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Behavioral Health Consultants in Rural Integrated Healthcare: A Systematic Replication and Program Evaluation

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Behavioral Health Consultants in Rural Integrated Healthcare: A Systematic Replication and Program Evaluation

by

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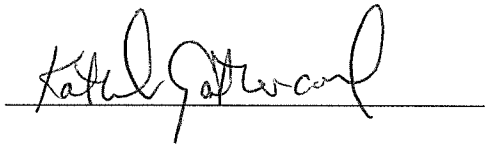

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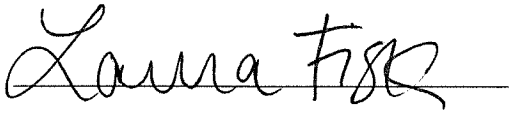

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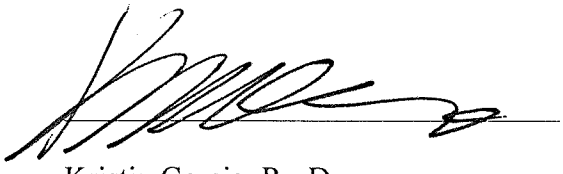

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Behavioral Health Consultants in Rural Integrated Healthcare: A Systematic Replication and Program Evaluation

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Abstract

As the healthcare demand in the United States increases, the strain on available healthcare resources becomes more evident, marked by limited access to services and physician shortages. To meet growing patient demands, the Primary Care Behavioral Health (PCBH) model focuses on improving clinical outcomes, fiscal expenses, patient satisfaction, and provider satisfaction in primary care settings through the integration of behavioral health consultants (BHCs; Sandoval, Bell, Khatri, & Robinson, 2018). The present study was a systematic replication of a previously conducted program evaluation examining the impact of BHC services within a primary care practice in a rural Oregon county, focusing on provider satisfaction, patient satisfaction, and cost offsets. Results indicated significant increases in provider satisfaction compared to initial survey results in 2014. Positive levels for patient satisfaction were also reported. Fiscal decreases were minimal, with small effect sizes for ambulance services (d = 0.29), labs (d = 0.35), and facility expenses (d = 0.27). In all, results of the present study support

the use of BHC services in the integrated primary care model to meet the needs of patients and providers alike.

Keywords: behavioral health consultant, primary integrated care, satisfaction, cost offset.

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Chapter 1

Introduction

Defining the Problem in Healthcare

Under the Patient Protection and Affordable Care Act (PPACA), approximately 17.6 million Americans gained health insurance, resulting in a healthcare resource strain and an expected physician shortage of 45,400 physicians by the year 2020 (Kirch, Henderson, & Dill, 2011; Office of the Press Secretary, 2016). Of those seeking primary care services, approximately 25-30% of patients have a behavioral health concern (e.g., anxiety, depression, substance abuse, and somatic disorders) as a major presenting problem; however, less than one third of those with diagnosable behavioral health conditions actually receive treatment from a behavioral health provider (Ansseau et al., 2004; Gunn & Blount, 2009; Kahn et al., 2004; Ormel et al., 1994). Instead, most patients desiring help with behavioral health concerns seek services through primary care medical providers (Kessler, 2009). Unfortunately, primary care medical providers often do not have the time, skill, or treatment knowledge to appropriately address these specific concerns (Gunn & Blount, 2009). As a result, the PPACA established high expectations for healthcare services, beginning with the concept of the Triple Aim as a way to operationalize health outcomes. The Triple Aim included enhancing patient experience, improving population health, and reducing costs. This more than daunting expectation was increased when the Triple Aim was re-defined as the Quadruple Aim, which includes improving work life of healthcare providers and provider satisfaction, as well as the three previously defined outcomes

(Bodenheimer & Sinsky, 2014). Therefore, to address growing resource and systematic problems related to the demand for services, behavioral health providers are becoming increasingly involved within the medical home and primary care settings, ultimately aiming to provide benefits and positive outcomes for the delivery and quality of patient care.

Assumptions: Based on Current Research in Integrated Care

Although these expectations are high, a large body of recent research demonstrates the inclusion of integrated primary care helps respective healthcare organizations to meet these expectations, citing improvement in health outcomes, patient and provider satisfaction, and reduced costs (Asarnow, Rozenman, Wiblin, & Zeltzer, 2015; Huffman, Niazi, Rundell, Sharpe, & Katon, 2014; Katon, Unützer, Wells, & Jones, 2010; Shea, 2013). While the research demonstrates an overall effectiveness of integrated care, research has also identified some of the specific strategies facilitating service delivery in the integrated primary care model.

Primary care behavioral health model. The Primary Care Behavioral Health (PCBH) model of service delivery focuses on improving clinical outcomes, fiscal expenses, and patient and provider satisfaction in the integrated primary care setting through a holistic, team-based, and patient-centered treatment approach (Sandoval, Bell, Khatri, & Robinson, 2018). Reiter, Dobmeyer, and Hunter (2018, p. 112) further elaborate on the purpose of the PCBH model with respect to behavioral health consultants (BHCs):

> the model's main goal is to enhance the primary care team's ability to manage and treat such problems/conditions, with resulting improvements in primary care services for the entire clinic population. The model incorporates into the primary care team a behavioral health consultant (BHC), sometimes referred to as a behavioral health clinician, to extend

and support the primary care provider (PCP) and team. The BHC works as a generalist and an educator who provides high volume services that are accessible, team-based, and a routine part of primary care.

Although research has identified several essential components of the PCBH model, patient access is one of the foundational components of a successful integrated care practice. Within the PCBH model, not only should the behavioral health provider have the ability to care for patients of any age or health condition, their services are an available and accessible component of service delivery. The expectation is to "intervene with all patients on the day they are referred; share clinic space and resources and assists the team in various ways; engages with a large percentage of the clinic population; and is a routine part of biopsychosocial care," (Reiter et al., 2018, p. 112; Sandoval et al., 2018). In addition, while BHCs use short, focused sessions to address specific symptoms, the PCBH model further supports patient care through the use of clinical pathways (i.e., a "multidisciplinary management tool") to coordinate care and treatment of specific conditions commonly seen in primary care while also improving patient outcomes through the use of evidence-based practices (Robinson & Reiter, 2016). For example, PCBH clinical pathways may be specifically designed for obesity, sleep difficulties, alcohol misuse, and chronic pain management (Sandoval et al., 2018).

RE-AIM framework. Often in partnership with the PCBH model, the RE-AIM framework is commonly referred to in the evaluation of integrated primary care programs. This framework specifically addresses the following components within the given care organization: reach, effectiveness, adoption, implementation, and maintenance (Kwan, Chadha, Hamer, Spagnolo, & Kee, 2017). According to Kwan et al. (2017), reach is defined as "the absolute

number, proportion, and representativeness of individuals who are willing to participate in a given initiative;" effectiveness is defined as "the impact of an intervention on important outcomes;" adoption is defined as "the absolute number, proportion, and representativeness of settings and intervention agents who are willing to initiate a program;" implementation is defined as "intervention agents' fidelity to the various elements of an intervention's protocol;" and maintenance is defined as "the extent to which a program or policy becomes…part of the routine organizational practices and policies," (Kwan et al., 2017, p. 297). When primary care programs move towards a more collaborative care approach (e.g., PCBH model), the RE-AIM framework provides general structure for integrated care programs to evaluate their delivery of services, ideally aiming to optimize the effectiveness, efficiency, and stability of care.

Behavioral health consultants (BHCs). Although named by a variety of titles (e.g. behavioral health providers), BHCs are clinicians with advanced training and qualifications specialized in the treatment and diagnosis of behavioral health concerns (Feldman & Feldman, 2013). The integration of BHCs in the primary care setting provides knowledge and skill to reduce complication in the delivery of services while increasing ease, practicality, and effectiveness of patient care. According to Corso and Gage (2016), BHCs provide specialized training in assessments, interventions for dealing with psychosocial issues, psychoeducation, and self-management interventions (e.g., coping strategies) to improve patient health knowledge and symptom reduction. Moreover, Feldman and Feldman (2013) emphasize how BHCs possess greater skill in assessing and addressing more severe behavioral health conditions within the primary care setting, such as suicidality, severe depression, psychosis, and bipolar disorder.

