

Examining the Effectiveness of Integrated Behavioral and Primary Health Care Treatment

Michael K. Schmit, Joshua C. Watson, and Mary A. Fernandez

Using a quasi-experimental, pre–post test design of 196 persons diagnosed with serious mental illness, the authors compared the effectiveness of an integrated behavioral and primary health care (IBPH) treatment approach vs. a treatment-as-usual approach over a 12-month period. A profile analysis of 5 mean difference scores, each representing a separate component of client holistic functioning, indicated that individuals receiving IBPH experienced a 24-times greater improvement in overall functioning. Recommendations for treatment and client care are provided.

Keywords: integrated behavioral and primary health care, treatment as usual, effectiveness, profile analysis, Adult Needs and Strengths Assessment

Each year, approximately 61.5 million Americans, or one in five adults, experience some form of mental illness (National Institute of Mental Health [NIMH], n.d.-a, n.d.-b). Of these persons, 13.6 million are diagnosed as having a serious mental illness (SMI; NIMH, n.d.-b). The term SMI refers to a classification of disorders resulting in severe functional impairment for a period greater than 12 months (Insel, 2013; Kessler et al., 2003). Examples of SMIs include the diagnoses of major depression, bipolar disorder, and schizophrenia (National Alliance on Mental Illness, 2014). Among persons diagnosed with SMI, there is a disproportionately higher mortality rate from treatable physical health conditions such as cardiovascular disease and pulmonary disease, when compared to the general population with similar primary health care illnesses, as a result of not accessing the appropriate sector of care or receiving ineffective services in a specialized sector of care (Druss, Zhao, Von Esenwein, Morrato, & Marcus, 2011; Mardone, Snyder, & Paradise, 2014).

According to the Substance Abuse and Mental Health Services Administration (SAMHSA; 2012), only 40% of persons diagnosed with mental illness, including SMI, sought professional treatment from 2011 to 2012. Numerous reasons exist as to why persons with mental illness abstain from services, including the stigma associated with receiving health care services and perceived or actual barriers inhibiting them from seeking help (Clement et al., 2015; O'Connor, Martin, Weeks, & Ong, 2014). Consequently, barriers to the access and use of appropriate mental health services have had a devastating

effect for persons with SMI, especially those experiencing confounding primary health care concerns (Manderscheid & Kathol, 2014; Mardone et al., 2014). As noted by Shim and Rust (2013), although the physical and psychological self are inextricably linked, policy makers and health care professionals historically have conceptualized mental health care and primary health care as distinctly separate, artificially creating separate entities of care. However, the confounding effects of depression, for instance, and chronic medical conditions, often make depression difficult to diagnose and medical concerns difficult to treat due to the paralleling effects on both the physical and psychological self (Melek, Halford, & Perlman, 2012).

The confusion experienced by persons in either the primary or the mental health care sector may contribute to an overall reduction in help-seeking behavior or prevent persons from accessing treatment entirely, and, more important, persons with SMI are dying from treatable health conditions (Barnett et al., 2012; Kessler et al., 2005; Mardone et al., 2014). As a consequence, persons with SMI who elect to refrain from professional treatment often rely on other methods to self-medicate, such as using alcohol or illicit substances, which is a common phenomenon observed in the SMI population (Brown, Bennett, Li, & Bellack, 2011). Thus, contemporary treatment for individuals with SMI should not only focus on the holistic self but also empower individuals by increasing their capacity for autonomy and ability to live a more independent and productive life (Stierlin et al., 2014).

Michael K. Schmit, Joshua C. Watson, and Mary A. Fernandez, Department of Counseling and Educational Psychology, Texas A&M University–Corpus Christi. Michael K. Schmit is now at Department of Counseling and Higher Education, University of North Texas. Correspondence concerning this article should be addressed to Michael K. Schmit, Department of Counseling and Higher Education, University of North Texas, 1155 Union Circle #310829, Denton, TX 76203-5017 (e-mail: michael.schmit@unt.edu).

An integrated behavioral and primary health care (IBPH) approach is one method of accommodating the needs of individuals with SMI that appears to have maximum benefit for society (Yoon, Bruckner, & Brown, 2013). Behavioral and primary health integration serves to address a phenomenon observed in the mental health population, in which the majority of individuals who receive mental health services also have at least one unaddressed chronic health condition (Texas Health and Human Services, 2015). According to Barnett et al. (2012) and Kessler et al. (2005), nearly 50% of individuals with a mental health disorder have at least one comorbid chronic medical disease (e.g., diabetes, hypertension, high blood cholesterol, stroke, asthma, cardiovascular and pulmonary disease). Moreover, 80% of the mental health conditions remain untreated or are treated ineffectively in settings focusing solely on a single specialty of care (e.g., mental health only or primary health only). As a result, untreated mental health conditions in the primary health care sector, and vice versa, are associated with poor treatment outcomes, prolonged illness and complications, disabilities, increased usage of health services, higher health care cost, and even premature death (Katon & Seelig, 2008; Prince et al., 2007; Seelig & Katon, 2008).

By targeting both behavioral and medical sectors concomitantly, the fragmentation experienced in single entities of care that often result in access and use of service gaps may be narrowed through provision of comprehensive, holistic services. Such a treatment approach has the potential to reach individuals who may not seek behavioral health or primary health services separately; when offered in an integrated fashion, this holistic approach may reduce many of individual-level barriers. Integrated treatment is best thought of as occurring on a continuum of service integration. Services can range from coordinated (referral-based services offered in distinctly separate locations) to colocated (distinctly different services offered in the same physical location) to fully integrated (team-based coordination of services offered in the same physical location, in which health care providers share a single service plan and use the same electronic health record and billing system and frontline staff; Blount, 2003). An IBPH model incorporates primary medical care into outpatient mental health services, thus unifying each into a single entity of care.

To date, most of empirical research available on IBPH has focused on various models of integration (Everett et al., 2014; Manderscheid & Kathol, 2014); protocols associated with empowerment, quality of life, patient satisfaction, and health economic measures (Stierlin et al., 2014); and organizational capacity for service integration in community-based addictions (Guerrero, Aarons, & Palinkas, 2014), with each inquiry demonstrating promising outcomes for both health care providers and clients who participated in the integrated approach. However, rigorous outcome research demonstrating

the effectiveness of IBPH services and its impact on holistic client functioning remains sparse. Although the availability of integrated treatment programs throughout the United States is growing, a majority of behavioral health and primary health care systems fail to implement integrated strategies (SAMHSA, n.d.). This may be the result of limited available outcome data identifying integrated care treatment as an efficacious approach for persons with comorbid mental and primary health care disorders, perhaps creating an unintended barrier to accessing services beyond what has been already identified in the professional literature for persons with SMI.

