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A Program Evaluation of Physician Medical Clinic's Approach to Chronic Pain

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A Program Evaluation of Physician Medical Clinic's Approach to Chronic Pain

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Abstract

Chronic pain costs up to $635 billion dollars annually and impacts 25.3 million adult U.S. citizens (Nahin, 2015). Treatment options have typically included opioid medications, which potentially causes harm with long-term use and has contributed to an epidemic of opioid misuse. Treatment has expanded beyond monotherapy to include holistic approaches to health, such as occupational therapy and mental health therapy. The present study sought to evaluate the effectiveness of group therapy as it is conducted in a rural Oregon clinic using the Quadruple Aim to measure treatment outcomes (Bodenheimer, & Sinsky, 2014). Participants diagnosed with chronic pain and placed on an opioid contract by their primary care provider were mandated to attend four weeks of one hour group therapy which included expectations for healthcare practices between sessions, and participants were asked to complete a packet of mental health screeners before and after treatment. Additional financial data regarding participant spending on medical costs was analyzed. Researchers expected participants' screener scores to improve and financial expenditures to decrease overall. Results suggested that group participation was not

significantly correlated with subjective support of pain, although their medical costs decreased compared to a matched sample of peers who did not attend group therapy. Ultimately, the patients and clinic will benefit from ongoing research designed to improve patient satisfaction while continuing to maintain cost effectiveness. One option discussed to engage in individual therapy to supplement group therapy. Future research is encouraged to incorporate provider satisfaction as a means of better utilizing the Quadruple Aim, and to revisit the experimental design as to include true control and experimental groups thereby allowing variables to be independently evaluated and stronger conclusions to be drawn regarding the effectiveness of group therapy.

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Chapter 1

Introduction

Chronic pain is a massive problem facing the United States. It is a daily reality for 25.3 million adults in the United States (Nahin, 2015) and costs the United States $635 billion dollars annually (Gaskin & Richard, 2012). Broken down farther according to Gaskin and Richard, "Health care costs due to pain ranged from $261 billion dollars…[and] the value of lost productivity due to pain ranged from $299 billion to $335 billion dollars annually," (2012, p. 715. If unattended, chronic pain could cripple the United States financially and drive up the national debt given that the costs associated with CP are anticipated to grow 1.2% faster than the United States' Gross Domestic Product until the year 2025 (Firth, 2017).

This costly phenomenon is not confined to the United States. Research suggests the prevalence of chronic pain is even greater in Canada, Great Britain, the Netherlands, and Sweden (Manchikanti, Singh, Datta, Cohen, & Hirsch, 2009). Research conducted by the Global Burden of Disease, utilizing a systematic analysis of over 250 diseases and conditions that cause disability worldwide, suggested low back pain and neck pain were two of the leading causes of disability on a global scale (Vos et al., 2012). Another study led by the Global Burden of Disease sought to understand and project worldwide spending patterns on healthcare through the year 2040. They found that wealthier countries were projected to increase spending on healthcare at a level disproportionately greater than lower-income countries (Global Burden of Disease Health

Financing Collaborator Network, 2017). Given the disparate projected spending patterns, it is likely that many countries will be unable to efficiently meet the health needs of their population.

Pervasive Impact of Chronic Pain

While it is difficult to identify the precise cost of chronic pain, it is undeniable that chronic pain is deleterious to the individual's overall quality of life (Phillips, 2009). Multiple studies indicate that physical and mental symptoms occurring in tandem with chronic pain are associated with increased risk for mortality, poorer quality of life and more frequent urgent care or emergency department visits (Nunes, Flores, Mielke, Thume, & Facchini, 2016). Patients with these coexisting conditions account for the 45-65% increase in healthcare spending (Thrope, Ogden, & Galactionova, 2010).

Two of the most common mental health disorders associated with chronic pain are posttraumatic stress disorder (PTSD) and depression (Outcalt et al., 2015). In addition to a potentially reciprocal influence on pain, PTSD and major depressive disorder have a significant impact on overall functioning and quality of life (Outcalt et al., 2015). Additionally, prior research has suggested that patient mood may be confounded by the impact of chronic pain on sleep. Pain detracts from sleep and poor sleep in turn contributes to increased pain experiences (Marty et al., 2008). Not only does chronic pain impact individual's psychological wellbeing, it is also implicated in an individual's physical wellbeing. Research has highlighted that the combination of chronic pain and clinical depression is a predictive factor for fall risk in geriatric populations (Eggermont, L., Pennix, B., Jones, R., & Leveille, S., 2012). These findings suggest that treating pain and concurrent mood related concerns may affect multiple aspects of biopsychosocial functioning.