Prior research also supports the implementation of BHCs in an integrated care model with positive patient and treatment outcomes, such as increasing patient reach and accessibility to care (Butler et al., 2008; Unützer, Schoenbaum, Druss, & Katon, 2006; Williams, Eckstrom, Avery, & Unützer, 2015). In addition, BHCs in the primary care setting is considered one of the best ways to deliver both medical and psychological services to patients, ensuring efficient utilization of resources to meet the growing health demands of the American population (Miller, Mendenhall, & Malik, 2009). Along with impacting the effectiveness of health service delivery, BHCs may also improve the quality of training amongst the treatment team, expand the knowledge of other service providers regarding behavioral health issues, and contribute to health care reform (Blount, 2003; Corso & Gage, 2016; McDaniel et al., 2014; Miller et al., 2017).

Warm handoffs. One of the most common ways BHCs engage in patient care is through "warm handoffs." When a medical provider identifies a potential behavioral health need, they invite the BHC into the medical visit to conduct a brief clinical encounter with the patient, which often involves a more focused patient evaluation of symptoms, treatment needs, and risk to self and others (Davis et al., 2015). The warm handoff introduces patients to BHC services, aiming to establish a positive connection while also providing an opportunity for the BHC to schedule a follow-up appointment with the patient (Davis et al., 2015; Horevitz, Organista, & Arean, 2015; Pace et al., 2018). Although warm handoffs are considered one of the most common ways to engage patients in BHC services, warm handoffs can be difficult to standardize and monitor within clinics, and they have reportedly varying results in effectiveness for appointment attendance, especially amongst Latino populations (Horevitz et al., 2015; Pace et al., 2018). According to Horevitz and colleagues (2015), English-speaking Latinos were less likely to

follow-up with BHC services if they received a warm handoff rather than a direct referral from their medical provider. Some patients reported warm handoffs to feel "rushed and confusing," often related to the shift of focus within the medical visit (Horevitz et al., 2015). Nevertheless, with proper introductions from medical providers regarding BHC services, as well as appropriate collaboration amongst treatment teams, warm handoffs can be an effective method in integrating BHCs into the patient's care (Davis et al., 2015; Horevitz et al., 2015; Pace et al., 2018).

Satisfaction of care. As previously noted, BHCs in the integrated care model also results in positive patient and provider satisfaction of care. For example, amongst a sample including both urban and rural integrated pediatric primary care clinics, physicians reported significant satisfaction with the quality and continuity of care provided by the on-site BHC, as well as general satisfaction with time efficiency and the streamlining of services (Hine et al., 2017).

Additionally, Dahlof, Simonsson, Thorn, and Larsson (2014) investigated patients' satisfaction of care when triaged directly to a BHC for consultation in a low socioeconomic primary care setting. Patients in this study expressed appreciation for the quick access to behavioral health services and ease of access to services that may otherwise be difficult to obtain due to high demand and limited resources. Furthermore, patients in this study reported positive affect reactions towards the BHC due to feeling listened to and being taken seriously for their concerns. Similarly, Cordella et al. (2016) found approximately 65% of patients in a primary care clinic perceived the BHC to be helpful in addressing daily life problems, while 96% of patients reported viewing BHCs as generally useful to their overall care.

Financial benefits. Prior research has delineated various outcomes and benefits from the integration of BHCs within the healthcare system, ranging from fiscal benefits, improved patient

outcomes, and increased effectiveness of service delivery (Hodgson, Ivey, & Reitz, 2014; McDaniel et al., 2014; Miller et al., 2009). According to Franko (2015), the incorporation of behavioral health services in the primary care setting increased the utilization of services while simultaneously decreasing the use of pricier treatment options, which resulted in a 22% savings over a three-year period. In addition, Peterson, Turgesen, Fisk, and McCarthy (2017) found significant decreases in the utilization of medical services (i.e., cost offsets) amongst patients who received behavioral health services within the integrated care model. In all, because of its effective use of time and resources, the integrated care model has demonstrated viability through financial savings and cost offsets (Cummings, O'Donohue, & Cummings, 2009; Friedberg, Schneider, Rosenthal, Volpp, & Werner, 2014).

Considerations for high need populations. According to Bridges et al. (2017), approximately 60% of patients represented in primary care settings are less likely to be seen in traditional behavioral health settings; these individuals include underserved patients with high perceived need for behavioral health services, high barriers to treatment, and low utilization of services, as well as subclinical patients with low perceived need for behavioral health services and low utilization of services. With considerations to accessibility of care, availability of resources, and additional barriers to treatment, an integrated primary care model is considered to be a potential solution in extending behavioral health services to populations who may otherwise not receive treatment (Bridges et al., 2017). In particular, rural communities and their providers identify specific challenges regarding patient care and barriers to treatment, such as limited community resources, high service demands with limited time, and an increased need for case management (Williams et al., 2015). With respect to these specific population considerations,

BHCs working within rural communities may need additional training and support related to developing their understanding of available resources, systemic considerations, and the importance of providing flexibility and continuity in the treatment and care of their patients.

Activities: The Intervention

A previous evaluation in 2014 of a newly established PCBH service delivery model showed limited effectiveness. In this previous program evaluation under the RE-AIM framework, several factors were identified, including a relatively low percentage of patients treated by the BHC (i.e., the reach of BHC services of the clinic population), patient satisfaction, and provider utilization and satisfaction. Per providers of this clinic, the service delivery model at that time operated more closely to a co-location model rather than a fully operating PCBH model. Therefore, in an effort to fully implement the PCBH model and improve clinic reach and satisfaction, the following changes were implemented within the present study.

BHC intervention. Within the present study, the BHCs participated in an extensive training program prior to integrating into the primary care clinic. As noted by Williams et al. (2015), BHCs working within rural community settings would likely benefit from receiving additional training and systemic support to best understand the demands of the patient population and to efficiently streamline the delivery of services. Once integrated within the clinics' systems, the BHCs were also trained to conduct daily chart reviews (i.e., chart scrubbing) at the start of each workday to identify patients who could potentially benefit from behavioral health services. While also being available for warm handoffs, these systemic changes helped to streamline and optimize BHC services within the participating clinics in providing patient care.

Resources needed for the intervention. As previous literature indicates, training and the willingness of physicians and administrators (i.e., system buy-in) are integral aspects to the successful integration of BHCs in an integrated primary care setting (Hine et al., 2017). For the present study, multiple meetings with healthcare administrators, as well as regular reoccurring meetings with the clinic care teams helped to ensure the necessary resources and needs for both medical providers and BHCs were sufficiently met in this process.

Outputs: The Present Study

The present study was designed as a systematic replication of a previously conducted program evaluation examining the impact of BHC services in a primary care practice modeled according to the standards of a Federally Qualified Health Center in a rural Oregon county. The original 2014 evaluation operated more closely to a "co-located" clinic model, as compared to the present study's utilization of the integrated PCBH model. The clinic used in both evaluations served a predominately Latino/Latina population. Recently, the clinic had been working to increase patient reach and effectiveness of services through increasing behavioral health contact with patients. As evidenced in prior research, an increase in contact between behavioral health providers and patients within an integrated model results in reduced patient costs (i.e., fiscal benefits) and improved outcomes (Peterson et al., 2017). Hence, the systematic replication in this clinic aimed to achieve similar results. Furthermore, this project additionally measured medical provider and patient satisfaction regarding BHC services.

For the present study, the following hypotheses were tested:

Hypothesis 1: Medical providers will report improved satisfaction levels following the implementation of BHCs into the clinic, as compared to initial reports in 2014.