Purpose of the Study

The aim of this study was to assess the added benefit of using a comprehensive, integrated treatment approach for persons diagnosed with SMI. Specifically, we compared the effectiveness of an IBPH approach to a treatment-as-usual (TAU) approach for adults identified as having both mental health care needs and primary health care needs across a number of client holistic functioning variables. To accomplish this task, we relied on a single research question to direct our investigation: Are there variations in the Adult Needs and Strengths Assessment (ANSA) Risk Behaviors, Behavioral Health Needs, Life Domain Functioning, and Strengths subscales and the crisis event measure mean difference scores of clients receiving either IBPH or TAU services at a regional mental health agency across a 12-month treatment period?

Method

We used an ex post facto, quasi-experimental, pre–post test design to compare the effects of an IBPH treatment approach to a TAU approach across constructs (ANSA subscales and crisis event measure) of client holistic functioning. An a priori power analysis was used to determine the minimum numbers of participants ($N = 196$) needed given a statistical power level of .80, alpha level of .05, and a moderate effect size of .15 using the G*Power 3.1 statistical power analysis program (Faul, Erdfelder, Lang, & Buchner, 2007).

Participants

Participants were adults, 18 years or older, diagnosed with SMI and identified as having primary health (e.g., diabetes, obesity, hypertension) or nonprimary health (e.g., arthritis, convulsive disorder, asthma) conditions, from a rural community mental health agency located in the southern region of the United States. Common methods of referral into services included self, emergency hospitals, crisis stabilization units, and both indigent and private practitioners. All participants qualified for services and were administered the ANSA and crisis event measure upon intake (Day 1) and again every subsequent 180 days. Table 1 contains participant demographic information.

TABLE 1

Demographic Information of Participants in Integrated Behavioral and Primary Health Care (IBPH) and Treatment-as-Usual (TAU) Groups

Variable	IBPH (n = 98)	TAU (n = 98)
Gender		
Men	36	46
Women	62	52
Ethnicity		
Hispanic	57	55
White	39	35
African American	2	4
Native American	0	1
Undisclosed	0	1
Mean age (in years)	47.3	48.9
Standard deviation of age	12.3	13.4
Mental health diagnosis		
Depression spectrum	60	41
Bipolar spectrum	29	27
Schizophrenia spectrum	9	30
Primary medical diagnosis		
Diabetes		
Type 1	7	6
Type 2	16	15
Hypertension	41	33
Obesity	15	22
Pulmonary heart disease	2	2
Lipidoses	5	5
Other nonprimary diagnosis	31	35
Absence of medical diagnosis	34	39

Note. $N = 196$. Total mean age = 48.2 years, and total standard deviation age = 12.8. Participants could have more than one primary medical diagnosis or a combination of primary and nonprimary medical diagnoses.

Measures

ANSA. The ANSA (Lyons & Walton, 1999) is a clinician-administered, communimetric instrument (a measure that optimizes the communication value between provider and client, in which findings are easily translated, even at the item level, to service delivery applications; Lyons, 2009) used to determine level of care necessary and assist with care planning. It also can be used as a primary outcome measure with a temporal rating window of 30 or 180 days from administration, depending on the context of the item being asked. Currently, the ANSA is used in seven states (California, Georgia, Indiana, Maine, New Hampshire, Pennsylvania, and Texas) and Canada, commonly in settings such as psychiatric hospitals and public behavioral health systems (Praed Foundation, 2015). The ANSA is multidimensional and identifies persons' needs and strengths across seven different domains: Risk Behaviors (eight items), Behavioral Health Needs (12 items), Life Domain Functioning (15 items), Strengths (12 items), Culture (four items), Psychiatric Hospitalization (three items), and Crisis History (one item), with an optional eighth domain of Family/Caregiver Strengths and Needs (six items) if applicable to the individual. The

complete 61-item instrument takes approximately 30 to 45 minutes to administer. For this study, bachelor's-level or higher case managers, most of whom were fluent in both Spanish and English, administered the ANSA to their own caseload every 180 days; licensed professional counselor intake coordinators administered the ANSA upon clients' admission into services.

As a communication tool, each item within a subscale consists of an area for exploration and evaluation (e.g., Risk Behaviors subscale: suicide risk, danger to others, self-injurious behaviors, etc.; Life Domain Functioning subscale: physical/medical, family functioning, employment, etc.; Strengths subscale: family, social connectedness, optimism, etc.). In this investigation, only four subscales from the ANSA were used—Risk Behaviors, Behavioral Health Needs, Life Domain Functioning, and Strengths—and, collectively, with the inclusion of crisis that occurred, define the construct of client holistic functioning. The domains of Culture, Psychiatric Hospitalization, and Crisis History were omitted from this investigation. The domain of Culture regarding the population under investigation was fairly homogeneous (majority of the sample population is Hispanic), and differences between the treatment conditions would be negligible. The domains of Psychiatric Hospitalization and Crisis History seemed conceptually related and limiting, with a maximum number recording of three hospitalizations or crisis events during the ANSA's 180-day window.

The ANSA has four levels for each item with anchored definitions (descriptor statements) that translate into action levels (needs) or strengths to focus on during treatment. For needs, 0 = *no evidence*, 1 = *history/watchful and waiting*, 2 = *recent, action required*, and 3 = *acute, immediate/intense action required*. For strengths, 0 = *centerpiece strength*, 1 = *useful strength*, 2 = *identified strength*, and 3 = *not yet identified*. A centerpiece strength is an identified strength around which a strength-based care plan can be developed. Likewise, a useful or identified strength exists, but may require further development and consideration before it is incorporated into a strength-based care plan (Lyons & Walton, 1999). Scores can range from 0 to 183, with higher scores indicating severe needs to treat and no identified strengths and lower scores indicating minimal needs to treat and identified centerpiece strengths. Although an overall composite score can be obtained by summing up each of the domain scores, separately they each can serve as an indicator of improvement specific to that domain over time (Lyons & Walton, 1999). For this study, subscale scores were used instead of the overall global score, allowing for easier interpretation within each subscale domain.