While studies have shown that people with chronic pain who are partnered may fare better than their single counterparts (Taylor, Davis, & Zautra, 2012), pain has been shown to negatively impact the partners of those with chronic pain (West, Usher, Foster, & Stewart, 2012). According to Wethington (2015), chronic pain affects marital quality, intimate relationship functioning, and overall social integration. Furthermore, adults who report chronic pain also report poorer sexual functioning and poorer perceived health overall (Wethington, 2015). The negative repercussions of chronic pain are not reserved for only the patient and their partner. Family members of people with chronic pain are also impacted. On average they report feeling powerless, alienated, emotionally distressed and distant as a family unit (West et al., 2012). Taken together, the systemic impact of chronic pain has increased the urgency to develop effective treatment for this complex condition.

Treatment Approaches

The healthcare industry is caught between two interrelated crises; the crisis of chronic pain and the crisis of opioid misuse and overdose (Krashin, Murinova, & Sullivan, 2016). As the most common allopathic treatment modality for chronic pain, opioid medications are merely effective in reducing acute pain, though long-term efficacy is lacking (Shaheed, Maher, Williams, Day, & Mclachlan, 2016). Long-term opiate use is often associated with a range of side effects, such as nausea, constipation, and tolerance/addiction (Raghavan & Humble, 2011). Additional studies have found a wide range of chronic health conditions associated with long-term opiate use including hypogonadism, osteoporosis, immune suppression, cognitive impairment, and hyperalgesia, as well as heightened response reflex to noxious stimuli (2011). Furthermore, there has been a 124% unintentional drug overdose increase from 1999-2007,

largely due to prescription-related opioid overdoses (Okie, 2010). This increase in opioid-related deaths has led to policy makers enforcing stringent prescribing practices, as observed in standard care practices within the State of Oregon. Specifically, patient morphine equivalency doses (MED) can no longer exceed 100-milligrams within five years in the state of Oregon (2010). In an observation that pre-dates the current opioid misuse epidemic, Henry McQuay (2008) observed that chronic pain is low on political priority lists and deserves more attention from our elected officials. He continued to say chronic pain puts people "at the bottom of the pile." making the need evident for professional advocacy in order to attain a "fairer share of the medical resource cake," (2008, p. 38).

Multidisciplinary approaches have been shown to reduce costs and result in a higher quality of care for patients with chronic pain (Crosson, 2009). Research in the last 10 years has clearly shown that chronic pain is best treated using an interdisciplinary approach, including behavioral health, pharmacologic and nonpharmacologic self-management interventions (Tompkins, Hobelmann, & Compton, 2017). Given the myriad of mental health symptoms associated with chronic pain, it follows that behavioral health services are an important component of the interdisciplinary chronic pain treatment team. Behavioral health treatments typically involve interventions by a behavioral health consultant who has been trained with a cognitive-behavioral therapy (CBT) modality (Jensen, 2011). Research conducted by Possemato et al. (2018) relevant to a systemic approach in treating primary care has shown the efficacy of Primary Care Behavioral Health (PCBH) services, including higher levels of patient engagement in care, improved patient satisfaction, and shorter wait-times. While it is known that collaborative care models improve mental and physical health, such as chronic pain, the

effectiveness may vary (Beck et al., 2018), posing a problem for clinicians. In contrast, there is consistent evidence to support collaborative care models as potentially cost-effective treatment approaches for people with mental and physical co-existing conditions including chronic pain (Cemacho et al., 2018). Towards that end, one relevant domain of cost savings is the reduced expenditure in out-patient mental health specialty services that occurs when patients receive integrated behavioral health services within the primary care clinic (Leung et al., 2017).

Non-pharmacological treatments include alternative medicine and behavioral health interventions, and are often referred to as complementary and alternative medicine (CAM) therapies. Alternative medicine approaches consider massage therapy, physical therapy, and acupuncture viable treatment options (Vickers et al., 2012). The National Center for Complementary and Integrative Health (NCCIH) divides CAM into two categories, *mind and body therapies* (e.g., yoga, exercise, relaxation techniques) and *natural products* (e.g., herbs and vitamins; NCCIH, 2017). Given comorbid health issues arising from chronic pain, as well as strides to emphasize holistic health approaches, other fields (e.g., occupational therapy, physical therapy, and psychology) are tantamount in providing optimal care.

To further complicate treatment for chronic pain, there are pain presentations not responsive to first line treatments, such as systemic drug delivery options and physical therapy. When conventional methods are ineffective toward treating chronic pain, it is considered "refractory pain," (Chaverneff, 2016). According to Chaverneff, spinal cord stimulation and interventional therapy (IT) may be effective treatments for refractory pain (2016). Interventional therapy is an invasive procedure in that medications are directly injected to areas of concern, theoretically lessening the potential for overdose (Chaverneff, 2016). However, other studies

have called the efficacy of interventional therapy into question, proposing that IT effects are uncertain given the inborn risk and high cost of interventional therapy (Ko & Kim, 2012, June). Another option to treat refractory pain may be transcranial magnetic stimulation. According to Cheng (2013), transcranial magnetic stimulation may be able to reduce pain transmission across the spinal cord (2013). Other studies have shown that 20 minutes of transcrainial magnetic stimulation increases pain thresholds in some participants (Taylor et al., 2013). The relatively high cost and variability in outcome highlights the need for multi-disciplinary treatment that are more affordable and accessible.

