “Back then, in 2016? Yeah I can barely remember. It has been a while. I don’t remember too much after a while” (56-year-old White male, seen for sleep problems). Approximately one-third of patients (24.1%) recalled discussing the medications they were taking with the BHC they saw. Some patients reported that the behavioral health consultant they met with explained their symptoms to them via psychoeducation (13.3%). One patient noted, “They explained a lot about anxiety to me. . . .” (29-year-old White female, seen for anxiety). Another patient stated, “They treated me and gave me an orientation about what I had” (59-year-old Hispanic male, seen for anxiety).

Patients were asked to provide information about other things they have found to be helpful in dealing with their identified problem. Most patients (33.7%) gave a unique answer that was coded into an “other” category. One patient stated, “I also changed my diet as well; I don’t eat like I used to. I’ve changed my eating habits” (52-year-old White female, seen for depression). Another reported, “I think that some books that I have gotten regarding self-help, positive thinking, and healthy living [helped]” (32-year-old Hispanic female, seen for anxiety). About a fifth (21.7%) of participants reported that social support provided from friends, family members, significant others, etc. helped them. Additionally, 9.6% and 8% reported that physical activity and religion/ spirituality helped them, respectively. A 27-year-old Hispanic woman seen for anxiety stated, “They also told me exercise would help me, so I started going to the gym.” A

35-year-old, Hispanic female seen for depression stated the following helped her, “Me going to a spiritual group and going to church.” A small portion of patients (3.6%) reported that alcohol or drugs helped them deal with their problem. A 37-year-old White woman seen for comorbid depression and anxiety reported, “I do some marijuana to help with my anxiety. My doctors do know about it, but I’m not very open about it.”

There was wide variability in responses when patients were asked why they stopped attending behavioral health sessions. The most common response was that the patient felt better and no longer needed behavioral health services anymore (20.5%). A portion of patients (18.1%) gave unique responses that were coded into an “other” category. A 32-year-old Hispanic male seen for anxiety stated that, “A divorce situation” was the reason he could no longer attend sessions. In addition to other reasons presented in Table 7, some patient responses included that the patient moved, the patient got medical equipment that helped resolve their sleep problems, the patient became sick, and the patient did not think the problem was serious enough to warrant continued attention. Some patients (13.3%) reported that there were various barriers to attending sessions such as, transportation, childcare, financial costs, and getting time off of work. One patient said, “I just didn’t have a way to get back and forth up there. I’ve been borrowing rides from family and they just didn’t have the gas to take me” (21-year-old White female, seen for grief). Some patients reported that they did not feel like their visits were helping (12%) or they were discharged and did not have a follow-up session scheduled (12%). Another reason patients had for no longer attending sessions had to deal with patients reporting busy or hectic schedules (8.4%). Another subset of the patients (7.2%) reported that they never stopped attending sessions and that they still receive BH services. Lastly, 7.2% of patients stated that they did not remember why they stopped attending sessions.

Patients were asked to provide feedback about the behavioral health services they received. The most common response was that patients thought services received were good or great (44.6%). A 20-year-old African American female seen for a mood disorder stated, “I think that the behavioral health specialists should continue what they are doing. It is helping and it’s effective.” About a third of patients (33.7%) did not provide any feedback. There were some patients (12%) that reported services needed to be improved or reported they were not satisfied with the services they received. A 48-year-old Hispanic male seen for anxiety stated, “The psychologist that was giving me help seemed very young. I did not feel they understood me because they were too young.” Some people (7.2%) specifically noted that the providers had good qualities such as being kind, caring, nice, etc. One patient had this to say about the female provider she saw, “She was wonderful . . . she actually listened and didn’t put me in a textbook” (50-year-old White female seen for alcohol problems). Some patients (4.8%) gave specific feedback about the need to maintain the same behavioral health providers at each session or to have more frequent visits. One patient had this to say about her experience:

*But like I said, I personally have an issue with strangers. Having to open up over and over and over to people I don’t know was not good. I realize it is a training place but that is one big reason why I went somewhere else (33-year-old White female, seen for depression).*

## **DISCUSSION**

This study sought to explore the long-term effects of brief behavioral health treatments in primary care patients. Prior research at the clinics where the current study was conducted demonstrated significant reductions in short-term patient global distress following receipt of brief treatments. Bridges et al. (2013) reported that both Latino and non-Latino patients, “. . . demonstrated clinically meaningful improvement, with Cohen’s  $d$  values exceeding .50” (p. 11). Furthermore, Gomez et al. (2014) reported an effect size of  $d = .81$  within a pediatric sample at

these clinics. In the current study, insufficient data were available to establish comparable significant short-term reductions in patient global distress scores, although the 15 patients who did provide these data showed comparable effect sizes ( $d = .56$ ). Therefore, aims of the current study were to expand upon the paucity of research that examines long-term follow-up outcomes of behavioral health treatments in primary care (e.g., Ray-Sannerud et al., 2012).