Lyons and Walton (1999) indicated that with appropriate training, the alpha reliability for the scores on the ANSA is .75 with vignettes, .84 with case records, and .90 with live cases. Although reliability estimates for the scores of the sample

under investigation were not available due to the archival data being collected and the mental health agency's data management system protocols, Walton, Kim, and Park (2013) identified that between the years 2008 and 2010, across a normative sample of 6,320 individuals, the internal consistency for the score on the ANSA ranged from .71 to .92 across all domains except for risk behaviors for adults receiving public mental health services. For persons receiving psychiatric services in a managed care setting, Christopher (1998) indicated interrater reliability for the scores on the ANSA ranging between .87 and .89. As an outcome measure, Walton et al. (2013) recommended a period of 12 months to observe reliability improvements in at least one ANSA domain for individuals with SMI. The validity evidence for the ANSA is a function of the level of care decision yielded from administration (Lyons & Walton, 1999). Nelson and Johnston (2008) examined the ANSA—Abbreviated Referral Version in predicting clinical placement of 272 incoming psychiatric patients for a period of 2 years. Results indicated a significant difference between treatment intensity mean scores across person's who were placed into ambulatory care (outpatient care), acute inpatient stabilization, and long-term tertiary rehabilitation (Nelson & Johnston, 2008).

Crisis event measure. Given the ANSA's limitation in recording a continuous number of crisis events, for the purpose of this study, we created a simple measure identifying the number of crisis events occurring within 30 days of the ANSA administration to provide a continuous observation without limiters (0 to ∞). All crisis events were registered through a national crisis database and recorded in the agency's electronic health record system, Anasazi. A *crisis event* was defined by the mental health agency, in accordance with the rules and regulations set forth by the state's Department of State Health Services from which sample participants received treatment, as any event that (a) resulted in a crisis assessment and (b) was determined by a licensed professional counselor to actually classify as a crisis. Crisis event examples involved suicidal and homicidal ideation, severe functional impairment, severe impairment due to substance use, and a lack of basic resources (e.g., housing, food).

Procedure

Upon receiving institutional review board approval from the first author's university, preexisting data were gathered from three primary sources: (a) electronic health records, (b) an agency-created spreadsheet (a living document), and (c) hardcopy medical records. All three sources of data were combined into a master spreadsheet created by the first author. Each participant's data were matched according to name and agency-assigned case number. Given the time span from which data were collected, participants could theoretically appear in both treatment conditions. For each of these occurrences, we removed participants from the potential sampling pool by

omitting their data from the master spreadsheet. Once each source of data was matched according to the appropriate name and case number, the master spreadsheet was deidentified.

We used data from participants enrolled in services beginning on August 1, 2013, to August 31, 2015. Only clients who demonstrated continuity of services, as defined by a gap in services no greater than 30 days, for duration of 12 months were included in this investigation for both treatment conditions. If a client maintained continuity of service throughout the entire time frame (August 1, 2013, to August 31, 2015), only data points closest to the original start date (August 1, 2013), up to a year, were used, thereby minimizing the effects of treatment longevity. August 1, 2013, marked the beginning of the IBPH program as well as the implementation of the ANSA instrument at the community mental health agency where this investigation occurred.

Participants' data were selected, at random, using a random number generator (i.e., www.random.org) from two preexisting groups: (a) an experimental IBPH group ($n = 200$) and (b) a control TAU group ($n = 200$). However, participants' data were not randomly assigned to experimental or control condition because of their existing group membership prior to independent variable manipulation. Of the 400 potential participants, 196 participants' data ($n = 98$ participants for each group) were selected to be included in this study based on the results of the a priori power analysis. Data collected consisted of demographic information (i.e., age, ethnicity, gender, mental health, and medical diagnosis), ANSA subscale scores, and the number of crisis events that occurred within 30 days of the ANSA administration, at Day 1 and again at Day 365.

Control TAU group. We defined TAU as a comprehensive behavioral-health-only treatment approach for individuals diagnosed with depression spectrum, bipolar spectrum, or schizophrenia spectrum and other psychotic disorders (e.g., schizoaffective disorder, psychotic disorder not otherwise specified). Depending on the treatment intensity authorized, as well as clients' willingness to participate in services, TAU could consist of engagement services (only for treatment noncompliant clients), behaviorally oriented skills training such as anger management and/or interpersonal skills building, medication management, supported employment and housing, routine/intense case management, and cognitive behavior therapy. As a client-centered approach, TAU services were individualized based on identified needs but generally consisted of one or two face-to-face sessions, ranging from 30 to 45 minutes, every other month with a case manager. Each case manager received training on illness management and recovery, applied suicide intervention skills training, psychopharmacology, and case management, which were all provided in-house by the mental health agency. Additionally, persons receiving TAU services would meet with their psychiatrist for 10 to 15 minutes every 3 months for medication management. Persons in the TAU control group, regardless



of whether they had any diagnosable primary or nonprimary medical conditions, were not provided primary health care services by the mental health agency, but rather received health care services from their own primary care physician when necessary.

Experimental IBPH group. IBPH was defined as a comprehensive, fully integrated treatment approach for individuals diagnosed with depression spectrum, bipolar spectrum, or schizophrenia spectrum and other psychotic disorders (e.g., schizoaffective disorder, psychotic disorder not otherwise specified). These individuals also were either diagnosed with, or presented as at risk for, primary health care diseases such as diabetes mellitus Type 1 and Type 2, hypertension, and obesity. In a fully integrated system of care, health care providers work collaboratively as part of a care coordination team, sharing the same physical location, contributing to a single-service plan, and using the same information database and billing system (Blount, 2003). Treatment consisted of scheduled medical services provided by a medical doctor or nurse practitioner, once every month or every other month, integrated into the already existing behavioral health regimen described in the preceding section. Thus, persons enrolled in integrated treatment received the same array of behavioral health services provided in the control group. However, unlike the control group, persons in the experimental group also received primary health care services delivered in concert with their mental health treatment (e.g., same provider network, same building, same electronic health record and billing system). Specialized case managers, designated as navigators, facilitated linkage and ensured continuity of information and services between physical and mental health providers. Navigators also provided cost-effective, preventive health care services such as exercise and nutrition interventions, smoking cessation support, and physical health education, which have contributed to decreasing both recidivism rates and development of new health care illnesses (Cutler, 2004). In addition, navigators provided case management on an individualized basis (approximately twice a month). Note that individuals were not eligible for primary health care services unless they were concurrently receiving behavioral health treatment provided in an integrated fashion.

Data Analysis

This study included a preliminary data analysis of demographic variables (i.e., age, gender, ethnicity) to determine group equivalency, *ex post facto*. Profile analysis was the primary data analytic procedure used to address the single research question across three null hypotheses specific to profile analysis: (a) level of profiles, (b) parallelism of profiles, and (c) flatness of profiles. Both the preliminary and primary analysis results are discussed here.

Preliminary analyses. To determine whether treatment and control conditions were similar across group variables of ethnicity and gender, we used a chi-square test for homogeneity;

for age, we conducted a *t* test. Given that this study relied on preexisting data, determining group equivalency a priori was not feasible; a chi-square test of homogeneity and *t* test allowed us to test for group equivalency across the variable of interest after the fact.