Hypothesis 2: Patients of the clinic who engage with behavioral health services will report positive satisfaction levels with the BHC.

Hypothesis 3: Following the implementation of BHCs in the clinic, system costs and patient expenses will decrease.

Chapter 2

Methods

Participants

A Federally Qualified Health Center (Clinic 1) located in a rural county in Oregon was used as the source for the physician population and patient sample. Clinic 1 serves approximately 7,300 predominately Latino/Hispanic individuals per year. This clinic also utilizes the integrated care program model proposed by Robinson and Reiter (2007, 2016). All Behavioral Health Consultants (BHCs), clinic providers, and administrative staff of this clinic received training regarding this program model.

All clinic medical providers were asked to participate in the present study. The final sample included seven out of eight medical providers from Clinic 1, as well as two out of two medical providers from another associated clinic within the healthcare organization.

Patients who visited Clinic 1 during the 12-months between the implementation of the intervention (i.e., chart scrubbing, verbally reinforcing the availability of warm handoffs and case consultation) and the end of the study constituted the patient participant sample. A total of 101 individuals were included in the final patient sample (93 patients completed the survey in English; 8 patients completed the survey in Spanish). Due to the clinic's privacy policy regarding the sharing of patient health information, demographic information regarding patient participants were not available. However, the healthcare organization reports the ethnicities of patients in Clinic 1 as predominately Hispanic with 56% of patients identifying in this manner. The

healthcare organization also reports 98% of patients belong to a low-income household, 29% of patients identify as uninsured, and 46% of patients are 21 years of age or younger.

Materials

Physician satisfaction survey. The Physician Satisfaction Survey was a measure designed by members of the rural healthcare plan, which included six items scored on a five-point Likert scale. Measure items included statements such as, "I believe the Behavioral Health services provided are beneficial to my patients," and "I have learned new treatment techniques from working with the Behavioral Health Provider." Each item was scored ranging from strongly agree to strongly disagree. This survey was first completed by medical providers in 2014. For the present study, all participating medical providers completed this survey before and after BHC intervention. The survey also provided space for additional written comments.

Patient satisfaction survey. The Patient Satisfaction Survey was a measure designed by members of the rural healthcare plan, which included three items scored on a five-point Likert scale. Measure items included statements such as, "During my visit today, we talked about things that are important to me," and "Today I learned at least one skill to help me manage my problems or concerns." Each item was scored ranging from strongly agree to strongly disagree. The survey was made available to patients in both English and Spanish.

Financial analysis. Financial expenses covered by the rural healthcare plan for Clinic 1 were provided by the rural healthcare plan's senior financial and contract analyst. Financial expenditures for patients covered by the healthcare plan during the pre- and post-BHC intervention timeframes were provided. Expenses monitored during the pre- and post-timeframes

were included in the cost centers of office visits, inpatient services, outpatient services, emergency department visits, ambulance rides, labs, and facility expenses.

Procedure

Each behavioral health consultant (BHC) involved in this study completed a 40-hour integrated care "bootcamp" training. The training included a comprehensive overview of the integrated health model proposed by Robinson and Reiter (2007; 2016), as well as addressed topics of interdisciplinary communication, program startup, effective multidisciplinary team dynamics, and common evidenced-based treatment interventions used for behavioral health and medical concerns within a primary care setting. Following the training program, BHCs received clinic support and were required to attend monthly consultation meetings to review best practices of the PCBH model.

The current study was divided into three phases. The first phase was the three-month period (8/1/2016-11/1/2016) before the intervention program (i.e., chart scrubbing and reinforcement of the warm hand-off procedure) was initiated. The second phase was the six-month period (11/1/2016-5/1/2017) following the implementation during which 101 patients received the BHC interventions. The final phase was the three-month period following the participants' use of BHC services. Medical claims data for the three-month period before patient participants received the BHC services were compared to the medical claims data for the three-month period following the use of BHC services.

Daily "chart scrubbing" is an intervention designed to increase the clinic's ability to "reach" more of the clinic population who would benefit from BHC services by proactively identifying patients who could benefit from these services. The process of chart scrubbing entails

BHCs reviewing patient charts at the beginning of each day; the BHCs flag charts with health concern evidence that would benefit from BHC consultation. The flagged charts alert physicians of patients needing consultation with a BHC after their medical appointment. The chart scrubbing intervention aimed to increase reach and efficiency of services within the healthcare system. Specifically, the BHC can use the data from the chart scrubbing to alert the provider (either verbally or within the electronic health record) that specific patients may benefit from BHC services. The provider can then invite the BHC to join the patient visit and initiate a "warm handoff" (WHO) during which the patient can seamlessly transition from the primary care provider to the behavioral health consultation. Tracking the number of "warm handoffs" (WHOs) is one way of determining if the chart scrubbing is increasing BHC utilization.

Phase 3 followed the implementation of Phase 2 (i.e., chart scrubbing and reinforcing the WHO intervention) during which all participating medical providers completed the Physician Satisfaction Survey to gather outcome data in response to the implemented system changes. In addition, all patients receiving BHC services were invited to complete the Patient Satisfaction Survey in their preferred language (i.e., English or Spanish). Furthermore, medical claims data were collected for the post-BHC intervention timeframe (i.e., May 1, 2017 to August 1, 2017) to explore the relationship between the use of BHC services and medical care utilization.

Furthermore, due to limits in the electronic health record, "flags" created during the chart scrubbing process could not be retained in the permanent record. Therefore, we used the number of WHOs as a proxy measure for the effectiveness of the chart scrubbing process. As described above, one of the primary purposes of chart scrubbing is to invite the BHC into the medical visit to seamlessly integrate BHC services into the patient's medical care. In an attempt to capture the

potential impact of the intervention, the number of WHOs per month were tracked and recorded in Clinic 1 over a 12-month long period from August 2016 to July 2017. For two of the months, WHO data were not collected for the entire month and prorated values were calculated.

Chapter 3

Results

Fidelity Check

To estimate the standardized implementation of the BHC systems intervention, we tracked the number of monthly warm hand-offs (WHOs). If the scrubbing intervention served to increase provider awareness and patient referrals, then it would be assumed the increased access would manifest in an increased number of WHOs during which providers would be introduced to the patient. Descriptive statistics summarizing a 12-month long period are included in Table 1.

Table 1

Monthly Average of 8/16-8/17: Mean, Standard Deviation, and Range for Warm Hand-Offs*

	Mean	*SD*	*Min.*	*Max.*	*Range*
Warm Hand-Offs	52.47	20.00	24.00	93.00	69.00

Note. *2-months were pro-rated due to clinic absences.

As suggested in Table 1, there was significant variability in number of WHOs across the 12-month period. The lowest occurring during Phase 1 (Sept. 2016, $m = 29$) and the highest number of WHOs occurring during a three-month period of Phase 2 (Feb.-April, $m = 74.3$).

Medical Provider Satisfaction

Medical provider feedback regarding BHC services was gathered through the Physician Satisfaction Survey. Descriptive statistics and correlations for the Physician Satisfaction Survey items are included in Table 2. Responses on the survey could range from 1 (SD, i.e., *not at all satisfied*) to 5 (SA, i.e., *completely satisfied*). Although all the means were high, indicating satisfaction, paired samples *t*-tests revealed the mean score of responses for Q3 (i.e., My patients find the Behavioral Health services beneficial), $t(8) = 2.80$, $p = .02$, and Q4 (i.e., I have learned new treatment techniques from the Behavioral Health Provider), $t(8) = 3.41$, $p = .009$, were significantly lower than responses to Q1 (i.e., I believe Behavioral Health services provided are beneficial to my patients). None of the other responses differed from the others. In other words, medical providers found BHC services to be beneficial to their patients regardless of whether the medical provider learned new techniques from the BHC or if they believed their patients perceived these services to be helpful.