### **Hypothesis One: Long-term Follow-up**

The current study utilized similar methodology to that used in the Ray-Sannerud et al. (2012) study, which also examined long-term outcomes of brief behavioral health treatments in primary care patients. The current study found significant reductions in patient global distress from first behavioral health session to long-term follow-up, resulting in a medium effect size ( $d = .54$ ). Ray-Sannerud et al. (2012) found significant increases in patient mental health functioning, resulting in a medium to large effect size ( $d = .74$ ). These results support preliminary findings that long-term effects can be maintained when primary care patients receive brief behavioral health interventions. Although, in the current study the magnitude of the effect was more moderate than it was in the prior Ray-Sannerud et al. (2012) study. Together these studies expand the relatively recent literature that has illustrated positive clinical outcomes can reliably be obtained in integrated behavioral health care settings (e.g., Bridges et al., 2013, 2015; Bryan et al., 2009, 2012; Corso et al., 2012; Gomez et al., 2014).

Both the current study and the Ray-Sannerud et al. (2012) study lacked an experimental control group and all primary care patients received brief behavioral health interventions in addition to typical medical services provided by their PCP. The preliminary nature of the results in these studies would benefit from continued replication and expansion. Future studies could incorporate a comparison control group similar to those that have been previously utilized in



primary care settings. For example prior studies have used a variety of control groups such as wait-list controls (Lancee, van den Bout, van Straten, & Spoormaker, 2012; Newby et al., 2013), attention controls (Reid et al., 2011; Vitiello, 2013), bibliotherapy groups (Moore et al., 2011), and treatment as usual/ routine care (Kjøbli & Ogden, 2012; Richardson et al., 2014; Wadden et al., 2011). The addition of an experimental control would aid in assessing the distinct impact that brief behavioral health interventions have on reducing primary care patient symptomology. Currently, it is unclear what percentage of reliable and meaningful change is attributable to the received interventions.

The current study divided patients into low risk and high risk groups based on an ACORN distress clinical cutoff score ( $\geq 2.10$ ). At long-term follow-up, those in the high risk group had an average distress score of exactly 2.10, the clinical cutoff. Therefore, patients improved greatly but did not meet threshold to move down to the low risk level at long-term follow. This is partially due to the restricted range of risk levels (two groups). Ray-Sannerud et al. (2012) divided participants into four groups (severe, moderate, mild, or normal). Results indicated that severe patients improved to a moderately distressed level, moderate patients improved to a mildly distressed level, mild patients improved to a normal distress level and normal patients remained in the normal range. Both studies evinced that lowest risk patients (low or normal risk) maintained their status and did not get worse. In the current study, results showed that the greatest reductions in global distress scores were for those in the high risk group; the low risk group experienced a non-significant decline in global distress from first session to long-term follow-up. This is consistent with initial findings that suggest, in primary care settings that utilize the integrated behavioral health care model, patients with the highest baseline distress

tend to improve the most (for example, see Bryan et al. 2012). However, further research is warranted to expand upon the paucity of the current literature.

### **Hypothesis Two: Reliable Change Not Due to Regression to the Mean Effects**

Results indicated that 43 out of 83 patients (52% of the total sample) demonstrated reliable improvements at long-term follow-up while accounting for what would be expected from measurement error and regression towards the mean. Further analyses, illustrated reliable improvements were not associated with ACORN scores (distress at first visit). Those with both high and low risk improved such that their global distress scores decreased; however those in the high risk group experienced a statistically significant decline while those in the low risk group did not. These results are encouraging as they suggest that those who were highly distressed did not exclusively display long-term improvements. Reliable improvements were also unassociated with demographic variables. Current findings are consistent with previous literature suggesting that IBHC interventions are effective with a variety of populations (Bridges et al., 2013; Byrd et al., 2005; Quimby, 2017; Strosahl, 1998).

It is unclear why some of the patients in the current sample showed reliable change while others did not. Perhaps, consistent with the Bridges et al. (2015) study, it had more to do with the reasons for referrals and interventions received, which were not fully captured in these analyses. In that 2015 study, researchers assessed patients at the same clinics as those used in the current study. They found that greatest improvements occurred in BH sessions with patients presenting with depression or anxiety and when behavioral activation or exposure treatment were delivered. In this way, reliable improvements could possibly be due to patients receiving target interventions that are evidenced based and behavioral in nature. Future studies conducted at these clinics could further explore this notion.

There are a plethora of other possible reasons why some patients might not have displayed reliable change in the current study. For instance, there is ongoing research regarding the relative importance of nonspecific factors as compared to specific treatments in psychotherapy as being essential to producing positive patient outcomes (Tschacher, Junghan, & Pfammatter, 2014; Wampold & Budge, 2012). Approximately three decades ago, Butler and Strupp (1986) positioned that, “The goal of psychotherapy research is shifted from the search for active ingredients toward efforts to understand how therapist qualities interact with patient characteristics to produce, or fail to produce, the interpersonal conditions necessary for therapeutic change” (p. 30). They believed that nonspecific factors in psychotherapy were not well defined and had been under researched in the field. The significant contribution of nonspecific factors (attributable to patient characteristics, behavioral health consultant characteristics, and/or the interaction between the two) have not yet been explored in primary care patients that receive integrated behavioral health care services. Another potential reason why approximately half of the patients in the current sample did not evidence reliable improvement may be attributable to how the dependent variable (patient global distress) was measured. For example, some patients were referred and seen for issues such as grief, interpersonal violence, and health behavior change. The ACORN questionnaire is a measure that assesses psychiatric symptom frequency regarding patients’ recent (within the past two weeks) experiences with issues such as depression, sleep, anxiety, interpersonal problems, etc. (Brown, 2011). Thus, reliable change might not have been detected in the current study due to the ACORN questionnaire not fully capturing the precise domains that patients experienced positive improvements in as a result of behavioral health services.