Primary analysis. A profile analysis is a special application of a multivariate analysis of variance (MANOVA), in which each dependent variable (DV) is subjected to the same scaling technique (Tabachnick & Fidell, 2013). The advantage of profile analysis over a simple MANOVA is that it offers not only a statistical means of determining treatment effect but also a standardized graphical method. This standardized graph allows for visual analysis of profile pattern and shape, establishing a method for direct comparison between and within profiles, which is not accessible in simple MANOVA applications. Within a profile analysis, the researcher examines the null hypotheses of level of profiles, parallelism of profiles, and flatness of profiles.

The *level of profiles* is examined to determine whether the profile of one group on a collective set of measures is, on average, higher than another (Tabachnick & Fidell, 2013). In this study, we examined whether an IBPH approach leads to lower scores (treatment gain) on the ANSA subscales and number of crisis events when compared to TAU (i.e., between-groups main effect). The overall level among profiles is analogous to the univariate between-subjects analysis of variance test. The *parallelism of profiles* is examined to determine if an interaction occurred within profiles and between treatments. In this study, we examined whether IBPH and TAU lead to the same pattern of decrease in ANSA subscale scores and number of crisis events (i.e., client holistic functioning). To evaluate parallelism, we converted the data matrix of DV scores into difference scores, resulting in four difference scores or segments: (a) risk behaviors versus behavioral health needs, (b) behavioral health needs versus life domain functioning, (c) life domain functioning versus strengths, and (d) strengths versus crisis events. Each segment represented a slope value used to determine whether the difference between risk behaviors and behavioral health needs is the same for individuals who received either the integrated intervention or the TAU intervention. The order of the segments was arbitrarily selected and had no intrinsic meaning. A one-way MANOVA was conducted on segments across each group. The *flatness of profiles* is examined to determine if each DV yields a similar response, independent of the between-subjects independent variable. In this study, similar to the test of parallelism, we evaluated segments using a MANOVA to determine if a statistically significant deviation occurred between zero matrices and the segmented data across each profile. Thus, we examined if each treatment type yields a consistent pattern of response across indicators of client holistic functioning (i.e., within-group effect).

Results

Preliminary Analyses

We used a chi-square test for homogeneity to determine group equivalency among the demographic variables of gender and ethnicity according to the type of treatment received. A statistically nonsignificant association was noted between gender and treatment type received, $\chi^2(1) = 2.10, p = .15$. Likewise, there was a statistically nonsignificant association between ethnicity and treatment type received, $\chi^2(4) = 4.92, p = .30$. In addition, we conducted a *t* test to determine group equivalency of age across treatment type, with a statistically nonsignificant effect noted between age and treatment type received, $t(194) = -0.90, p = .37$. On the basis of these findings, we asserted that groups were similar across the variables of age, ethnicity, and gender prior to independent variable manipulation.

Profile Analysis

Descriptive statistics are presented in Table 2. An alpha level of .05 was used across the null hypotheses of level, parallelism, and flatness of profiles. No missing data were present. Multivariate normality was approximated through observation of normal distribution of box plots for each DV across groups. No curvilinear relationships were noted among DVs. We assessed multicollinearity through bivariate correlation coefficients among DVs, which ranged from .07 to .51. We assessed homogeneity of variance-covariance matrices using Box's $M = 23.4, p = .09$. Univariate and multivariate outliers were noted in the DVs of strengths and crisis, which were retained to ensure a balanced design and reflect the in vivo nature of this investigation. Figure 1 presents a graphical depiction of group profiles across DVs of holistic client functioning.

Level of profiles. A statistically significant effect was observed between the average of all mean difference scores across profiles, indicating a dissimilar level of profiles, $F(1, 194) = 14.76, p < .001, f^2 = .29$. Power of the study was sufficient for this effect ($1 - \beta = .97$). The calculated grand mean difference scores represent the overall, average differences from pre- to posttest on the ANSA subscales and crisis events across a 12-month treatment period. For the TAU, profile mean difference scores of 0.05 (risk behaviors), 0.10 (behavioral health needs), -0.02 (life domain functioning), -0.35 (strengths), and -0.02 (crisis) yielded a grand mean difference score of -0.05 . For the IBPH profile, mean difference scores of -0.42 (risk behaviors), -1.13 (behavioral health needs), -1.42 (life domain functioning), -2.86 (strengths), and -0.10 (crisis) yielded a grand mean difference score of -1.18 . Although both profiles yielded an overall decrease in ANSA subscale scores showing a positive treatment effect (decrease in overall ANSA and crisis event score; see Figure 1), the integrated profile had a significantly larger decrease in level, suggesting that the IBPH approach was more effective than the TAU approach in improving clients' holistic functioning across a 12-month treatment period. To determine the degree of this effect, we compared the overall average mean difference scores between profiles. A mean difference score of -1.18 units for the IBPH group and a mean difference score of -0.05 units for the TAU group represent a treatment effect difference of approximately 24 times ($-1.18/-0.05 = 23.6$) in favor of the IBPH treatment approach.

A more conservative method of determining treatment effectiveness relies on using the standard error of the mean difference—a parameter estimate of the error associated with the overall mean difference score—as a threshold level for determining treatment effectiveness (Watson, Lenz,

TABLE 2
Means, Standard Deviations, and Mean Difference Scores for Dependent Variables Across Groups

Variable	Pretest Score		Posttest Score		Mean Difference Score	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
IBPH (<i>n</i> = 98)						
Risk behaviors	1.56	1.63	1.14	1.54	-0.42	0.94
Behavioral health needs	9.00	3.86	7.78	3.77	-1.13	3.09
Life domain functioning	9.34	4.56	7.92	4.18	-1.40	3.98
Strengths	16.80	7.87	14.00	6.45	-2.86	6.35
Crisis event measure	0.12	0.41	0.02	0.14	-0.01	0.44
TAU (<i>n</i> = 98)						
Risk behaviors	1.24	1.96	1.30	1.62	-0.05	1.13
Behavioral health needs	7.94	4.19	8.04	4.17	-0.10	3.26
Life domain functioning	9.04	5.13	9.02	4.71	-0.02	3.18
Strengths	15.30	7.39	14.90	7.10	-0.35	5.14
Crisis event measure	0.13	0.49	0.11	0.38	-0.02	0.50

Note. A negative mean difference score indicates a positive treatment gain over a 12-month period. IBPH = integrated behavioral and primary health care; TAU = treatment as usual.