The "Triple Aim" as defined by McCarthy and Klein (2010) is a policy designed to enrich patient experience of care with respect to quality and satisfaction, the overall health of the general population and the cost of care. Financial expenditures and patient health are two integral components of the "Triple Aim," (McCarthy & Klein, 2010). More recently, pundits in the healthcare community have advocated for the addition of a fourth component, provider satisfaction. The goal of the fourth component is "to minimize physician burnout," thereby ensuring a stable workforce as chronic health conditions continue to rise. Including the fourth component is particularly relevant for providers treating patients with chronic pain. Research has highlighted that treating chronic pain induces feeling of frustration and powerlessness in both provider and patient as it is often a recalcitrant condition. As such, opting for the Quadruple Aim in lieu of the Triple Aim (Bodenheimer, & Sinsky, 2014) may be particularly relevant for providers treating patients with chronic pain. Ultimately, the Quadruple Aim initiative provides a framework to evaluate the effectiveness of multidisciplinary approaches to chronic pain.

Current research supports the use of group therapy, in addition to individual therapy, as a treatment modalities for chronic pain (Feng & Catlin, 2016). One group therapy study indicated fewer depressive symptoms and less pain interference of their normal activity after treatment (Feng & Caitlin, 2016). According to Alizadehfard (2012), chronic pain participants who completed long-term group therapy were better able to find adaptive solutions that minimized their typical recurrent pain behaviors. In addition, existential psychology-based group therapies were also found to be efficacious, as "life review group therapy" for elderly chronic pain sufferers' resulted in significant improvements on pain-related questionnaire scores (Alizaderfhad, 2012).

People living in rural areas experience additional barriers in accessing treatment for chronic pain, including limited general and specialty providers, transportation and limited financial resources as compared to similar populations living in urban areas. While the efficacy of cognitive behavioral therapy is well-documented toward treating common mental disorders, access to treatment itself is largely insufficient (Salomonsson et al., 2018). Access limitations make treatment in rural settings even more difficult, as a result, rural residents are more likely to rely solely on their primary provider for pharmacological treatment and neglect self-management interventions. The overreliance on PCPs in rural populations is likely a function of having limited access to a network of formally trained providers with expertise in managing pain (Mezei, & Murinson, 2011) in conjunction with the proclivity for rural residents to be prescribed opioids at higher rates than non-rural residents (Prunuske et al., 2014). This has led to a significant disparity in the use of self-management techniques for rural populations (Eaton et al., 2018). A possible solution to increase access may be found in guided self-help (GSH) cognitive

behavioral therapy. GSH cognitive behavioral therapy is a method in which patients meet face-to-face with a clinician for an initial appointment then may have as few as zero face-to-face appointments thereafter, using telehealth instead. GSH cognitive behavioral therapy boasted comparable disorder remission rates in 6- and 12-month follow-ups (Salomonsson et al., 2018). Other studies have found similar results, supporting the effectiveness of digital behavioral health programs in primary care settings. Yu, Szigethy, Wallace, Solano, and Oser (2018) found that digitally delivered therapy interventions are associated with reductions in anxiety-related symptoms, thereby improving access to patients in need.

Program Evaluation: The EPIS Model

Especially within the context of the Quadruple Aim, it is incumbent on healthcare providers to systematically develop and assess all patient treatment interventions and programs. There are many methods of evaluating the effectiveness of programs, particularly within primary care settings. One such method is the EPIS model. EPIS stands for Exploration, Preparation, Implementation, Sustainment (Aarons, Hurlburt, & Horwitz, 2011). Per Aarons et al. (2011), *Exploration* refers to the process of considering what evidence-based practices might best solve the identified problem, while considering challenges to the outer and inner contextual factors, *Preparation* refers to planning the logistics of how to include the selected practice into the existing system, *Implementation* refers to carrying out the planned intervention, allowing implementers opportunity to discern if there are major areas of concern regarding the intervention, and *Sustainment* refers to the ongoing monitoring of the program in terms of quality and finances. The California Evidence-Based ClearingHouse for Child Welfare has adopted the EPIS model as its primary evidence based implementation framework. Studies have shown that

the utilization of the EPIS model improves care for vulnerable populations as it is applied to outer service systems and inner organizational contexts simultaneously (Becan et al., 2018). The current study used the EPIS model to effectively measure and implement evidence-based changes in an existing system.

Present Study

Per McQuay (2008, p. 41), "No one thing will improve this (chronic pain) situation. We need more and better basic research." The purpose of the current study was to evaluate the effectiveness of the Pain Pathway Program developed and implemented within a small primary care practice in a rural Oregon county with the hopes of improving outcome for patients with chronic pain. The Pain Pathway Program is the clinic's response to the ineffectiveness and increasing epidemic of opioid misuse in Oregon. The treatment program mandated patients who were prescribed opioids to attend four two-hour group therapy sessions over the period of four weeks. The sessions reviewed theories of pain, pain's impact on relationships, coping strategies, and associated relaxation techniques. The current study evaluated the effectiveness of this program with a dual focus on patient outcome and financial expenditure.