### **Hypothesis Three: Medical Cost Offset**

Participants in the current study did not demonstrate medical cost offset by attending fewer medical visits in the 12 months following receipt of behavioral health care services as compared to the 12 months prior to receipt of BH services. Unexpectedly, the average number of visits actually increased, albeit rather minimally (an average increase of .17). A couple of studies that specifically measured differences in medical visits in primary care settings following treatment have demonstrated varied findings. One reported a decrease in PCP primary care appointments (Reiss-Brennan et al. 2016) while the other reported no difference (Grant, Goodenough, Harvey, & Hine, 2000). The increase in patient visits observed in the current study might be a function of the collaborative care settings, such that patients who continue to see a behavioral health consultant (BHC) continue to see their PCP based on target problems that both the PCP and BHC are treating (e.g., BHC treats with behavioral activation while the PCP treats with a psychotropic medication prescription). Overall, results in this area continue to be mixed and should be further explored.

In the current study, medical cost offset was solely measured proximally via examination of the number of medical visits patients attended. This is a limited way to examine medical cost offset. It would be beneficial to look at cost offset by exploring the suite of health services patients use, including expensive services that may be outside the scope of primary care, such as emergency room visits, inpatient hospitalization, or even outpatient psychotherapy (e.g., Katon, Roy-Byrne, Russo, & Cowley, 2002). Future studies should look at medical cost offset in more comprehensive ways which include a variety of direct and proxy metrics.

## **Follow-up Quantitative Analyses**

In an attempt to further explore additional predictors of long-term reductions in ACORN distress scores, a hierarchical multiple regression was conducted. The number of visits in a patients' episode of care was not significantly associated with long-term outcomes. Furthermore, ACORN change scores were not correlated with number of visits. Corso and colleagues (2012) also found that total number of patient appointments in an integrated primary care clinic did not significantly predict changes in patient global mental health. Results of these two studies might indicate that the "dose" of treatment provided in primary care in its totality is too brief. For example, 6 sessions lasting 15-20 minutes each would result in a patient receiving 90 to 120 minutes of total intervention. One to two hours of psychotherapy intervention might not be long enough to have a unique impact on outcomes. However, this is an empirical question that requires examination.

Patients might also elicit maturation effects a lot sooner in an IBHC setting versus a traditional outpatient setting. This could be due to the time lag between sessions. Three to four sessions could span approximately two to three months. The same three to four sessions in outpatient psychotherapy would only span one month. Patients in IBH primary care settings theoretically have more time to practice learned skills and techniques between sessions as compared to those in outpatient settings. Thus, observed improvements in global patient functioning could partially be due to naturally occurring alternative reasons combined with amount of time in therapy.

## **Qualitative Data**

Exploratory qualitative information were gathered about patient recall of session content and information regarding their experiences with BH services. Information collected from

qualitative self-reports indicated that primary care patients are mostly (69.1%) able to recall what was discussed in their visits (e.g., recommendations given, psychoeducation provided about their presenting concern). Some patients were able to recall detailed information and others recalled session content generally. A little less than a third (30%) of patients reported that they could not remember anything about their sessions. The qualitative data demonstrate most patients can identify specific details about recommendations they received, even though these recommendations were given one to three years prior. Results are consistent with the more directive approach behavioral health consultants typically take in session (Bridges et al., 2013; Funderburk et al., 2011; Funderburk, Dobmeyer, Hunter, Walsh, & Maisto, 2013). Qualitative data obtained in integrated behavioral health care research is useful and can aid in hypothesis generation for future research (Kwan & Nease, 2013). As such, it would be interesting to further investigate whether the ability to recall detailed session content differs significantly between those with less time between their sessions and long-term follow-up as compared to those with longer time between visits.

Patients largely reported that the reason they no longer attended sessions was due to feeling better. Patients' subjective experiences of behavioral health support the results of the current study which found overall significant improvements in patient distress. A portion of patients noted structural barriers as reasons for discontinuing sessions. The sample was largely Hispanic (61.4%) in nature. Prior research has found that Hispanic populations often report structural barriers as limiting access to services and prohibiting help-seeking behaviors (Bailey et al., 2012; Bridges, Andrews, & Deen, 2012; Uebelacker et al., 2012). Finally, patients largely reported satisfaction with services received. This finding is consistent with preliminary research

conducted in IBHC settings which found high rates of patient satisfaction with services received (Funderburk, Fielder, DeMartini, & Flynn, 2012; Gomez et al., 2014).

### **Limitations**

The current study provided much needed research in the area of long-term effects of brief behavioral health treatments for primary care patients. On the whole, patients improved over time and maintained their gains during long-term follow-up. Primary care patients evidenced significant decreases in global distress. However, the study's findings should be considered in light of its limitations.

A priori power analysis was computed for a repeated measures design. Prior research conducted at these clinics was reviewed in order to estimate the correlation between first and last visit ACORN scores. A statistical analysis program (*G\*Power*) was used to calculate power. The a priori power analysis for the current study assumed  $\alpha = .05$ , a correlation among repeated measures of  $r = .67$ , and  $\beta$  of .80 for an ANCOVA repeated measures, between factors,  $f$ -test. Results of the power analysis indicated that a sample size of 126 would be needed in order to detect statistically significant results. The current obtained sample was approximately 40 participants fewer than what was desired. A larger sample size would have given more confidence that non-significant findings were due to truly non-significant associations between variables and not due to a lack of power.