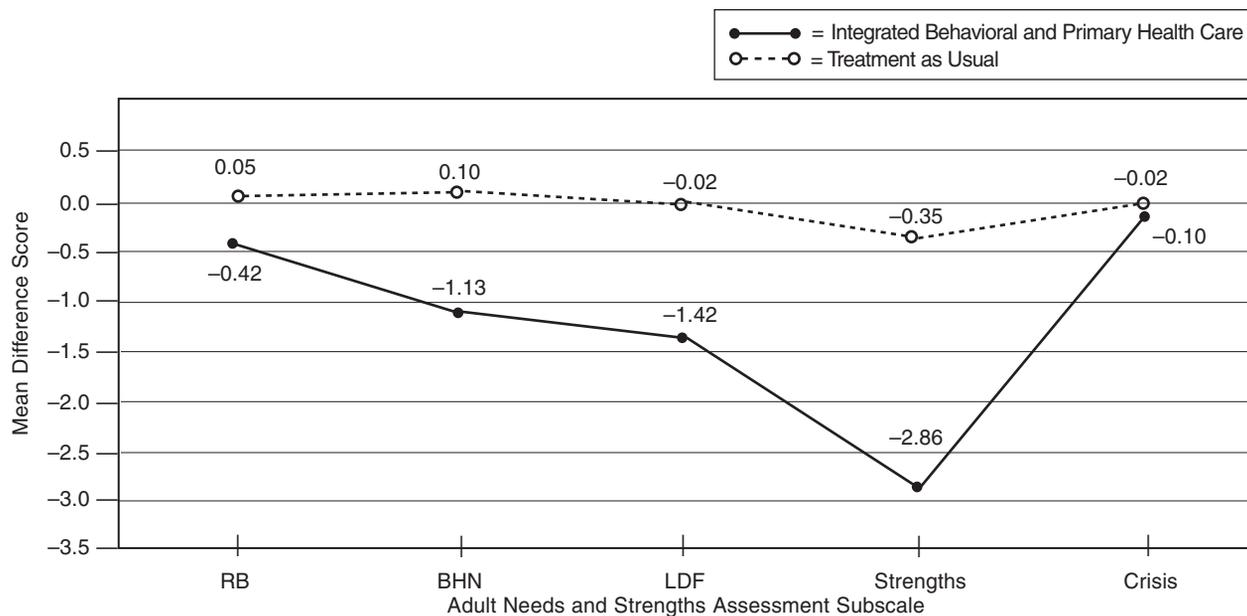


FIGURE 1

Profiles of Mean Difference Scores Across Adult Needs and Strengths Assessment Subscales

Note. A negative value demonstrates an improvement in Adult Needs and Strengths Assessment subscale score specific to that domain, over a 12-month period. RB = risk behaviors; BHN = behavioral health needs; LDF = life domain functioning.

Schmit, & Schmit, 2016). For both treatment approaches, the standard error of the mean difference was 0.21. For the IBPH approach, a 1.18 unit of change represents an average treatment effect of approximately 5.6 times that of random error (one standard unit of the standard error of the mean difference). Likewise, for the TAU approach, a 0.05 unit of change represents an average treatment effect of approximately a quarter (0.24) of one unit of random error.

Parallelism of profiles. A statistically significant interaction between treatment type and mean difference scores for holistic client functioning was apparent, indicating an absence of parallelism among profiles, Wilks’s $\lambda = .93$, $F(4, 191) = 3.70$, $p = .006$, $f^2 = .28$. Power of the study was sufficient for this effect ($1 - \beta = .88$). Profiles yielded a differential pattern of response across holistic client functioning. For the IBPH approach, clients experienced a decrease in score across each of the ANSA subscales and crisis event measure (−0.42 for risk behaviors, −1.13 for behavioral health needs, −1.42 for life domain functioning, −2.86 for strengths, and −0.10 for crisis), indicating that the IBPH treatment was effective across all aspects of holistic client functioning (see Figure 1). Clients who participated in the TAU protocol responded with mixed effects (0.05 for risk behaviors, 0.10 for behavioral health needs, −0.02 for life domain functioning, −0.35 for strengths, and −0.02 for crisis). Only three of the five domains of the ANSA (life domain functioning, strengths, and crisis) yielded positive treatment gains for participants receiving the

standard treatment protocol, although by only a fraction of one standardized mean difference unit (see Figure 1).

Flatness of profiles. A statistically significant effect was observed across mean difference scores of holistic client functioning, indicating an absence of flatness, Wilks’s $\lambda = .92$, $F(4, 191) = 3.95$, $p = .004$, $f^2 = .29$. Power of the study was sufficient for this effect ($1 - \beta = .90$). The absence of flatness suggests that one or both treatment approaches yielded differential gains across holistic client functioning. For the IBPH profile, scores across the ANSA and crisis events measure differed substantially from one another (see Figure 1), indicating a nonflat profile. For instance, the domain of strengths (−2.86) was affected by the IBPH approach 6.8 times more than risk behaviors, 2.5 times more than behavioral health needs, and 28.6 times more than crisis. A dissimilar phenomenon was observed for the TAU group. Scores across the ANSA and crisis event measure differed to some degree (see Figure 1), particularly in the domain of strengths, suggesting that the TAU profile may not be flat. Again using the strength domain (−0.35) as the benchmark, it was affected by the TAU approach 6 times more than risk behaviors, 2.5 times more than behavioral health needs, and 17.5 times more than life domain functioning and crisis.

Each statistical test performed across the null hypotheses of profile analysis (i.e., parallelism, flatness, and level) revealed a moderate-to-large degree of effect. Effect size

estimates were evaluated using Cohen's (1988) f^2 standards of small = .02, medium = .15, and large = .35, indicating the degree to which treatment type affected mean difference ANSA scores and crisis event indicators over a 12-month treatment period.

Discussion

Level of Profiles

The difference in observed effect in level of profiles, as indicated by the results of this study, may best be explained by the integrated primary health care component, which is absent in the TAU approach. Primary health care services offered in a behavioral health setting allow for a coordinated system of treatment delivery to take place. As a result, individuals' physical and mental health concerns are addressed concomitantly, reducing many of the individual-level barriers such as lack of trust with health professionals, difficulty with identifying community resources, and concerns over confidentiality that often result from receiving mental health and primary health care services in distinctly separate settings (Valleley et al., 2007). For the TAU group, the observed difference in level may be due to the lack of coordination between mental health and primary health care service providers, resulting in participants being responsible for seeking their own primary care services or, at most, soliciting referrals from their mental health counselor.

Parallelism of Profiles

A significant interaction effect was apparent for parallelism of profiles (see Figure 1). Differences in participants' responses on the ANSA subscales and crisis event measure were in fact dependent on which treatment approach they received, indicating that treatment type produced a moderate degree of effect across participants' holistic functioning. The IBPH approach addressed individuals from a holistic perspective, considering both mental health and primary health concerns in a coordinated system of care. It is the colocation and seamless coordination among professionals cross-trained in both mental health and primary health care needs that truly benefits individuals in these services. As a result, persons with SMI receive a more comprehensive service, with their health care professionals considering the impact of physical health on mental well-being and vice versa. Primary health is often referred to as the gateway for overall general health (Ray-Sannerud et al., 2012) and in many cases serves as the bridge to mental health services for persons diagnosed with SMI. By offering primary health care services in a behavioral health setting, one reduces many of the individual-level barriers.