Researchers expected results to converge with the current body of literature in that group therapy is effective at improving patient health and decreasing patient fiscal expenditures. For the present study, the following hypotheses were tested:

Hypothesis 1: Patients who completed the Pain Pathway Program will have improved healthcare outcomes compared to the comparison group

Hypothesis 2: Patients who completed the Pain Pathway Program will spend less money on treatment and medical expenses than their peers who did not complete or attend the Pain Pathway Program.

Chapter 2

Methods

Participants

The current study used archival data from approximately 850 chronic pain patients who sought medical attention for chronic pain in one medical clinic within a rural county in Oregon (94% Caucasian, 3% Latino/Latina, 3% other; average age of participants was 60.53 years old). Participants rated their pain on a scale ranging from 1-10 (1 = *little to no pain*, 10 = *severe pain*). The average pain rating was 6.38 (*SD* = 1.74) and participant pain "at its worst" within 24 hours of completing the screener was 4.75 (*SD* = 1.72). However, one-third of participants reported their pain "at its worst" as 7/10. Pain was most commonly reported on the back, knees and legs. The treatment group (i.e., participants who completed the pain pathway and did pre- and post-screeners) was comprised of 15 people. Financial data regarding healthcare spending habits was gathered for 12 of those 15 people. Insurance claims data was collected for an additional 15 people who did not complete the requisite group therapy in order to supplement a control group in terms of spending patterns. The control group (i.e., the group that did not complete the four group therapy sessions and associated screener packets) was 786 people. This group was used to ensure the treatment group was representative of the larger pain patient population with respect to age, gender, morphine equivalent dose (MED), and ethnicity. There were no specific exclusionary criteria once patients were admitted into the Pain Pathway. This research project was approved by the Human Subjects Review Committee of George Fox University, Newberg, OR.

Materials

Participants completed a combination of screeners, typically upon entering the pain pathway. The screeners examined within the pain packet are the Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder 7-item scale (GAD-7), Brief Pain Inventory-Short Form (BPI), and Physical Functional Ability Questionnaire (FAQ-5).

The Patient Health Questionnaire. The Patient Health Questionnaire (PHQ-9) assesses depression using a 9-point Likert scale. This measure has been shown to accurately predict depression, as evidenced by 7.0-13.6 percent increase in the odds of depression among people with elevated PHQ-9 scores (Kroenke, Spitzer, & Williams, 2001). For the present study, not all items were collected for the PHQ-9 and thus the data was prorated for analysis purposes. See Appendix A.

The Generalized Anxiety Disorder Screener. The Generalized Anxiety Disorder Screener (GAD-7) is used to assess anxiety using a 7-point Likert scale. The GAD-7 has a 0.83 test-retest reliability and significant concurrent validity compared with the Beck Anxiety Inventory (r = .072; Lowe et al., 2008). For the present study, not all items were collected for the GAD-7 and thus the data was prorated for analysis purposes. See Appendix B.

The Brief Pain Inventory-Short Form (BPI). The Brief Pain Inventory-Short Form (BPI) is a measure used to assess pain levels. The nine questions on the BPI evaluates severity of pain, the impact of pain on daily function, the location of pain, pain medications, and the amount of pain relief in the past 24-hours. The BPI has acceptable internal consistency, construct validity, criterion validity, and high test-retest reliability (Stanhope, 2016). For example, internal consistency reliability (Cronbach's α) was greater than 0.80 for the BPI according to Kapstad,

Rokne, and Stavem (2010). For the present study, not all items were collected for the BPI and thus the data was prorated for analysis purposes. See Appendix C.

The Physical Functional Ability Questionnaire (FAQ5). The Physical Functional Ability Questionnaire (FAQ5) is a 5-question tool measuring a participant's functioning in activities of daily living (e.g., walking up a set of stairs without assistance). Participants rank from 0-4 how impaired they are in the following domains: self-care, chores/social activities, walking/stairs, lifting, and work; scores of zero infer complete impairment and four's indicate lack of impairment. Patient responses were calculated to extrapolate an approximate percentage of impairment. The FAQ5 appears to have reasonable face validity as all questions directly pertain to participant's functioning. For the present study, not all items were collected for the FAQ5 and thus the data was prorated for analysis purposes. See Appendix D.

Pain risk numbers. The Pain Risk Number is an in-house measurement of the likelihood of someone abusing prescription opioid medications. It is a weighted number out of 10 computed by a computer algorithm. Quarterly urine analysis, previous substance use history, current alcohol use, presence of a sleep apnea diagnosis, current or previous prescriptions of other opiates, methadone or benzodiazepines, and other previous or current psychiatric diagnoses are factors used in the calculation of an individual's pain risk number. These numbers were calculated by staff members and pain specialists within the clinic.

The morphine equivalent dose. The Morphine Equivalent Dose (MED) is a numerical measurement against which all opioids can be compared in terms of pain relief. Understanding MED's allows doctors and patients to measure opioid doses as either effective or excessive, in

addition to aiding in decision making processes when considering transitioning from one opioid to another.