Other limitations were the lack of experimental rigor via use of a control group and additional qualitative coders. The current study lacked an experimental control group in order to assess the effects of brief behavioral health interventions on ACORN global distress scores. Of the current sample, 52% evinced reliable change (they improved beyond what might be expected from measurement error and regression to the mean). It is unclear whether the rest of the sample

experienced improvements partially due to regression to the mean effects and measurement error. It is possible that patient improvement could be attributable other factors such as spontaneous remission or the passage of time. Additionally, the primary researcher independently coded qualitative data and organized it into various themes. The current study lacked a reliability check on coding procedures. As such, the current qualitative results are subject to potential experimenter bias.

Relatedly, observed improvements in patient functioning could have partially been due to carry over effects of services patients received as part of the primary care clinics (federally qualified health centers) they attended. The clinics where the studies were conducted use a collaborative model for patient-centered care. Patients that receive health care at these clinics often see a host of providers (that may overlap in treatment targets) such as, primary care providers, behavioral health specialists, nutritionists, physical therapists, diabetic educators, case managers, psychiatrists, etc. It would be important for future iterations of the current study to implement a coding procedure to account for and parse apart the various interventions a given participant may receive at these clinics. The obtained information could be used to inform the ways in which services primary care patients receive overlap with regards to therapeutic treatment goals and outcomes.

Limitations were also evident in the procedural discrepancies used for data collection for the current study. Due to the initial low response rate from participants that mailed in their survey responses, the protocol was changed such that participants were recruited and administered measures over the telephone. The response rate for the first six months of data collection was 6.4% and the response rate for the second six months of data collection was 33.1%. Procedural changes were necessary in order to improve participation rates. However,



completing measures privately versus responding to inquiries from someone over the telephone could have had an impact on how participants responded to open-ended survey questions regarding their personal experiences.

Finally, there was also significant variability in follow-up time frame in which participants were contacted about possible participation in the study, ranging from 1.08 to 2.80 years. A large gap between first visit and long-term follow-up could have resulted in potential loss of participants due to various reasons such as death, relocation, or lack of interest. However, the time frame was selected for the current study because it was consistent with that used in the Ray-Sannerud (2012) study.

### **Implications and Future Directions**

Future studies examining long-term effects should utilize a control group which does not receive brief behavioral health interventions. Within an integrated behavioral health care system, participants in the control group would likely continue to utilize usual medical care services (visits with their primary care providers) but would refrain from receiving psychotherapeutic interventions from behavioral health specialists. Utilizing a true experimental control group would aid in isolating the independent variables in order to assess their unique impact on observed differences in the dependent variable. It would also reduce prior concerns that were raised in the current study concerning regression to the mean effects and measurement error.

Anticipated future directions of the current study are threefold. First, systematic data collection would be desired in order to obtain measurement scores at three time points (first visit, last visit, and follow-up). The current study utilized available data from a subset of patients that had the aforementioned data points. The sample size was very small and unable to detect significant effects on global distress scores from first to last visit. Second, it would be beneficial

to expand the current patient range to include adolescents and children. This would magnify the generalizability of observed effects within this network of clinics and add to the current pediatric literature in primary care and integrated behavioral health. Finally, expanding upon the gathered qualitative data, it would be important to appraise whether what patients recall about their visits (the identified behavioral health concern, recommendations given, whether a follow-up was intended) matches information recorded within patient charts. This information would aid in understanding how patients view behavioral health treatments. For example, are they misremembering what was told to them by a behavioral health specialist and instead reporting what their nutritionist or primary care provider said? If so, this might be further evidence that BHCs are seen as an extension of the medical team and are truly integrated. Reliability checks would also help in establishing whether discontinuation of services was mutually understood or whether it was one-sided (on either the part of the patient or the provider).

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Table 1

*Demographic Characteristics of Participants (N = 83)*

Variable	<i>M (SD)</i>	(%)
Age, in years	42.55 (11.06)	
Gender		
Male		(20.5%)
Female		(79.5%)
Race		
White		(96.4%)
African American		(2.4%)
Other / Unreported		(1.2%)
Ethnicity		
Non-Hispanic		(38.6%)
Hispanic		(61.4%)
Language Preference		
English		(54.2%)
Spanish		(45.8%)
Insurance Status		
Medicaid		(26.5%)
Medicare		(4.8%)
Private Insurance		(12.1%)
Uninsured		(56.6%)

Table 2

*Results of Chi Square Analyses of Demographic Variables between Patients Who Participated in the Study and Patients Who Actively Declined*

Variable	Participated ( <i>n</i> =83)	Declined ( <i>n</i> = 88)	$\chi^2$	<i>df</i>	<i>p</i> Value
Gender			0.74	1	.390
Male	17 (20.5%)	24 (27.3%)			
Female	66 (79.5%)	64 (72.7%)			
Ethnicity			0.21	1	.646
Non-Hispanic	32 (38.6%)	38 (43.2%)			
Hispanic	51 (61.4%)	50 (56.8%)			
Preferred Language			.114	1	.735
English	45 (54.2%)	51 (58%)			
Spanish	38 (45.8%)	37 (42%)			
Insurance Type			3.65	3	.302
Medicaid	22 (26.5%)	22 (25.3%)			
Medicare	4 (4.8%)	4 (4.6%)			
Uninsured	47 (56.6%)	41 (47.1%)			
Other/Private	10 (12.1%)	20 (23%)			

*Note.* One participant refused to report his/her race. Additionally, one patient that declined participation did not have insurance status listed in his/her electronic medical record.