In contrast to the TAU approach, the IBPH approach appears to have a positive impact on each aspect of holistic client functioning (clients' needs to treat decreased and their

strengths increased), showing marked improvement over the 1-year treatment period. Greater mean difference scores were more apparent in three domains (i.e., -1.13 for behavioral health needs, -1.42 for life domain functioning, and -2.86 for strengths), with the strengths domain showing the most improvement. Similar to the TAU approach, IBPH is designed to address symptoms associated with SMI and to improve client functioning surrounding constructs of employment, living skills, and self-care practices. However, the integrated approach seems to have an added advantage of enhancing current strengths and possibly identifying new ones not previously known to the client. This observed effect may be explained by the fact that therapeutic outcomes are in part due to clients' beliefs that they can accomplish specific tasks (i.e., self-efficacy). Personal strengths are perceptions of one's own assets, whether they be physical or cognitive, and influence one's decision to engage in behavioral change (Bandura, 1977). The more identified strengths a person has, the greater the degree of self-efficacy in task completion and the greater likelihood of positive treatment outcomes. Future research should explore the relationship between client strengths, self-efficacy, and other aspects of client holistic functioning (i.e., risk behaviors, behavioral health needs, life domain functioning, crisis) with respect to both treatment approaches.

However, the same aforementioned effect was not observed in the TAU approach. The domains of risk behaviors and behavioral health needs showed an increase in ANSA score, indicating that participants actually got worse in those domains over the 1-year treatment period. The differences in pattern and shape of both profiles (mean difference scores across the ANSA and crisis event measure; see Figure 1) suggest that each treatment approach uniquely addresses holistic client functioning, perhaps shedding light on the intent of each treatment with respect to mental health outcomes. Initially, standardized treatment protocols may have been designed to create stability across facets of client holistic functioning. In 2004, Texas revamped its previous system of treatment delivery by implementing a standardized assessment to identify services that would address individuals' needs (Cook, Toprac, & Shore, 2004). Often, the first line of defense is medication management and case coordination for individuals diagnosed with SMI (Lopez & Basco, 2015), suggesting the intent of community mental health treatment, at least for those involved in the standardized treatment protocol, is to ensure stability of clients' symptoms while navigating the complexities associated with SMI.

It is interesting that the strengths domain (-0.35) seemed to be quite responsive to the TAU protocol when compared with other domains of holistic client functioning. One possible explanation may be related to the domain itself: Strengths are more of an intrapersonal concept, ranging from actual to perceived beliefs, emotions, and resources that vary from person to person. The TAU approach used in this study, at best, may



have enhanced individuals' previously identified strengths; however, it may have failed to foster new strengths over time.

Flatness of Profiles

Differences observed across client holistic functioning for the IBPH group may best be explained by the treatment approach itself. A fully integrated model of treatment offers individuals greater access to a variety of professionals who are essentially bilingual in regard to mental health and primary health care needs. Thus, individuals with comorbid SMI and primary health care disorders participating in an integrated model of treatment may be afforded an advantage in identifying resources because of the collective knowledge of all professionals involved in treatment, which is absent in the TAU protocol. Also, the frequency of contacts between the client, the mental health professional, and the primary health care professional is increased in the integrated approach of treatment. It is fairly common for people meeting with their primary care physician to interact with their mental health professional as well, and for all health professionals to interact with each other. These interactions help to solidify the therapeutic relationship between client and treatment provider and strengthen the treatment efficacy of the intervention, which may explain why the IBPH approach differentially affects holistic client functioning.

For the TAU group, the effects of the standardized treatment protocol across client holistic functioning were fairly consistent except in the strengths domain. TAU generally consists of interactions between the client and the case manager, which occur less often (e.g., once every 90 days) when compared with the IBPH approach. Clients may need to identify resources on their own in between appointments or, even worse, may fail to take action concerning their health care needs completely. This may be because they are unaware of the available resources in their community and because of the lack of trust established between client and health care provider. As a result, clients in the standardized treatment protocol may rely on their medications solely to maintain stability (absence of treatment gains) in functioning, which may explain the flatness observed across dimensions of client holistic functioning, perhaps an unintended outcome of the TAU approach.

Implications for Counselors and Counselor Educators

There are several notable implications for both professional counselors providing direct care and educators training future counselors. Counselors have an ethical obligation to their clients, which entails the use of treatment modalities that are empirically driven or grounded in scientific evidence (American Counseling Association, 2014). The use of profile analysis in and of itself promotes a greater degree of utility, perhaps ameliorating some research-to-practice

gap concerns previously identified in counseling (Martin & Martin, 1989; Murray, 2009) for both counselor and client through the visual presentation of findings (see Figure 1). Rather than simply verbalizing or presenting confusing literature regarding the impact of IBPH or TAU with respect to client holistic functioning, for instance, counselors can present meaningful evidence to clients in the form of a pictorial graph. This simplifies both counselors' and clients' understanding of empirical evidence, creating a mutual understanding that promotes collaboration and informed decision making during treatment planning.

Moreover, counselors and other helping professionals have access to outcome data identifying the impact of both treatment approaches across indicators of client holistic functioning. Evidence of this nature can be used to promote open discussion with clients who are currently in standard treatment and who demonstrate need for higher, more comprehensive level of care but seem ambivalent about such services. Although counselors and other helping professionals are unable to implement integrated care treatment, they can certainly apply strategies identified in this investigation in their own practice. Counselors can certainly coordinate mental health and primary health services among service providers within their own community, develop community partnerships for ease of referral, and facilitate continuity of information among providers through acquiring memorandum of understanding and client consent.

Counselor educators have the responsibility of preparing counselors for real-world practice, as well as incorporating research into their teaching (Council for Accreditation of Counseling and Related Educational Programs, 2015). Furthermore, counselor educators have an ethical responsibility to promote treatment modalities that are grounded in empirical evidence (American Counseling Association, 2014). The present study provides counselor educators the opportunity to educate their students on the possible effectiveness of two different treatment modalities that exist in some form or fashion in mental health centers across the United States. Because community mental health centers are some of the largest employers of mental health professionals, counseling students should have earlier exposure to the types of treatment modalities offered at these facilities as well as a working knowledge of their effectiveness. Finally, given the promising effect of IBPH treatment across indicators of client holistic functioning, we recommend that counselor educators (a) highlight in their teaching practice the various models of service integration, to include each model's strengths and limitations; (b) assist counselors-in-training in conceptualizing the various roles professional counselors serve, which can range from counselor to crisis interventionist to case coordinator and anywhere in between; and (c) focus on the nuisances that could arise when using a team-based

approach and how that can affect the therapeutic relationships between client and providers.