Financial claims data. Financial claims data was provided to the researchers by the health plan's Business Intelligence Specialist (see Procedure), and researchers analyzed the amount of money patients spent on office visits, inpatient stays, outpatient services, emergency department visits, lab costs, and overall facilities costs. In order to appropriately compare means before and after treatment, data was pulled six months prior to a patient's entry into the Pain Pathway and then for the six-month period after they completed the requisite four group therapy sessions. Similarly, a control group was established by pulling six months of claims data for patients who met with a pain coordinator but did not attend the requisite group therapy.

Procedure

Participants signed an informed consent acknowledging their electronic health information and responses to the pain screener packets may be used for research purposes. Participants who agreed to the informed consent policy then met with a Pain Coordinator to assess their risk of abusing opioid medications. At this time, the Pain Coordinator provided participants the pain screener packets and divided them between "Pain High" and "Pain Low" groups. Participants were placed into the Pain High group if they met the following criteria: prescription is equal to or greater than 40 MED, use of methadone and/or benzodiazepines, history of psychological diagnosis (past or present), and sleep apnea. Participants were placed in the Pain Low group if they met the following criteria: prescription is an MED score lower than 40 and no other reported risk factors. Participants were placed in the "Pain Observation" group if

they met the following criteria: an MED score of 15 or less, managed psychological diagnosis (i.e., in treatment/remission), managed sleep apnea, and no methadone or benzodiazepine use.

Participants in the Pain High category were required to attend four group psychotherapy sessions where they learned about chronic pain, current theories on pain, pain's impact on relationships, coping strategies, and relaxation techniques. Pain Low participants were given the option to engage in the Pain Pathway groups. All participants (i.e., both Pain High and Pain Low), were required to meet with a Pain Coordinator quarterly the entire time they were prescribed opioids. The Pain Coordinator provided the same measures from the initial pain screener packet to gather post-group data in order to measure the effectiveness of group therapy after participants completed their fourth and final group therapy session. To collect participant healthcare expenses, researchers gathered patient insurance policy numbers on an encrypted spreadsheet. Then researchers hand delivered the encrypted data to the Business Intelligence Specialist of the health plan who extracted specific participant expenses from a database. Participants were excluded if they were not willing to cease substance or alcohol use, or if they were rated as Pain Low and elected to abstain from the Pain Pathway.

Chapter 3

Results

The average age of participants who completed the pain pathway and screeners, aka the treatment group, (M = 59.85, SD = 13.05) was comparable to the mean age of participants within the comparison group (M = 58.44, SD = 18.02). In other words, the two groups were statistically homogenous in terms of age [$F(1,844) = .429$, $p = .51$]. Similarly, participant MED ($t(13.37) = -0.63$, $p = .05$) and Pain Risk ($t(68) = 0.39$, $p = .70$) was virtually indistinguishable between the treatment and comparison groups. See Tables 1 and 2.

Table 1

Patient Demographics

Measure	Treatment		Comparison	
	$\bar{x}$	SD	$\bar{x}$	SD
Age	59.85	13.05	58.44	18.02
MED	30.23	22.85	48.89	36.30
Pain Risk	2.18	1.17	1.78	1.30

Table 2

Patient Demographics Part 2

Demographic data		Treatment	Comparison
Gender	Male	3	4
	Female	9	11
Ethnicity	Caucasian	10	13
	Latino(a)	2	1
	Other	3	1

An independent samples *t*-test was calculated to ensure that the participants whose financial data was collected were equitable between groups in terms of age, MED, and Pain Risk. Findings suggested no significant difference in terms of age for patients who attended the Pain Pathway (M = 49.69, SD = 13.57), and those who did not (M = 46.38, SD = 11.08); $t(25)$ = -.669, p = .491). Levene's test indicated equal variances (F = .39, p = .538) and thus the degrees of freedom were not adjusted. There was no significant difference in terms of MED for patients who attended the Pain Pathway (M = 30.23, SD = 25.85) and those who did not (M = 48.89, SD = 36.30); $t(18)$ = 1.342, p = .20. Levene's test indicated equal variances (F = .69, p = .42) and thus the degrees of freedom again were not adjusted. Lastly, there was no significant difference in terms of Pain Risk for those who attended (M = 2.18, SD = 1.17) and those who did not (M = 1.78, SD = 1.30); $t(18)$ = -.731, p = .47. Levene's test indicated equal variances (F = .73, p = .41) and thus the degrees of freedom were not adjusted. Said another way, the comparison and treatment groups were equitable with one another in terms of age, MED, and Pain Risk.

Similarly, a Chi-Square test of independence was calculated comparing the frequency of distribution of gender and ethnicity between the treatment and comparison groups. No

relationship was found between gender and completion of the Pain Pathway in this study, $X^2(1) = .01$, $p = .922$. Again, no relationship was found between ethnicity and the participants of this study, $X^2(2) = 1.41$, $p = .494$. These findings suggested that ethnicity and gender were equally represented in both groups.