Table 3

*Descriptive Statistics of ACORN Distress Scores for Low and High Risk Patients*

	<i>n</i>	<i>M</i>	<i>SD</i>
First Visit			
Low Risk (ACORN < 2.1)	38	1.44	.49
High Risk (ACORN ≥ 2.1)	45	2.93	.52
Long-Term Follow-Up			
Low Risk (ACORN < 2.1)	38	1.37	.71
High Risk (ACORN ≥ 2.1)	45	2.10	.87

Table 4

*Correlations of Variables Used in Hierarchical Multiple Regression*

Variables	1	2	3	4
1. Long-Term Follow-Up Global Distress	-			
2. First Visit Global Distress	.58***	-		
3. Number of Visits in Episode of Care	.15	.28**	-	
4. Time Between First Visit and Long-Term Follow-Up	.07	.23*	-.04	-

*Note.* \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 5

*Summary of Hierarchical Multiple Regressions*

Variable	$\beta$	$R^2$	$F$	$\Delta R^2$	$\Delta F$
Model One					
First Visit Global Distress	.58	.334	40.63***		
Model Two					
Number of Sessions in Episode of Care	-.01	.334	20.07	.000	.01
Model Three					
Time Between First Visit and Long-Term Follow-Up	-.07	.338	13.48	.004	.52

*Note.* \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .



Table 6

*Results of Chi Square Analyses of Variables between Patients Who Demonstrated Reliable Improvement and Patients Who Did Not Demonstrate Reliable Improvements*

Variable	Reliably Improved ( <i>n</i> = 43)	Did Not Reliably Improve ( <i>n</i> = 40)	<i>X</i> <sup>2</sup>	<i>d</i>	<i>p</i> Value
Gender			.85	1	.36
Male	11 (25.6%)	6 (15%)			
Female	32 (74.4%)	34 (85%)			
Ethnicity			.88	1	.35
Non-Hispanic	14 (32.6%)	18 (45%)			
Hispanic	29 (67.4%)	22 (55%)			
Preferred Language			.27	1	.60
English	25 (58.1%)	20 (50%)			
Spanish	18 (41.9%)	20 (40%)			
Insurance Type			1.32	3	.73
Medicaid	11 (25.5%)	11 (27.5%)			
Medicare	3 (7%)	1 (2.5%)			
Uninsured	23 (53.5%)	24 (60%)			
Other/Private	6 (14%)	4 (10%)			
Risk Status			.01	1	.93
Low Risk (ACORN < 2.1)	19 (50%)	19 (50%)			
High Risk (ACORN ≥ 2.1)	21 (46.7%)	24 (53.3%)			

Table 7

*Behavioral Health Patient Survey – Frequency of Qualitative Themes*

Theme	% Patients	Sample Responses
<b>What patients remember about their visits and recommendations they were given.</b>		
1. Specific examples of recommendations given	60.3%	“Relax my muscles.”
2. Nothing/Cannot remember	30.1%	“I don’t remember anything that I talked to him about.”
3. Talked about medications I was taking	24.1%	“I was told to exercise and to take my medication.”
4. BHC explained my symptoms to me	13.3%	“They explained a lot about anxiety to me. . .”
5. Nonspecific recommendations given	9.6%	“We went over things that I should and should not do.”
<b>Other things patients found helpful in dealing with their identified problem/ concern.</b>		
1. Other	33.7%	“Time has helped.” “Diet and cut out caffeine.” “I go to group meetings at Alcoholics Anonymous.”
2. Social support (friends, family, etc.)	21.7%	“The support of my family.”
3. Physical activity	9.6%	“Exercise, lifting weights.”
4. Religion/ spirituality	8%	“My relationship with God.”
5. Alcohol/ drugs	3.6%	“I do some marijuana to help with my anxiety.”

Table 7 Continued

*Behavioral Health Patient Survey – Frequency of Qualitative Themes*

Theme	% Patients	Sample Responses
<b>Why patients stopped attending sessions.</b>		
1. I felt better, did not need it anymore	20.5%	“I did not need it anymore.”
2. Other	18.1%	“I was diagnosed with cancer; didn’t have energy.”  “I lived with an abusive boyfriend who wouldn’t let me leave home.”
3. Barriers (e.g., transportation, child care)	13.3%	“I also have my kids out of school right now and nobody to watch them.”
4. Discharged, no follow-up scheduled	12%	“They told me that I did not need to go anymore.”
5. It was not helping, I did not like it	12%	“I don’t feel like they were helping me.”
6. Busy/ hectic schedule	8.4%	“Mostly because my schedule was really busy.”
7. Still attending, never stopped	7.2%	“I still attend.”
8. Cannot remember	7.2%	“I don’t remember.”
<b>Feedback about services received.</b>		
1. Good/great services	44.6%	“The services are good and useful for the community.”
2. No feedback given	33.7%	“Not that I know of.”
3. Need to improve services/ not satisfied	12%	“He wasn’t really helpful”
4. Providers are patient, kind, caring, etc.	7.2%	“Seems like they really care.”
5. Need consistency with providers/ visits	4.8%	“The appointments are very sporadic. . . not recurrent.”