Limitations

This study was not without limitations, and each must be considered when interpreting the results and looking to generalize findings. The first limitation relates to the research design used. In this ex post facto quasi-experimental design, the use of archival data prevents a researcher from determining the quality of the data or even knowing the conditions in which the data were obtained. Counselors could have misinterpreted clients' responses, committed data-entry errors, or administered the ANSA instrument under less than favorable conditions. Similarly, the use of a quasi-experimental design fails to draw a direct causal inference between treatment effect and client holistic functioning. Although group equivalency was established across the variables of age, ethnicity, and gender, other potentially confounding variables such as primary or nonprimary health diagnosis, mental health diagnosis, education level, and socioeconomic status may have influenced the observed treatment effect. Lastly, only ANSA subscale scores were collected and not each participant's item score across the ANSA, which eliminates the ability to compute reliability estimates for the scores of the sample under investigation. Despite these limitations, data were obtained from an active community mental health system that is likely to be similar to other community mental health programs located throughout the United States that collect similar assessment data.

A second limitation is related to the ethnic composition of the sample. Hispanic participants comprised the majority of the sample ($n = 112$, 57%), with White participants ($n = 74$, 37.7%) making up most of the remaining sample. African Americans ($n = 6$), Native Americans ($n = 1$), and Asian Americans ($n = 0$) were severely underrepresented in this study. Therefore, findings should be generalized with caution and considerations given to the target population before one makes recommendations regarding who should participate in an IBPH treatment with respect to client holistic functioning.

A third limitation is the instrumentation used in collecting data. To our knowledge, this is the first study to use the ANSA as an outcome measure. Lyons and Walton (1999) posited that the ANSA can be used as a primary outcomes measure in two different ways: (a) adding up the score for each item to yield an overall composite score and (b) adding up the scores for each subscale to yield subscale scores. However, a significant limitation of the ANSA is the absence of a defined cutoff score for the overall composite score and subscale scores. As a result, counselors and clients are left wondering what the between-score differences actually mean.

A final limitation relates to the manner in which a crisis event was measured. Although difference scores were analyzed using profile analysis, the number of crisis events that occurred was recorded as count data, a discrete variable. However, we treated it as a continuous variable in our analysis. We decided this approach was acceptable based on the following: (a) The distribution was fairly normality distributed, (b) the assumption of homogeneity of variance–covariance matrices was met, (c) a balanced design was used and profile analysis is quite robust to issues of nonnormality (Tabachnick & Fidell, 2013), (d) using a Poisson or negative binomial regression was not feasible because of the multivariate nature of our data, and (e) there is no nonparametric procedure equivalent to profile analysis.

Conclusion

This study provides evidence in support of an IBPH treatment approach promoting positive treatment gains across indicators of holistic client functioning over a 12-month treatment period when compared with a TAU protocol. Findings were statistically and clinically significant across all null hypotheses of profile analysis, including level, parallelism, and flatness of profiles. Findings are of relevance to counselors and other mental health professionals working with persons diagnosed with SMI, counselor educators training future counselors who may potentially work in integrated care facilities, policy makers allocating funding to mental health services, and the general public for whom mental illness fails to discriminate between race, ethnicity, and socioeconomic status.

References

- American Counseling Association. (2014). *ACA code of ethics*. Alexandria, VA: Author.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*, 191–215.
- Barnett, K., Mercer, S. W., Norbury, M., Watt, G., Wyke, S., & Guthrie, B. (2012). Epidemiology of multimorbidity and implications for health care, research, and medical education: A cross-sectional study. *Lancet*, *380*, 37–43. doi:10.1016/S0140-6736
- Blount, A. (2003). Integrated primary care: Organizing the evidence. *Family Systems & Health*, *21*, 121–133.
- Brown, C. H., Bennett, M. E., Li, L., & Bellack, A. S. (2011). Predictors of initiation and engagement in substance abuse treatment among individuals with co-occurring serious mental illness and substance use disorders. *Addictive Behaviors*, *36*, 439–447.
- Christopher, N. (1998). *Modeling level and duration of care decisions for acute psychiatric services in a managed care environment* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 9832566)