In addition, a significant correlation was found between Q3 (i.e., My patients find Behavioral Health services beneficial) and Q4 (i.e., I have learned new treatment techniques from working with the Behavioral Health Provider; $r = 0.73$). Moreover, a significant correlation was also found between Q3 (i.e., My patients find Behavioral Health services beneficial) and Q6 (i.e., Behavioral Health Provider services improve my patients' ability to manage their medical conditions; $r = 0.80$). Lastly, a significant correlation was found between Q5 (i.e., Behavioral Health Provider support has improved my success in linking patients with mental health service providers) and Q6 (i.e., Behavioral Health Provider services improve my patients' ability to manage their medical conditions; $r = 0.76$). However, no relationships were found between Q4

(i.e., I have learned new treatment techniques from working with the Behavioral Health Provider) and Q2 (i.e., I believe the Behavioral Health Provider has good ideas to support my treatment plans; $r = 0.11$) or Q5 (i.e., The Behavioral Health Provider support has improved my success in linking patients with mental health services; $r = 0.10$).

Table 2

Means, Standard Deviations, and Correlations for Provider Satisfaction Responses

Item	*M*	*SD*	1	2	3	4	5
1. I believe the Behavioral Health services provided are beneficial to my patients.	5.00	0.00	---	---	---	---	---
2. I believe the Behavioral Health provider has good ideas to support my treatment plan.	4.67	0.50	*x*	---	---	---	---
3. My patients find the Behavioral Health services beneficial.	4.22	0.83	*x*	0.50	---	---	---
4. I have learned new treatment techniques from working with the Behavioral Health Provider.	4.11	0.78	*x*	0.11	0.73*	---	---
5. The Behavioral Health Provider support has improved my success in linking patients with mental health service providers.	4.56	0.73	*x*	0.57	0.39	0.10	---
6. Behavioral Health Provider services improve my patients' ability to manage their medical conditions.	4.56	0.73	*x*	0.57	0.80**	0.32	0.76*

Note. * $p < 0.05$. ** $p < 0.01$. *x*: correlation could not be computed because at least one of the variables is constant. *M* and *SD* are used to represent mean and standard deviation, respectively.

In addition, comparison of provider satisfaction results from initial medical provider responses in 2014 and responses following the recent intervention in 2017 are provided. A paired samples *t*-test indicate results of the provider satisfaction survey following the systems intervention in 2017 were significantly higher than the results of the initial provider satisfaction survey conducted in 2014. Means, standard deviations, and effect sizes for provider satisfaction survey results from 2014 and 2017 are included in Table 3.

Table 3

Comparison of Means, Standard Deviations, and Effect Sizes for 2014 and 2017 Provider Satisfaction Survey Results

Item	M (2014)	SD (2014)	M (2017)	SD (2017)	d’
Item 1	3.57	0.54	5.00	0.00	2.65
Item 2	3.43	0.54	4.67	0.50	1.81
Item 3	3.86	0.90	4.22	0.83	0.50
Item 4	2.57	0.54	4.11	0.78	1.60
Item 5	3.71	0.49	4.56	0.73	1.72
Item 6	3.71	0.49	4.56	0.73	1.72

Note. M and *SD* are used to represent mean and standard deviation, respectively.

Patient Satisfaction

Patient feedback regarding BHC services was gathered through the Patient Satisfaction Survey. Descriptive statistics and correlations for the Patient Satisfaction Survey items are included in Table 4. Responses on the survey could range from 1 (SD, i.e., *not at all satisfied*) to

5 (SA, i.e., *completely satisfied*). Although all the means were high, indicating satisfaction, paired samples t-tests revealed the mean score responses for Q1 (i.e., During my visit today, we talked about things that are important to me) were significantly higher than responses to Q2 (i.e., Today I learned at least one skill to help me manage my problems or concerns) , $t(100) = 6.89$, $p < .001$, and Q3 (i.e., I plan to do at least one thing differently based on what I learned today), $t(100) = 6.42$, $p < .001$. In other words, this difference suggests patients were able to talk to the BHC about topics important to them, even though it may not have been specific to the management of their medical problem or the initial presenting concern of their medical visit. Furthermore, the responses to Q2 and Q3 did not differ significantly, $t(100) = -1.22$, $p = .225$. In addition, no significant correlations were found among all survey items, and no significant correlations were observed between the language preference of the survey (i.e., Spanish or English) and satisfaction scores.

Financial Analysis

Financial expenditures across eight designated categories were calculated for pre-BHC and post-BHC timeframes. Descriptive statistics and effect sizes for each financial category in both pre- and post- timeframes are included in Table 5. Paired samples *t*-tests were conducted for each financial category to compare pre- and post-BHC system expenses. For inpatient services, a Cohen's effect size value ($d = 0.36$) suggested a small effect size reduction in costs after BHC services were introduced. Similarly, small effect sizes were found for ambulance services ($d = 0.29$), labs ($d = 0.35$), and facility expenses ($d = 0.27$). No effect of the intervention was seen for office visits ($d' = .13$), outpatient services ($d' = .08$), emergency department services ($d' = .19$), or the "other" category of services ($d' = .17$).

Table 4

Means, Standard Deviations, and Correlations for Patient Satisfaction Responses

Item	*M*	*SD*	Language	1	2
1. During my visit today, we talked about things that are important to me.	4.70	0.48	0.11	---	---
2. Today I learned at least one skill to help me manage my problems or concerns.	4.16	0.80	0.17	0.31**	---
3. I plan to do at least one thing differently based on what I learned today.	4.23	0.73	0.16	0.31**	0.73**

Note. ** $p < 0.01$. *M* and *SD* are used to represent mean and standard deviation, respectively.

Table 5

Means, Standard Deviations, and Effect Sizes of Financial Expenses for Pre- and Post-BHC Timeframes

Financial Category	M (Pre-BHC)	SD (Pre-BHC)	M (Post-BHC)	SD (Post-BHC)	d’
Office Visits	533.28	562.12	1330.76	6228.86	0.13
Inpatient Services	309.26	799.10	14.02	87.53	0.36
Outpatient Services	81.96	205.56	102.81	249.75	0.08
Emergency Department	139.86	359.54	57.86	213.28	0.19
Ambulance Rides	95.55	328.77	0.00	0.00	0.29
Labs	45.95	80.34	13.04	29.87	0.35
Facility Expenses	2957.17	8038.53	790.47	1846.56	0.27
Other	3.60	21.12	0.00	0.00	0.17

Note. M and *SD* are used to represent mean and standard deviation, respectively.

Chapter 4

Discussion

The purpose of this study was to create a systematic replication of a previously conducted program evaluation examining the impact of Behavioral Health Consultation (BHC) services in a primary care practice modeled according to the standards of a Federally Qualified Health Center in a rural Oregon county. Specifically, this study examined how BHCs impacted the delivery of clinic services, as well as patient satisfaction, provider satisfaction, and overall fiscal expenses. Recent changes in clinic processes to facilitate the use of BHC services prompted the need for a re-evaluation of these services. There were a number of changes instituted, which included the hiring of a new BHC provider, an addition of a pre-doctoral intern, increased attention via case consultation, and the use of the chart "scrubbing" technique in which patient charts were previewed by the BHC who then "flagged" the chart to alert the medical provider of a potential need for BHC collaboration. Taken together, the above changes refined the execution of the PCBH model, as well as aimed to increase provider awareness and show a corresponding increase in the "reach" (i.e., the number of patients seen by the BHC). One proxy for increased access is the number of warm hand-offs (WHO) or instances in which the medical provider includes the BHC in the patient visit. Therefore, in addition to the outcomes related to medical provider and patient satisfaction and cost offset, the variability in WHOs will also be discussed.