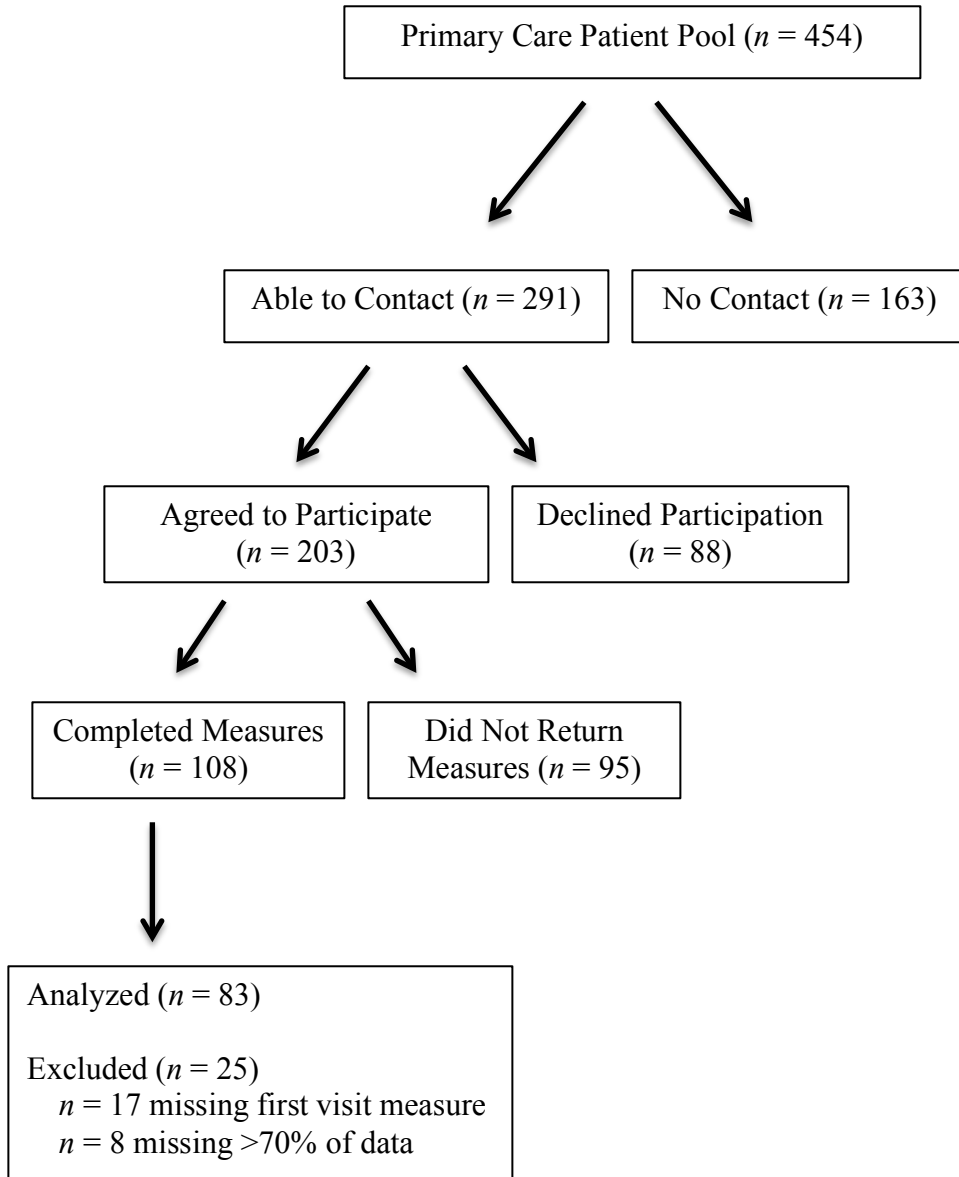


Figure 1. Patient recruitment flow chart.

Appendix A  
IRB Approval Letter



Office of Research Compliance  
Institutional Review Board

January 4, 2017

MEMORANDUM

TO: Debbie Gomez  
Fabiola Castaneda  
Belkis Tejeira  
Suellen Ayala Rojas  
Ana Bridges

FROM: Ro Windwalker  
IRB Coordinator

RE: PROJECT MODIFICATION

IRB Protocol #: 15-09-092

Protocol Title: *Long-Term Follow-Up of Behavioral Health Patients*

Review Type:  EXEMPT  EXPEDITED  FULL IRB

Approved Project Period: Start Date: 12/22/2016 Expiration Date: 11/06/2017

Your request to modify the referenced protocol has been approved by the IRB. **This protocol is currently approved for 200 total participants.** If you wish to make any further modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

Please note that this approval does not extend the Approved Project Period. Should you wish to extend your project beyond the current expiration date, you must submit a request for continuation using the UAF IRB form "Continuing Review for IRB Approved Projects." The request should be sent to the IRB Coordinator, 109 MLKG Building.

For protocols requiring FULL IRB review, please submit your request at least one month prior to the current expiration date. (High-risk protocols may require even more time for approval.) For protocols requiring an EXPEDITED or EXEMPT review, submit your request at least two weeks prior to the current expiration date. Failure to obtain approval for a continuation *on or prior to* the currently approved expiration date will result in termination of the protocol and you will be required to submit a new protocol to the IRB before continuing the project. Data collected past the protocol expiration date may need to be eliminated from the dataset should you wish to publish. Only data collected under a currently approved protocol can be certified by the IRB for any purpose.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or [irb@uark.edu](mailto:irb@uark.edu).