Results on pre and post screeners were analyzed using a paired samples t-test. Not all items were collected from the screeners, and therefore data for the PHQ-9, GAD-7, BPI, and FAQ-5 were prorated. Results are displayed in Table 3.

Table 3

Patient Health Screeners

Measure	Pre $\bar{x}$	Post $\bar{x}$	Pre SD	Post SD	t	d'	p
PHQ-9	4.14	8.73	3.26	5.07	-2.19	-.69	.06
GAD-7	3.15	10.85	3.48	6.58	-3.02	-.95	.02
FAQ-5	71.88	68.75	13.26	0.00	0.33	.24	.79
BPI	3.76	5.26	2.01	0.49	-2.15	-.68	.06
MED	30.23	25.27	25.85	21.06	1.38	.42	.20
Pain Risk	2.00	2.59	1.21	1.39	0.18	.21	.70

Scores on the PHQ-9 resulted in no significant change after treatment, $t(9) = -2.19$, $p = .06$, however the effect size for the difference between means was moderate, d' = -.69. There was a significant increase in anxiety scores, reflected on the GAD-7, after treatment, $t(9) = -1.93$, $p = .02$, and a large effect was observed, d' = -.95. Scores on the FAQ-5 underwent no significant change after treatment, $t(1) = .33$, $p = .79$, however a small effect size was observed, d' = .24.

After treatment, scores on the BPI did not significantly change, $t(9) = -2.15$, $p = .06$, and a medium effect was observed, d' = -.68. There was no significant change in patient MED's after treatment, $t(10) = 1.38$, $p = .20$, and a small effect of time was observed before treatment and after treatment, d' = .42.

Non-significant differences in scores were observed regarding patient Pain Risk before group therapy ($m = 2.00$, $sd = 1.21$) and after group therapy ($m = 2.59$, $sd = 1.39$). Additionally, a small effect was observed; $t(68) = 0.18$, $p = .70$, $d = .21$.

A 2 (times) x 2 (groups) x 6 (cost centers) repeated measures ANOVA was calculated to quantify the effect of time, group attendance, and cost centers on money spent for pain management. The cost centers were: total costs, office visit, outpatient, emergency department, laboratory, and facilities. Sphericity was met for all analyses. Due to the small sample sizes and associated low power, the ANOVA results will not be reported and eta^2 will be reported in addition. The results are displayed in Table 4.

No main effect of group was observed, $F(1,25)=2.87$, p= .10. No significant main effect of time was observed, $F(1,25)= 2.13$, p= .16, and no significant interaction was observed of time *and* group, $F(1,25)= 3.55$, p= .07. However it should be noted the effect sizes of these factors and their interactions are all moderate in size.

Although the increase in total costs for the comparison group was not significant ($t(14) = -1.99$, $p = .07$; $d = .52$), a moderate effect was observed. Interestingly for the treatment group, whose findings did not boast significance as well ($t(11) = .55$, $p = .59$; $d = .15$), no effect was observed. In other words, participants who did not attend group therapy had large increases in

Table 4

Cost Centers for Treatment and Comparison Groups

	Treatment group				Comparison group				
Measure	Mean	SD	d'	p	Mean	SD	d'	p	η2
Total pre	973.75	1530.70			925.36	1038.19			
Total post	686.99	1250.43	.15	.59	3189.60	4388.95	.52	.07	
Office pre	570.88	1102.86			619.39	708.58			
Office post	332.36	520.39			892.92	961.62		.28	.05
Outpatient pre	25.32	66.20			44.34	70.42			
Outpatient post	8.30	22.44			252.93	443.82		.058	.16
ED pre	91.58	175.68			4.13	16.00			
ED post	45.10	111.85			94.36	195.62		.673	.01
Lab pre	49.27	83.22			118.38	113.21			
Lab post	51.66	79.49			96.66	129.52		.09	.11
Facilities pre	236.70	338.05			139.11	239.40			
Facilities post	210.93	519.23			1731.23	3266.39		.15	.08

their expenditures regarding healthcare. However, participants who attended group therapy had little to no increase in expenditures.

Three paired samples *t*-tests were used to make post hoc comparisons between office visit spending patterns. The comparison group's spending patterns were evaluated at the time of their entry into the pain pathway (M = 619.39, SD = 708.58) and six months after their entry (M = 892.92, SD = 961.62) and the experimental group's spending patterns were evaluated for the six months before entering the pain pathway (M = 570.88, SD = 1102.86) and six months after completing the regiment (M = 332.36, SD = 520.39). There was not a significant main effect of

group (treatment and comparison), $F(1,25) = 1.23$, $p = .28$, $\eta^2 = .05$. The eta^2 indicates that this is a small effect. A second Paired samples t-test indicated no main effect was found with respect to time, $F(1,25) = .009$, $p = .93$, $\eta 2 = .000$. A third paired samples *t*-test indicated a small interaction between time and group, $F(1,25) = 1.96$, $p = .174$, $\eta 2 = .07$.