The first hypothesis of the present study was supported in regard to increased satisfaction levels among medical providers following the integration of BHCs within the clinic. Overall,

medical providers reported high satisfaction regarding the benefits of BHC services for patient care. Furthermore, provider satisfaction in the present study was significantly higher than initial provider satisfaction reported in 2014, suggesting system changes had a positive impact in relation to awareness and use of BHC services. Moreover, these improvements further delineate the positive impacts of a fully operating PCBH service delivery model. The most significant increase amongst providers was the overall satisfaction regarding the benefits of BHC services for patient care. Additionally, a significant increase was observed in provider satisfaction regarding the BHC's ability to provide ideas and support for the providers' treatment plans. While the provider satisfaction results from 2014 and 2017 indicate providers may have some doubts regarding how beneficial their patients view BHC services, the overall results of the present study suggest the integration of BHCs within the medical home is positively received by providers, which is also supported by prior research. As reflected within prior literature and the present study, BHCs integrated within the primary care setting creates a relational and collaborative team dynamic, all while offering significant support to medical providers in their treatment plans and delivery of patient care.

The results of the present study also supported the second hypothesis regarding positive patient satisfaction with BHC services. As noted in prior literature, BHCs in an integrated primary care model increase patient self-reports for satisfaction of care. In this study, patients in the present study reported the highest level of satisfaction regarding the opportunity to discuss topics important to them during their visit with the BHC. As noted by Dahlöf and colleagues (2014), patients respond with positive affect responses towards BHCs due to feeling listened to and being taken seriously for their concerns, which is reflected amongst patients of the present

study. Provider acknowledgment and respect for a patient's perspective appears to be a significant component for how patients evaluate their treatment, clinic experience, and satisfaction of care.

However, results related to the third hypothesis were in conflict with prior research. Within the present study, fiscal differences prior to the integration of BHCs and after their integration were marginal. Although previous literature indicates the use of BHCs should result in significant cost offsets (Peterson et al., 2017), the cost offsets observed within the present study were not as high as expected. The only significant cost offsets observed in the present study were small, and they were for ambulance services, labs, and facility expenses. While no significant financial offsets were found for office visits, outpatient services, and emergency department services at this time, the cost offset trends observed in the present study appear to be congruent with previous findings. If the current results were to be extrapolated over time, the costliest expenses (e.g., the highest level of care, such as facility expenses) appear to be decreasing, which could result in a lower cost of care over time. Hence, a greater amount of time than what was represented in this study may be needed for significant cost offsets to be observed.

As noted above, the number of WHOs provided a potential "fidelity check" for the systems change related to the implementation of chart scrubbing (e.g. if charts are flagged, the provider is more likely to include the BHC). In 2014, WHOs were so rarely used and only anecdotal data by two providers indicated any use. In contrast, the number of WHOs were significantly higher during the entire 2017 data collection period, which suggests BHC services had become an accessible and integrated part of patient care. Furthermore, the range of WHOs

across the period of data collection suggests the current BHC support has the capacity to absorb the variability in patients' need for services.

In all, the results of the present study support the implementation of BHC services in an integrated primary care model, as well as an increased demand for patient services. This suggests the integrated care model is capable of meeting increased systemic demands following a systems-wide intervention. Furthermore, the lack of quantifiable results in the area of cost offsets may be a function of difficulty in operationalizing the process of this intervention (e.g., chart scrubbing), resulting in uncontrolled variability for the flagging and chart scrubbing process. Nevertheless, despite infrastructure challenges in the execution of this intervention, there were still notable and significant results observed amongst patient and provider satisfaction from the integration of BHC services in the medical home.

Limitations of the Present Study

One limitation in the present study was the implementation and standardization of a systems-wide intervention—the integration of BHCs and the streamlining of their services. The BHCs involved in the present study reported differences in their chart scrubbing and patient flagging processes, ultimately resulting in uncontrolled variability in the intervention. The difficulty in operationalizing the process of chart scrubbing highlighted infrastructure challenges in the execution of this intervention. In addition, due to system limitations, some patients' data related to financial expenses were unavailable for analysis; these missing data points may have ultimately impacted the overall cost offset results.

The present study was also conducted in a rural clinic located in the Pacific Northwest of the United States. This clinic represented a predominantly low-income, Hispanic population.

With respect to the geographic location of this clinic, as well as population considerations represented in this study, these results may not be generalizable to other geographic regions or clinics within the U.S. In addition, the present study utilized a 12-month timeframe between the initiation of the intervention and the end of the study. Although the 12-month timeframe was adequate in demonstrating positive effects from integrating BHCs into the setting, a greater amount of time may have allowed for more notable financial benefits to be observed. As noted within previous studies resulting in greater cost offsets (Peterson et al., 2017), a longer timeframe may be needed to achieve significant decreases in clinic costs and patient expenses.

Furthermore, another limitation of the present study was the use of self-report measures as a means to evaluate patient and provider satisfaction of care. Due to the nature of a small clinic setting (i.e., rural area, small staff), both patients and providers may have presented with positive bias towards BHCs in their self-reported evaluations. In addition, the medical provider satisfaction survey consisted of six items, and the patient satisfaction survey consisted of only three items. The use of more extensive measures (e.g., additional survey items, more specific qualitative questions) for future evaluations may provide greater detailed information about satisfaction of care, relegating away from positive bias and potential inflation of scores.

Suggestions for Future Research

Future researchers may benefit from further examining factors impacting the successful implementation of BHCs in the primary care setting. In particular, future researchers should aim to create a clearer methodology for a more standardized implementation of the BHC intervention. Additionally, the use of within-clinic fidelity checks would be helpful in supporting the standardization of this process. Moreover, future researchers may continue to examine and

refine the specific training given to BHCs and clinic staff members prior to the integration of BHCs into the clinic system. Additional research may also focus on clinic and staff buy-in, factors impacting team dynamics and collaborative care, and team interventions to enhance patient reach, triage, and the overall delivery of services. While research generally supports the use of an integrated care model, future research may continue to focus on systemic replication, increased timeframe within the research design, and successful program implementation to further increase the use of the integrated primary care model.

Additionally, future researchers interested in the integrated care model may aim to replicate this study in rural populations located in other geographic regions beyond the Pacific Northwest. Systemic replication and program implementation may also be of interest in clinics located in urban areas, further delineating regional considerations for implementing BHCs in an integrated healthcare system. Furthermore, additional studies may focus on exploring other patient diversity and population factors. As previously noted, the present study utilized a clinic population sample of predominately low-income, Latino/Hispanic patients. In turn, future research may focus on identifying how other patient population factors, such as socioeconomic status, ethnic or racial identification, insurance coverage, and language preferences, impact the integration, effectiveness, and reported satisfaction with BHC services.

Conclusion

With growing healthcare demands across the United States, primary care clinics must consider systematic remodeling in order to meet the increasing demands of patients while also delivering services effectively. In addition, regional considerations (e.g., limited access to resources in rural populations) further support the need for integrated healthcare systems, which

provides patients access to services they may otherwise be unable to obtain. In this manner, the integrated healthcare model is designed to address these growing healthcare demands while also streamlining services more efficiently. Hence, the present study aimed to replicate the positive benefits of integrating BHCs in a primary care clinic. The present study was successful in producing similar results with respect to positive patient and provider satisfaction of care, as well as financial savings through cost offsets. Overall, by transitioning primary care clinics to the integrated care model, treatment for both physical and behavioral health needs may be more effectively met for patients in communities across the U.S.

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Appendix A

Physician Satisfaction Survey

	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
1. I believe the Behavioral Health services provided are beneficial to my patients.					
2. I believe the Behavioral Health provider has good ideas to support my treatment plan.					
3. My patients find the Behavioral Health services beneficial.					
4. I have learned new treatment techniques from working with the Behavioral Health Provider.					
5. The Behavioral Health Provider support has improved my success in linking patients with mental health service providers.					
6. Behavioral Health Provider services improve my patients' ability to manage their medical conditions.					

Comments: _____
_____

Appendix B

Patient Satisfaction Survey

	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
1. During my visit today, we talked about things that are important to me.					
2. Today I learned at least one skill to help me manage my problems or concerns.					
3. I plan to do at least one thing differently based on what I learned today.					