Appendix B

Community Clinic Patient Consent Form



Account # \_\_\_\_\_

Last Name \_\_\_\_\_ First Name \_\_\_\_\_ MI \_\_\_\_\_  
Date of Birth \_\_\_\_\_

**AUTHORIZATION FOR MEDICAL OR DENTAL TREATMENT**

I hereby authorize and direct the provider, and whomever he/she may designate as his/her assistant, to administer such treatment as necessary. I also certify that no guarantee or assurance has been made as to the results that may be obtained. For the purpose of medical and nursing education, I consent to the admittance of students under the supervision of my provider in the treatment rooms (patient has the right to decline observers during the visit). I also certify that I have read and fully understand the above authorization for medical or dental treatment.

\_\_\_\_\_  
Patient/Guardian Signature Date

Note: Authorization must be signed by the patient, guardian or legally authorized representative.

**STATEMENT OF FINANCIAL RESPONSIBILITY**

\_\_\_\_\_ I understand that if I do not provide proof of income within seven (7) days of my first visit and annually thereafter I may not be eligible for sliding scale discounts. It is my responsibility to report any changes in financial or household size, address or phone number. Failure to pay on my account could result in my being dismissed as a patient.

I hereby authorize Community Clinic to furnish all information regarding my medical history, diagnosis and treatment or the treatment of my children (if applicable) to an insurance company regarding claims for benefits. If, however, said insurer fails to meet this obligation in whole or in part, or if I am not insured, I agree to be responsible for the fees and costs involved in the treatment of the above named patient. I authorize payment of the medical and dental benefits to Community Clinic.

\_\_\_\_\_  
Patient/Guardian Signature Date

**PLEASE READ AND INITIAL EACH STATEMENT BELOW:**

**PERMISSION FOR MEDICAL RECORDS DATA ACCESS**

\_\_\_\_\_ I consent to have my medical records used for professional research and program evaluation projects by Community Clinic and authorized personnel. I understand that any information from my medical records used for these purposes will have all personally identifiable information removed. I understand that results from all research projects will be reported in aggregate and will not contain my name or any other personally identifiable information.

**APPOINTMENT RESCHEDULING POLICY**

\_\_\_\_\_ I understand it is very important that I keep my appointment and arrive on time for my appointment with Community Clinic. If cancellation is unavoidable, I will attempt to give at least 24-hour notice. I am aware that missing three (3) appointments (without 24-hour notice) may result in my being dismissed as a patient.

**ACKNOWLEDGEMENT OF RECEIPT OF PRIVACY NOTICE**

\_\_\_\_\_ I have received a copy of the Community Clinic's Notice of Privacy Practices (HIPAA form).

\_\_\_\_\_  
Patient/Guardian Signature Date

\_\_\_\_\_  
Witness/Community Clinic Staff Signature Date

Revised 09/01/2010

Appendix C  
Modified Informed Consent Form



**Long-Term Follow-Up of Behavioral Health Patients**

**Debbie Gomez**, Graduate Student  
Ana J. Bridges, Faculty Advisor  
Department of Psychology  
University of Arkansas  
216 Memorial Hall  
Phone: (479) 575-7605  
Email: dpgomez@uark.edu

**Ro Windwalker**  
Compliance Coordinator  
Research Sponsored Programs  
109 MLKG Building  
1424 W. Martin Luther King Jr.  
Fayetteville, AR 72701  
Phone: (479) 575-2208  
Email: irb@uark.edu

Purpose of the Study: The Long-Term Follow-Up of Behavioral Health Patients study is a research project that is being conducted with Community Clinic patients in partnership with the University of Arkansas (Fayetteville, Arkansas). This study is looking at how patients of Community Clinic are doing since their visit with a behavioral health specialist. Also, this study will gather information about what patient's remember about their visit and how they use health services.

Procedures: You are invited to participate in this research study. In order to participate, all you have to do is return the Behavioral Health Patient Survey and the Questionnaire in the self-addressed envelope that has been provided. The approximate time to complete the measures is 5-10 minutes.

Voluntary Participation: Your participation is voluntary and you can drop out of the study at any time with no problem. Your decision about whether or not you participate in this study will not affect your current or future relationship with Community Clinic, the University of Arkansas, or the researchers.

Confidentiality: There are no right or wrong answers to any of the questions. We will keep all of your answers confidential to the fullest extent allowed by university policy and law. We will assign a unique identification number to your answers and will not use your name or any other identifying information. When we write up the study, we will not identify your name and information will be presented in a group format.

Risks: It is anticipated that there will be no more than minimal risk involved with participation in this study. You may experience some discomfort as you complete the questions that are part of this study. We hope that by asking you to fill out these questions in your home, you will experience little discomfort.

Benefits: This study will help us learn if brief behavioral health visits help Community Clinic patients long-term. Community Clinic will be provided with outcome data that can be used to improve care and services, ultimately leading to better physical and mental health of the patients they serve. If you agree to participate and return a completed survey and questionnaire, a \$5 Walmart gift card will be mailed as compensation for your time. Also, you will be automatically entered in a raffle for the chance to win a \$100 Walmart gift card.

The University of Arkansas and Community Clinic approved this project. If you have ANY questions about the project, please call Debbie Gomez at the University of Arkansas (479/575-7605) or Sandra Juarez at Community Clinic (479/751-7417). If you still have a question or a problem, you can call Ro Windwalker (479/575-2208). She is the Compliance Coordinator at the University of Arkansas and monitors the ethics of research.