- Clement, S., Schauman, O., Graham, T., Maggioni, F., Evans-Lacko, S., Bezborodovs, N., . . . Thornicroft, G. (2015). What is the impact of mental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies. *Psychological Medicine, 45*, 11–27. doi:10.1017/S0033291714000129
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.
- Cook, J. A., Toprac, M., & Shore, S. E. (2004). Combining evidence-based practice with stakeholder consensus to enhance psychosocial rehabilitation services in the Texas benefit design initiative. *Psychiatric Rehabilitation Journal, 27*, 307–318.
- Council for Accreditation of Counseling and Related Educational Programs. (2015). *CACREP 2016 standards*. Alexandria, VA: Author.
- Cutler, D. M. (2004). Behavioral health interventions: What works and why? In N. B. Anderson, R. A. Bulatao, & B. Cohen (Eds.), *Critical perspectives on racial and ethnic differences in health in late life* (pp. 643–674). Washington, DC: National Academies Press.
- Druss, B. G., Zhao, L., Von Esenwein, S., Morrato, E. H., & Marcus, S. C. (2011). Understanding excess mortality in persons with mental illness: 17-year follow up of a nationally representative US survey. *Medical Care, 49*, 599–604.
- Everett, A. S., Reese, J., Coughlin, J., Finan, P., Smith, M., Fingerhood, M., . . . Lyketsos, C. (2014). Behavioural health interventions in the Johns Hopkins Community Health Partnership: Integrated care as a component of health systems transformation. *International Review of Psychiatry, 26*, 648–656. doi:10.3109/09540261.2014.979777
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175–191.
- Guerrero, E. G., Aarons, G. A., & Palinkas, L. A. (2014). Organizational capacity for services integration in community-based addiction health services. *American Journal of Public Health, 104*, e40–e47. doi:10.2105/AJPH.2013.301842
- Insel, T. R. (2013). *Director's blog: Getting serious about mental illness*. Retrieved from <http://www.nimh.gov/about/director/2013/>
- Katon, W. J., & Seelig, M. (2008). Population-based care of depression: Team care approaches to improving outcomes. *Journal of Occupational & Environmental Medicine, 50*, 459–467. doi:10.1097/JOM.0b013e318168efb7
- Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., . . . Zaslavsky, A. M. (2003). Screening for serious mental illness in the general population. *Archives of General Psychiatry, 60*, 184–189. doi:10.1001/archpsyc.60.2.184
- Kessler, R. C., Demler, O., Frank, R. G., Olfson, M., Pincus, H. A., Walters, E. E., . . . Zaslavsky, A. M. (2005). Prevalence and treatment of mental disorders, 1990 to 2003. *New England Journal of Medicine, 352*, 15–23. doi:10.1056/NEJMsa043266
- Lopez, M. A., & Basco, M. R. (2015). Effectiveness of cognitive behavioral therapy in public mental health: Comparison to treatment as usual for treatment resistant depression. *Administrative Policy Mental Health, 42*, 87–98.
- Lyons, J. S. (2009). *Communitics: A communication theory of measurement in human service settings*. New York, NY: Springer.
- Lyons, J. S., & Walton, B. (1999). *ANSA manual: An information integration tool for adults with mental health challenges* (Version 2.0). Chicago, IL: Praed Foundation.
- Manderscheid, R., & Kathol, R. (2014). Fostering sustainable, integrated medical and behavioral health services in medical settings. *Annals of Internal Medicine, 160*, 61–65.
- Mardone, M., Snyder, S., & Paradise, J. (2014). *Integrating physical and behavioral health care: Promising Medicaid models*. Retrieved from the Kaiser Family Foundation website: <http://kff.org/report-section/integrating-physical-and-behavioral-health-care-promising-medicaid-models-issue-brief/>
- Martin, D., & Martin, M. (1989). Bridging the gap between research and practice. *Journal of Counseling & Development, 67*, 491–492. doi:10.1002/j.1556-6676.1989.tb02128.x
- Melek, S., Halford, M., & Perlman, D. (2012). *Milliman research report: Depression treatment—The impact of treatment persistence on total healthcare costs*. Retrieved from <http://www.milliman.com/uploadedFiles/insight/health-published/pdfs/depression-treatment.pdf>
- Murray, C. E. (2009). Diffusion of innovation theory: A bridge for the research–practice gap in counseling. *Journal of Counseling & Development, 87*, 108–116. doi:10.1002/j.1556-6678.2009.tb00556.x
- National Alliance on Mental Illness. (2014). *What is mental illness: Mental illness facts*. Retrieved from <http://www.namihelps.org/assets/PDFs/fact-sheets/General/What-is-Mental-Illness.pdf>
- National Institute of Mental Health. (n.d.-a). *The numbers count: Mental disorders in America*. Retrieved from <http://www.nimh.nih.gov/health/publications/the-numbers-count-mental-disorders-in-america/index.shtml>
- National Institute of Mental Health. (n.d.-b). *Statistics: Any disorder among adults*. Retrieved from <https://www.nimh.nih.gov/health/statistics/prevalence/any-anxiety-disorder-among-adults.shtml>
- Nelson, C., & Johnston, M. (2008). Adult Needs and Strengths Assessment—Abbreviated Referral version to specify psychiatric care needed for incoming patients: Exploratory analysis. *Psychological Reports, 102*, 131–143.
- O'Connor, P. J., Martin, B., Weeks, C. S., & Ong, L. (2014). Factors that influence young people's mental health help-seeking behaviour: A study based on the Health Belief Model. *Journal of Advanced Nursing, 70*, 2577–2587. doi:10.1111/jan.12423
- Praed Foundation. (2015). *The Adult Needs and Strengths Assessment (ANSA)*. Retrieved from <http://praedfoundation.org/tools/the-adult-needs-and-strengths-assessment-ansa/>
- Prince, M., Patel, V., Saxena, S., Maj, M., Maselko, J., Phillips, M. R., & Rahman, A. (2007). No health without mental health. *Lancet, 370*, 859–877.

- Ray-Sannerud, B. N., Dolan, D. C., Morrow, C. E., Corso, K. A., Kanzler, K. E., Corso, M. L., & Bryan, C. J. (2012). Longitudinal outcomes after brief behavioral health intervention in an integrated primary care clinic. *Families, Systems, & Health, 30*, 60–71.
- Seelig, M. D., & Katon, W. (2008). Gaps in depression care: Why primary care physicians should hone their depression screening, diagnosis, and management skills. *Journal of Occupational & Environmental Medicine, 50*, 451–458.
- Shim, R., & Rust, G. (2013). Primary care, behavioral health, and public health: Partners in reducing mental health stigma. *American Journal of Public Health, 103*, 774–776.
- Stierlin, A. S., Herder, K., Helmbrecht, M. J., Prinz, S., Walendzik, J., Holzmann, M., . . . Kilian, R. (2014). Effectiveness and efficiency of integrated mental health care programmes in Germany: Study protocol of an observational controlled trial. *BMC Psychiatry, 14*, 163. doi:10.1186/1471-244X-14-163
- Substance Abuse and Mental Health Services Administration. (n.d.). *100 strong: Integration continues to grow*. Retrieved from <http://www.integration.samhsa.gov/about-us/esolutions-newsletter/september-2013-esolutions>
- Substance Abuse and Mental Health Services Administration. (2012). *Results from the 2010 national survey on drug use and health: Mental health findings*. Retrieved from <https://www.samhsa.gov/data/sites/default/files/NSDUHmhfr2010/NSDUHmhfr2010.pdf>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston, MA: Pearson.
- Texas Health and Human Services. (2015). *Senate Bill 58 Behavioral Health Integration Advisory Committee: Second report to the Health and Human Services Commission*. Retrieved from <https://hhs.texas.gov/sites/default/files/documents/about-hhs/leadership/advisory-committees/bhiac/BHIAC-Phase-II-recommendations.pdf>
- Valleley, R. J., Kosse, S., Schemm, A., Foster, N., Polaha, J., & Evans, J. H. (2007). Integrated primary care for children in rural communities: An examination of patient attendance at collaborative behavioral health services. *Families, Systems, & Health, 25*, 323–332.
- Walton, B. A., Kim, H., & Park, S. (2013, April). *ANSA: Becoming a recovery focused tool*. Poster session presented at the Indiana University–Purdue University Indianapolis Research Day, Indianapolis, IN.
- Watson, J. C., Lenz, A. S., Schmit, M. K., & Schmit, E. L. (2016). Calculating and reporting estimates of effect size in counseling outcome research. *Counseling Outcome Research and Evaluation, 7*, 1–13. doi:10.1177/2150137816660584
- Yoon, J., Bruckner, T. A., & Brown, T. T. (2013). The association between client characteristics and recovery in California's comprehensive community mental health programs. *American Journal of Public Health, 103*, 89–95. doi:10.2105/AJPH.2013.301233