Appendix C

Curriculum Vitae

Laurie M. Meguro

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Phone: (808) 896-4547

🕮 EDUCATION

2015—Present
Newberg, OR

GEORGE FOX UNIVERSITY
Doctorate in Clinical Psychology (PsyD) ☆ APA-Accredited

- Dissertation Chair: Kathleen Gathercoal, PhD.
- Dissertation Defended: September 2018 (Full-Pass)
- Expected Graduation: May 2020

April 2017
Newberg, OR

GEORGE FOX UNIVERSITY
Master of Arts in Clinical Psychology

2010—2014
Fort Worth, TX

TEXAS CHRISTIAN UNIVERSITY
John V. Roach Honors College
Bachelor of Science in Psychology (BS) ☆ Summa Cum Laude

- Departmental Honors in Psychology
- Minors: Child Development and Writing

SUPERVISED CLINICAL EXPERIENCE

2018—Present
Newberg, OR
Pre-Internship

THERAPY CLINIC OF THE BEHAVIORAL HEALTH CENTER
Setting Type: Community Mental Health
Position: Clinic Manager and Student Therapist

- Population:
    - Rural community consisting of individuals across the lifespan, ranging in gender, disability status, race/ethnicity, spirituality, sexual orientation, gender identity, and socioeconomic status (with greatest representation of lower-SES households).
- Managerial Duties:
    - Assist in clinic staff training.
    - Provide on-site staff assistance and peer supervision.
    - Manage clinic therapy waitlist; assist in case assignment.
    - Oversee day-to-day clinic operations.
    - Train and supervise undergraduate work study students.
    - Oversee recurring audits for billing and clinic expenses.
- Clinical Duties:
    - Clinical interviewing; intake sessions.

  - Individual psychotherapy; group psychotherapy and couples counseling (as available); client consultations.
  - Crisis walk-in appointments; risk-assessment.
  - Treatment planning; safety planning.
- Short-term and long-term evidence-based therapy models.
  - Emphasis in Cognitive-Behavioral, Existentialism, Person-Centered, and Attachment Relations.
- Weekly group and individual supervision by licensed psychologists and intern-leveled clinicians.
- Supervisor: Joel Gregor, PsyD.

2017—Present
Yamhill County of Oregon
Supplemental Practicum

BEHAVIORAL HEALTH CRISIS & CONSULTATION TEAM
Setting Type: Medical Hospitals (Emergency Departments)
Position: Psychiatric Crisis Consultant

- Population:
  - Individuals of all ages and diverse backgrounds presenting in the emergency department for suicidal/homicidal ideation, substance intoxication, psychosis, substance induced psychiatric diagnoses, neurocognitive decline, and inability to care for self.
- Risk Evaluation Services:
  - Provide on-call emergency risk evaluations (crisis consult), neurocognitive screenings, and other risk assessments for two major hospitals (Providence Newberg Medical Center and Willamette Valley Medical Center), law enforcement, and mental health agencies in Yamhill County.
  - Training in and administration of the Collaborative Assessment and Management of Suicidality (CAMS) as part of risk assessment.
  - Coordinate with family and additional organizations for collateral information regarding patient's symptom presentation & history.
  - Collaborate with physicians and multidisciplinary teams to provide patient stabilization and discharge plans.
  - Provide recommendations for psychiatric hospitalization or additional treatment services.
- Additional Crisis Consultant Duties:
  - Document evaluations in electronic medical charts.
  - Coordinate resources, evaluations, and wrap-around care with county mental health employees.
  - Case management; providing treatment and county resources.
  - Safety planning; coordinating secure transport.
  - Organize patient follow-up care, including next day appointments and wellness checks.
- Individual supervision, as well as weekly group supervision from licensed psychologists and master-level clinicians.
- Supervisors: Luann Foster, PsyD, Mary Peterson, PhD., ABPP, William Buhrow Jr., PsyD, and Joel Gregor, PsyD.

2018
Corvallis, OR
Supplemental Practicum

OREGON STATE UNIVERSITY
Setting Type: University Counseling and Testing Center
Position: Assessment Examiner

- Population:
    - College athletes seeking a baseline neuropsychological evaluation; student athletes ranged in age, gender, and race/ethnicity.
- Provide comprehensive neuropsychological testing for baseline concussion data, as well screen for ADHD, Specific Learning Disorders, and other psychiatric conditions.
    - Example of Assessments:
        - TOMM, HVLT-R, BVMT-R, Ruff 2's and 7's, Trails A and B, WAIS-IV, Stroop Color Word Test, COWAT, Symbol Digits Modalities Test.
- Supervisors: Robert Fallows, PsyD, ABBP-CN; Audrina Mullane, PhD; Ashley Watts, PhD.

2017—2018
Forest Grove, OR
Practicum II

PACIFIC UNIVERSITY STUDENT COUNSELING CENTER
Setting Type: University Counseling Center
Position: Student Therapist

- Population:
    - Undergraduate and graduate university students ranging in age, disability status, race/ethnicity, spirituality, socioeconomic status, gender identity, and sexual orientation, with an emphasis in cultural and gender identity representation.
- Clinical Duties:
    - Clinical interviewing and intake sessions.
    - Individual psychotherapy; client consultations.
    - Interpersonal process groups, psychoeducation groups.
    - Crisis walk-in appointments and crisis management.
    - Risk-assessment and safety planning; treatment planning.
    - Use of evidence-based therapy modalities:
        - Cognitive-Behavioral Therapy, Acceptance and Commitment Therapy, Person-Centered Therapy, Solution-Focused Therapy, Relational Gestalt, Interpersonal Therapy, Short-Term Psychodynamic Therapy, and Existentialism.
- Report Skills:
    - File care, intake reports, chart notes, risk assessment documentation, and treatment summaries.
- Short-term and long-term evidence-based therapy models.
    - Time-limited therapy with opportunities for long-term.
- Supervision: weekly individual supervision with a licensed clinical psychologist, and weekly group supervision with an interdisciplinary senior staff comprised of licensed clinical psychologists, a licensed clinical social worker, and on-campus student departments.
- Supervisors: Robin Keillor, PhD., Jamie Young, PsyD.

2016—2018
Newberg, OR
Practicum I / Supplemental

GEORGE FOX UNIVERSITY HEALTH & COUNSELING CENTER
Setting Type: University Counseling Center
Position: Student Therapist and Assessment Examiner

- Population:
    - Undergraduate university students ranging in age, disability status, race/ethnicity, spirituality, socioeconomic status, gender identity, and sexual orientation.
- Clinical Duties:
    - Clinical interviewing and intake sessions.
    - Individual psychotherapy; client consultations.
    - Risk-assessment and safety planning; treatment planning.
    - Use of evidence-based therapy models:
        - Cognitive-Behavioral Therapy, Acceptance and Commitment Therapy, Person-Centered Therapy, Solution-Focused Therapy, Interpersonal Therapy, Short-Term Psychodynamic Therapy, and Existentialism.
    - Assessment evaluations for specific learning disorders, ADHD, personality disorders, and emotional/behavioral concerns.
- Report Skills:
    - File care, intake reports, chart notes, risk assessment documentation, and treatment summaries.
- Short-term therapy model with opportunities for long-term therapy.
- Supervision: weekly individual and group supervision from a licensed clinical psychologist.
- Supervisors: William Buhrow Jr., PsyD., Luann Foster, PsyD.