**DECISION TO PARTICIPATE IN RESEARCH:**

I read this form and I understood what it says. I had a chance to ask any questions and my questions were answered to my satisfaction. I understand that I will receive a \$5 Walmart gift card in the mail for participating and will be entered into a raffle for the chance to win a \$100 Walmart gift card. Consent to participate in this study is implied by completing the enclosed survey and questionnaire and returning it to us in the self-addressed and stamped envelope provided. You may keep this letter for your records.



Appendix D  
Letter of Support from Community Clinic



**Springdale Family Practice, Dental, & Administration**  
610 E. Emma Ave. | Springdale, AR 72764-4685 | 479-751-7417

**Springdale Family Practice,  
Pediatrics & Women's Health**  
614 E. Emma Ave., Suite 300  
Springdale, AR 72764-4469  
479-751-7417

**Rogers Dental**  
3710 Southern Hills Blvd. Ste 700  
Rogers, AR 72758-8041  
479-936-8600

**Rogers Medical**  
1233 West Poplar  
Rogers, AR 72756-4249  
479-636-9235

**Siloam Springs Medical**  
500 S. Mount Olive, Ste 200  
Siloam Springs, AR 72761-3602  
479-524-9550

August 6, 2015

Dear Ms. Gomez,

As CEO of St. Francis House NWA, Inc. dba Community Clinic, I am happy to provide you and your research team with access to patient medical records for the purpose of conducting a long-term follow-up of Behavioral Health Care patients. This access will be limited in the following ways:

1. Only members of the research team who have undergone Community Clinic's volunteer HIPAA training and have signed confidentiality agreements with our clinic will be permitted to access medical records.
2. All extracted data from patient records will be de-identified prior to transfer out of the Community Clinic network. Community Clinic reserves the right to inspect extracted data files to ensure they comply with confidentiality agreements.
3. Research Assistants will be provided individual log-in credentials to the Community Clinics' Electronic Medical Records (EMR). Security will be set so that Research Assistants will only be able to access records of Patients involved in the research project. Access and use of EMR will be monitored by qualified staff serving as a research liaison between the University of Arkansas and Community Clinic.
4. Only data relevant to the long-term evaluation of behavioral health patients will be extracted. A list of precise data fields is appended to this letter.
5. Extracted data from medical records will be stored in a password protected computer file on one of Dr. Ana Bridges' laboratory laptops that is not connected to the Internet.
6. Ms. Gomez will provide Community Clinic with a written report summarizing the findings from data collection of the long-term follow-up of behavioral health patients.
7. Permission to use these de-identified

Data fields to be extracted from medical records:

- Patient home addresses
- Primary caregiver name if children or youth were seen
- Dates of health visits pre- and post behavioral health care visit

Sincerely,

Kathy Grisham, CEO

**School Based Health Centers**

Lincoln Health & Wellness Center | The Wellness Center at Jones Elementary | Wellness & Education Clinic at Owl Creek  
The Wellness Center at George Elementary | The Wellness Center at Elmdale Elementary | Prairie Grove School Based Health Center | Panther Health & Wellness - Siloam Springs

[www.communityclinicnwa.org](http://www.communityclinicnwa.org) | Toll Free 855-438-2790

*Appendix E*  
Measures

Patient # \_\_\_\_\_

**Behavioral Health Patient Survey**

1. **(Name of patient) previously met with, (insert BHC name), a behavioral health consultant (BHC) at Community Clinic on (insert date) for (insert reason). What do you remember about this visit?**

---

---

2. **What recommendations were you given during your visit to address this problem?**

---

---

3. **Which of these recommendations, if any, do you still use?**

---

---

4. **What else have you found to be helpful in dealing with this problem?**

---

---

5. **Why did you stop attending behavioral health sessions for this problem?**

---

---

6. **We are always looking to improve the services we provide. Do you have any feedback about our behavioral health services? We appreciate any information you want to share with us.**

---

---

## ACORN – Adult Version

Patient Account #: \_\_\_\_\_ Clinician ID: \_\_\_\_\_

Date completed: \_\_\_ / \_\_\_ / \_\_\_ Site: \_\_\_\_\_

### Brief Adult Outcome Questionnaire

This brief questionnaire asks about some of the most commonly reported thoughts, feelings and behaviors among adults seeking behavioral health treatment. Please think about the PAST TWO WEEKS and indicate how often each of the following occurred. This will help you and your therapist to plan your treatment and monitor your improvement.

In the past two weeks, how often did you	Never	Hardly ever	Some-times	Often	Very often
...feel unhappy or sad?	0	0	0	0	0
...have little or no energy?	0	0	0	0	0
...have a hard time getting along with family, friends or coworkers?	0	0	0	0	0
...feel worthless?	0	0	0	0	0
...feel no interest in things?	0	0	0	0	0
...feel tense or nervous?	0	0	0	0	0
...cry easily?	0	0	0	0	0
...have someone express concerns about your alcohol or drug use?	0	0	0	0	0
...feel lonely?	0	0	0	0	0
...have problems with sleep (too much or too little)?	0	0	0	0	0
...feel irritated?	0	0	0	0	0
...feel hopeless about the future?	0	0	0	0	0
...not able to complete your work or other important daily tasks in a timely manner?	0	0	0	0	0
...find yourself daydreaming, worrying, or staring into space?	0	0	0	0	0