Three paired samples *t*-tests were used to make post hoc comparisons between outpatient spending patterns. The comparison group's expenditures were evaluated at the time of their entry into the pain pathway ($M = 44.34$, $SD = 70.42$) and six months after their entry ($M = 252.93$, $SD = 443.82$) and the experimental group's expenditures were evaluated for the six months before entering the pain pathway ($M = 25.32$, $SD = 61.87$) and six months after completing the regiment ($M = 8.30$, $SD = 22.44$). A first paired samples *t*-test indicated that there was not a significant difference between groups, however a large main effect was found with respect to group attendance, $F(1,25) = 3.96$, $p = .058$, $\eta 2 = .16$. A second paired samples *t*-test indicated a lack of significant difference between the groups, however a moderate main effect was found with respect to time, $F(1,25) = 2.17$, $p = .15$, $\eta 2 = .08$. A third paired samples *t*-test indicated a lack of significant difference between the groups, however a moderate interaction was found with respect of time and group, $F(1,25) = 3.01$, $p = .10$, $\eta 2 = .11$. Secondary analyses were ran to calculate the exact trend of each group's reaction to the large interaction between groups. Results, via a paired samples *t*-test, suggest that the control group before and control group after reacted to the large interaction differently ($t(17) = -0.17$, $p = .86$). An independent samples *t*-test, whose variances were assumed ($F = .08$, $p = .16$), suggested that the effect sizes support that the

control and experimental groups responded to the large interaction of group differently as a function of group attendance ($t(19) = 1.45$, $p = .16$).

Three paired samples *t*-tests were used to make post hoc comparisons between emergency department costs. The comparison group's expenditures were evaluated at the time of their entry into the pain pathway ($M = 4.13$, $SD = 16.00$) and six months after their entry ($M = 94.36$, $SD = 195.62$) and the experimental group's expenditures were evaluated for the six months before entering the pain pathway ($M = 91.58$, $SD = 175.68$) and six months after completing the regiment ($M = 45.10$, $SD = 111.85$). A first paired samples *t*-test indicated that there was not a significant difference between the control and experimental group and no main effect was found with respect to group attendance, $F(1,25) = .183$, $p = .673$, $\eta 2 = .01$. A second paired samples *t*-test indicated a lack of significant difference between groups, however a moderate small effect was found with respect to time, $F(1,25) = .46$, $p = .51$, $\eta 2 = .02$; a third paired samples *t*-test indicated a lack of significant difference between the groups, however a large interaction was found with respect of time and group, $F(1,25) = 4.44$, $p = .045$, $\eta 2 = .15$.

Three paired samples *t*-tests were used to make post hoc comparisons between lab costs. The comparison group's spending patterns were evaluated at the time of their entry into the pain pathway ($M = 118.38$, $SD = 113.20$) and six months after their entry ($M = 96.67$, $SD = 129.52$) and the experimental group's spending patterns were evaluated for the six months before entering the pain pathway ($M = 49.28$, $SD = 83.22$) and six months after completing the regiment ($M = 51.66$, $SD = 79.49$). A first paired samples *t*-test indicated that there was not a significant difference between groups, however a moderate main effect was found with respect to group attendance, $F(1,25) = 3.08$, $p = .09$, $\eta 2 = .11$. A second paired samples *t*-test indicated a

lack of significant difference between the groups, however a small main effect was found with respect to time, $F(1,25) = .15$, $p = .702$, $\eta 2 = .01$. A third paired samples *t*-test indicated a lack of significant difference between the groups, however found no interaction of time and group, $F(1,25) = .22$, $p = .63$, $\eta 2 = .009$.

Three paired samples *t*-tests were used to make post hoc comparisons between facilities costs. The comparison group's spending patterns were evaluated at the time of their entry into the pain pathway ($M = 139.11$, $SD = 239.40$) and six months after their entry ($M = 1731.23$, $SD = 3266.39$) and the experimental group's spending patterns were evaluated for the six months before entering the pain pathway ($M = 236.70$, $SD = 338.05$) and six months after completing the regiment ($M = 210.93$, $SD = 519.23$). A first paired samples *t*-test indicated that there was not a significant difference between groups, however a moderate main effect was found with respect to group attendance; $F(1,25) = 2.18$, $p = .15$, $\eta 2 = .08$. A second paired samples *t*-test indicated a lack of significant difference between the groups, however a moderate main effect was found with respect to time, $F(1,25) = .2.65$, $p = .116$, $\eta 2 = .10$. A third paired samples *t*-test indicated a lack of significant difference between the groups, however found a moderate interaction of time and group, $F(1,25) = 2.83$, $p = .11$, $\eta 2 = .10$.