2016—Present
Newberg, OR
Supplemental Practicum

ASSESSMENT CLINIC OF THE BEHAVIORAL HEALTH CENTER
Setting Type: Community Mental Health
Position: Assessment Examiner

- Population:
    - Rural community consisting of individuals ranging in age, gender, ethnicity, and socioeconomic status.
- Types of Assessment Referrals:
    - Specific learning disorders, ADHD, personality disorders, memory issues, behavioral/emotional concerns, psychodiagnostic clarification (e.g., depression, anxiety), and more.
- Example of Assessments:
    - WAIS-IV, WISC-V, WIAT-III, WJ IV, WMS-IV, CPT-3, Conners-3, CAARS, DKEFS, BASC, MMPI-2, MMPI-RF, MMPI-A, PAI, MCMI-III, MCMI-IV, MACI, M-PACI, 16PF, neuropsychological assessments, etc.
- Supervisors: Joel Gregor, PsyD.; Glena Andrews, PhD, ABPP; Paul Stoltzfus, PsyD.

2016—2017
Newberg, OR
Supplemental Practicum

BEHAVIORAL HEALTH CLINIC
Setting Type: Community Mental Health
Position: Urgent Intake Interviewer

- Population:
    - Individuals recently discharged from the emergency department due to psychological concerns and risk of harm to self/others.
- Clinical Duties:
    - Clinical interviewing, risk assessment, diagnostic impressions.
- Supervisors: Joel Gregor, PsyD.

2015—2016
Newberg, OR
Pre-Practicum

GEORGE FOX UNIVERSITY
Setting Type: University Counseling Center
Position: Student Therapist Trainee

- Population:
    - Undergraduate volunteers ranging in age, gender, race/ethnicity, SES, and religious affiliation.
- Clinical Duties:
    - Clinical interviewing, simulated psychotherapy, diagnostic impressions, and treatment planning.
- Report Skills: intake reports, chart notes, and reminder contact.
- Weekly supervision from a master-level pre-intern student.
- Supervisors: Glena Andrews, PhD., ABPP; Shaun Davis, M.A.

TEACHING & SUPERVISION EXPERIENCE

GRADUATE TEACHING ASSISTANT AND SUPERVISION OF STUDENTS:

- **Clinical Foundations I and II,** 2018—Present
    - Manage a small lab group comprised of four first-year graduate level students.
    - Conduct weekly (80-minute) supervision sessions to support students in the development of foundational therapeutic skills grounded in Person-Centered theory.
    - Provide extra support and mentorship to students as they develop clinical skills and theoretical understanding, as well as adjust to the graduate program.
    - Review, evaluate, and provide feedback on videoed therapy sessions focusing on the students' clinical skill development and therapeutic presence.
    - Responsible for grading all course assignments, providing comprehensive feedback, and entering all student grades into the online grading system.
    - Participate in weekly (75-minute) group supervision meetings with the course instructor and TA team to guide course progress and student development.
    - Supervisor/Course Instructor: Glena Andrews, PhD., ABPP.
- **Comprehensive Assessment,** 2018—Present
    - Review, evaluate, and provide regular feedback to students on their psychological and/or neuropsychological integrated reports.
    - Provide consultation regarding assessment batteries, test result interpretations, diagnostic impressions, recommendations, and overall case conceptualizations.

  - Responsible for grading all course assignments, providing feedback on all reports, and entering all student grades into the online grading system.
  - Supervisor/Course Instructor: Marie Christine Goodworth, PhD.

- **Personality Assessment,** Spring Semester 2018
  - Review, evaluate, and provide regular feedback to students on their personality assessment reports, including client history, test interpretation, clinical impressions, and recommendations.
  - Provide consultation regarding test result interpretations, strengths/weaknesses, personality conceptualizations, diagnostic impressions, and report writing.
  - Guest lecturer on personality measures (e.g., MCMI-IV), child/adolescent personality measures, test interpretations and case conceptualizations.
  - Personality measures: MMPI-2, MMPI-2 RF, PAI, MCMI-IV, 16-PF.
  - Responsible for grading all course assignments, providing feedback on all reports, and entering all student grades into the online grading system.
  - Supervisor/Course Instructor: Nancy Thurston, PhD., ABPP.
- **Cognitive and Intellectual Assessment,** Fall Semester 2017
  - Manage a small lab group comprised of eight graduate level students.
  - Conduct weekly supervision meetings to review course material, practice assessment skills, and process additional components related to the course.
  - In addition to weekly supervision meetings, conduct individual meetings with students throughout the semester to monitor progress, growth, and experience.
  - Grade all assignments, including protocol scoring, administration, video review, score interpretations, and assessment report writing.
  - Supervisor/Course Instructor: Celeste Jones, PsyD., ABPP.
- **Cognitive and Behavioral Therapy,** Fall Semester 2017
  - Provide support in students' development of CBT-related clinical skills, techniques, and treatment interventions.
  - Assist in students' clinical development of understanding CBT theoretical concepts and conceptualization from first, second, and third wave approaches.
  - Participate in CBT-related role plays and skill demonstrations.
  - Supervisor/Course Instructor: Joel Gregor, PsyD.
- **Advanced Counseling,** Fall Semester 2017
  - Manage a small process group comprised of three undergraduate psychology students.
  - Conduct weekly supervision meetings to review course material and further develop students' foundational clinical and therapeutic skills.
  - Help the small group to reflect upon personal goals and performance, as well as address and process ethical issues, therapeutic considerations, and clinical applications.
  - Review student videos demonstrating basic therapy skills.
  - Provide both individual and group feedback (positive and constructive feedback).
  - Supervisor/Course Instructor: Kristina Kays, PsyD.

ADDITIONAL RELATED EXPERIENCES:

- **Fourth-Year Mentorship,** 2018—Present

  - Meet weekly with a second-year doctoral student to provide supervision and support of clinical work, academics, professional development, and program-related competencies.
  - Provide mentorship and guide professional development of the second-year doctoral student.
  - Supervisor: Brooke Kuhnhausen, PhD.
- **Graduate School of Clinical Psychology Student Editor,** 2016—Present
  - Provide writing and editing services to graduate students of the clinical psychology program.
  - Provide one-on-one writing supervision and mentoring to graduate students.
  - Supervisor: Glena Andrews, PhD., ABPP
- **Student Tutor for TCU Athletic Academic Services,** 2011-2013
  - Tutored, counseled, and referred students with a variety of learning issues, such as ADHD, learning disorders, speech impediments, and ESL services.

RESEARCH EXPERIENCE

DISSERTATION:

- *Dissertation Title: Behavioral health consultants in rural integrated healthcare: A systematic replication and program evaluation.*
  - Committee: Kathleen Gathercoal, PhD. (Dissertation Chair); Mary Peterson, PhD., ABPP; Laura Fisk, PsyD; and Kristin Garcia, PsyD.
  - Proposal Approved: May 2017
  - Final Defense: September 13, 2018
    - Full-Pass Awarded.

RESEARCH VERTICAL TEAM MEMBER:

- Bi-weekly meetings with a small group for developing research competencies and dissertation development; collaborative supplemental research projects and opportunities.
- Example of supplemental research projects:
  - Cognitive assessments; college populations; program evaluations; community mental health.
- Chair: Kathleen Gathercoal, PhD.

TEXAS CHRISTIAN UNIVERSITY: DEPARTMENT OF PSYCHOLOGY, Fort Worth, TX

- Neuroscience Research Assistant, 2013-2014
- Presenter at the College of Science and Engineering Student Research Symposium:
  - *"Chronic ingestion of lactobacillus reuteri decreases anxiety in C57BL6/J mice."*
- Thesis related to the effects of probiotic usage on anxiety and depression:
  - "*The role of probiotics in anxiety modulation and future mental health treatments."*

PUBLICATIONS & CONFERENCE PRESENTATIONS

Roid, G., Bufford, R., **Meguro, L.**, Summers, W., & Weeks, T. (In Preparation). *Nonverbal cognitive assessment for special-needs or non-English ADHD or LD cases*. Journal of Modern Education Review.

Meguro, L., Summers, W., Weeks, T., Roid, G., & Bufford, R. (2018). *Nonverbal cognitive assessment for special-needs or non-English ADHD or LD cases*.

Poster presentation at the Western Psychological Association (WPA) Annual Conference; Portland, OR.

Meguro, L., Hoffman, L., Kim, J., Weeks, T., Goodworth, M. C., & Gregor, J. (2018). *Factors impacting no-show rates in community mental health*.

Poster presentation at American Psychological Association (APA) Annual Conference; San Francisco, CA.

Soden, D., Seitz, D., **Meguro, L.**, Hamilton, E., & Andrews, G. (2018). *Cognitive differences between ADHD and prenatal polysubstance exposure*.

Poster presentation at American Psychological Association (APA) Annual Conference; San Francisco, CA.

Seitz, D., Soden, D., **Meguro, L.**, Hamilton, E., & Andrews, G. (2018). *Differentiating cognitive deficits between ADHD and in utero polysubstance exposure*.

Poster presentation at American Psychological Association (APA) Annual Conference; San Francisco, CA.

Meguro, L., & Gathercoal, K. (2017). *Food insecurity among college students: A systematic replication.*

Poster presentation at Oregon Psychological Association (OPA) Annual Conference; Eugene, OR.

PROFESSIONAL TRAININGS AND WORKSHOPS

2015—Present — **Clinical Team**
- Consultants: Brooke Kuhnhausen, PhD.; Winston Seegobin, PsyD.; Joel Gregor, PsyD.; Kristina Kays, PsyD.
- Meet weekly to present and discuss cases from a variety of clinical settings.
- George Fox University ☆ Newberg, OR

March 2019 — **"Marital Therapy"**
- Presenter: Douglas Marlow, PhD.
- George Fox University ☆ Newberg, OR

February 2019 — **"Opportunities in Forensic Psychology"**
- Presenters: Diomaria Safi, PsyD.; Alex Millkey, PsyD.
- George Fox University ☆ Newberg, OR

October 2018 — **"Working with Patients with Chronic Pain"**
- Presenter: Scott Pengelly, PhD.
- George Fox University ☆ Newberg, OR

September 2018 — **"Spiritual Formation & Life of a Psychologist: Looking at Soul-Care"**
- Presenter: Mark McMinn, PhD., ABPP; Lisa McMinn, PhD.
- George Fox University ☆ Newberg, OR

August 2018 — **American Psychological Association Annual Conference**
- Moscone Convention Center ☆ San Francisco, CA

March 2018 — **"Integration and Ekklesia"**
- Presenter: Mike Vogel, PsyD.
- George Fox University ☆ Newberg, OR

February 2018 — **"The History and Application of Interpersonal Psychotherapy"**
- Presenter: Carlos Taloyo, PhD.
- George Fox University ☆ Newberg, OR

December 2017 — **ACT Training Workshop** (Two-Day Training Workshop)
- Acceptance & Commitment Therapy: An Experiential & Practical Introduction
- Oxford Suites ☆ Portland, OR

November 2017 — "**Telepsychology"**

- Presenter: Jeff Sordahl, PsyD.
- George Fox University ☆ Newberg, OR

October 2017 "**Using Community Based Participatory Research to Promote Mental Health in American Indian/Alaska Native Children, Youth, & Families"**
- Presenter: Eleanor Gil-Kashiwabara, PsyD.
- George Fox University ☆ Newberg, OR

May 2017 **Oregon Psychological Association Annual Conference**
- Hilton Conference Center ☆ Eugene, OR

March 2017 "**Difficult Dialogues: Diversity"**
- Presenters: George Fox University Graduate Department of Clinical Psychology
- George Fox University ☆ Newberg, OR

March 2017 "**Domestic Violence: Victims & Perpetrators"**
- Presenters: Patricia Warford, PsyD., & Police Sergeant Todd Baltzell
- George Fox University ☆ Newberg, OR

February 2017 "**Native Self-Actualization"**
- Presenter: Sidney Stone Brown, PsyD.
- George Fox University ☆ Newberg, OR

November 2016 "**When Divorce Hits the Family: Helping Parents and Children Navigate"**
- Presenter: Wendy Bourg, PhD.
- George Fox University ☆ Newberg, OR

October 2016 **"Sacredness, Naming, and Healing: Lanterns Along the Way"**
- Presenter: Brooke Kuhnhausen, PhD.
- George Fox University ☆ Newberg, OR

June 2016 **Northwest Psychological Assessment Conference**
- "Introduction to the MCMI-IV: Assessment and Therapeutic Applications"
- Presenter: Seth Grossman, PsyD.
- George Fox University ☆ Newberg, OR

March 2016 **"Managing Diverse Clients"**
- Presenter: Sandra Jenkins, PhD.
- George Fox University ☆ Newberg, OR

February 2016 **"Neuropsychology: 15 Years After the Decade of the Brain"**
- Presenter: Trevor Hall, PsyD.; Darren Janzen, PsyD.
- George Fox University ☆ Newberg, OR

October 2015 **"Let's Talk About Sex: Sex and Sexuality Applications for Clinical Work"**
- Presenter: Joy Mauldin, PsyD.
- George Fox University ☆ Newberg, OR

September 2015 **"Relational Psychoanalysis and Christian Faith: A Heuristic Dialogue"**
- Presenter: Marie Hoffman, PhD.
- George Fox University ☆ Newberg, OR

ADDITIONAL RELATED TRAININGS

2016 **SBIRT (Screening, Brief Intervention, & Reference to Treatment)**
- George Fox University ☆ Newberg, OR

- Presenter: Jim Winkle, MPH

2015—Present **CPR Certification**
- George Fox University ☆Newberg, OR

2012—2014 **QPR (Question, Persuade, Refer) Suicide Prevention Training**
- Texas Christian University ☆ Fort Worth, TX
- Presenter: Eric Wood, PhD., TCU Counseling and Mental Health Center

2013—2014 **Safe Zone Ally Training**
- Texas Christian University ☆ Fort Worth, TX
- Presenter: TCU Student Affairs; Inclusiveness and Intercultural Services

ADDITIONAL RELEVANT WORK EXPERIENCE

2012—2014
Fort Worth, TX

TEXAS CHRISTIAN UNIVERSITY: Housing and Residence Life
Assistant Hall Director of Moncrief Hall, *Fall 2013 to Spring 2014*
Resident Assistant of Brachman Hall, *Spring 2012 to Spring 2013*

- Assist and oversee various operations of an on-campus hall community of approximately 250 first-year undergraduate students.
- Weekly on-call duties to manage on-campus crisis situations.
    - Situations include, but not limited to suicide ideation/attempts, depression, grief, eating disorders, interpersonal conflicts, anxiety, drug/alcohol abuse, interpersonal violence, and illness.
- Maintain professional and personal relationships with fellow staff members and residents.

AWARDS & RECOGNITIONS

2015—Present **Multicultural Diversity Scholarship**, *George Fox University*

May 2014 **Summa Cum Laude**, *Texas Christian University*

May 2014 **John V. Roach Honors College Laureate**, *Texas Christian University*

PROFESSIONAL AFFILIATIONS & MEMBERSHIPS

2017—Present **Oregon Psychological Association**, *Graduate Student Affiliate*

2017—Present **Western Psychological Association**, *Graduate Student Affiliate*

2015—Present **American Psychological Association**, *Graduate Student Affiliate*

2018—Present APA Division 8: Society for Personality and Social Psychology

2018—Present APA Division 28: Psychopharmacology and Substance Abuse

2018—Present APA Division 32: Society for Humanistic Psychology

2018—Present APA Division 40: Society for Clinical Neuropsychology

2018—Present APA Division 45: Psychological Study of Culture, Ethnicity, and Race

2018—Present GDCP Professional Development Student Interest Group, *Co-Leader*

2015—Present GDCP Multicultural & Diversity Committee, *Leadership Team*

2015—2017	GDCP Gender, Sexuality, & Identity Student Interest Group
2012—2014	Psi Chi International Honor Society, *Collegiate Student Member*
2012—2014	Golden Key International Honor Society, *Collegiate Student Member*

REFERENCES

Available upon request.