Chapter 4

Discussion

The present study sought to evaluate the effectiveness of group therapy as a treatment for chronic pain as conducted at a medical clinic in rural Oregon. Participants completed a combination of screeners before and after completing four separate group therapy sessions. Additionally, their financial expense patterns were recorded and analyzed before and after completing the group therapy requirements. The first hypothesis tested predicted patient screeners would show improved overall quality of health after group therapy. The second tested hypothesis predicted that participants who attended the Pain Pathway would spend less money on medical care after completing the program. Scores on most health screeners showed a trend toward worsening after treatment, however these changes cannot be ruled out due to random chance. Scores on an anxiety measure were significant and showed worse anxiety symptoms after treatment. This conclusion contradicts current research regarding the effectiveness of group therapy and converged with research acknowledging the high degree of variability in multidisciplinary settings. Secondly, patient MED, Pain Risk numbers, and health screener scores did not result in significant change after treatment for the treatment group. Findings illustrated decreases in spending over time which converged with the current literature stating that group therapy and PCBH decrease financial burden for patients, particularly in rural settings. As measured by the Triple Aim, this program does not significantly influence patient health screeners and thereby does not bolster patient health outcomes. As such, researchers failed to

reject the null hypothesis. However, more data will be needed to draw decisive conclusions given the discrepancy between patient self-report measures and financial data.

As stated, patient health screeners appeared to be associated with, although lack of statistical significance would indicate the necessity to increase power or sample size, worse scores after treatment overall. That said, according to the effect sizes, the symptoms assessed PHQ-9 and BPI worsened by a moderate degree (effect sizes go here) after treatment, the symptoms assessed by the GAD-7 worsened by a large degree (effect sizes go here), and the symptoms assessed by the FAQ-5 worsened by a small degree. Moreover, according to effect sizes scores, on the PHQ-9 went from none to mild after treatment, GAD-7 scores went from "none" to moderate, and scores on the BPI were within the mild range prior to treatment and were in the moderate range after treatment, according to the cutpoints for the BPI as posited by Kapstad, Hanestad, Langeland, Rustoen, and Stavem (2008). This study failed to reject the null hypothesis regarding patient health outcomes as represented by health screeners.

The lack of support for the effectiveness of the group may have been influenced by a negative contagion in the group setting. In other words, since participants may have been resentful they were mandated to attend treatment to receive their previously prescribed pain medication. This resentment may have been exacerbated by the broad directive that mandated providers reduce the MED prescription regardless of patients' demonstrated responsibility in using medication. Screener results were not consistent with the current body of literature, nor what researchers expected to find regarding group therapy as a largely positive influence in

patient health outcomes. Again, the small quantity of patients who attended group therapy and completed post-treatment screeners may have contributed to the lack of significant results.

MED likely decreased as a function of statewide policy, explaining the observed small effect of time on MED decreases. This mandatory decrease in medication dose, while enhancing patient safety, likely contributed to patient dissatisfaction illustrated via other measures (e.g., scores on PHQ-9, GAD-7, etc.). Although at a first glance, the program may not be seen as positively affecting patient experience, it is important to note that patient's mood or perception of function did not decrease even as their MED was decreased. Some patients with chronic pain may catastrophize that if their pain medication is reduced, they will experience a significant increase in mental health symptoms and pain interference. The expected increase in impairment simply did not happen in this group. Given the quasi-experimental nature of the design, it is impossible to determine if the symptom stabilization in the face of opioid reduction was due to group participation or gradual adjustment to decrease in MED. Ongoing stabilization may be the first step on a gradual improvement in mood and functioning as patients are tapered to lower MED. It is possible that patient satisfaction will increase as populations become more accustomed to the new prescription practices and alter medication expectations accordingly.

The cost centers examined for this study were overall costs, office visits, outpatient, emergency department, lab, and facilities. Three cost centers improved for people who completed the program and three cost centers remained the same after treatment for those who completed the program. This is in contrast to the comparison group, where financial costs regardless of cost centers. In other words, patients who did not attend the Pain Pathway had significant increases in financial costs in all domains whereas patients that did attend had little or

no increase in financial costs. These financial differences are particularly notable because the participants who were mandated to treatment were selected because their higher risk scores. So, when the highest risk patients showed a decrease in medical claims as compared to the lower risk tau group, it raises the consideration that a group treatment for patients with chronic pain may have the potential to impact medical costs. Taken together, group therapy is associated with decreasing spending patterns on pain. Therefore researchers rejected the null hypothesis regarding patient spending.

Limitations

This study was most limited by the small sample size and lack of a true control group, given that patients were mandated into the treatment group. The sample size and lack of randomly assigned treatment intervention prevented researchers from drawing direct and generalizable causal conclusions regarding patient wellness as a function of attending group therapy. Other limitations included proration of test scores, standard pitfalls of subjective patient self-report, time variability in screener completion, and potentially negative contagion influencing patient health screener scores.

Recommendations for the Clinic

Perhaps most relevant for sustaining the gains made by the Pain Pathway, research and program evaluation models has shown that clinics are more likely to have successful outcome, and more engagement in sustaining the related processes when they have a clear implementation plan to launch a new program (Moise et al., 2018). As such, the clinic would likely benefit from having a designated care manager for pain patients while being open to renegotiating their policies regarding pain care in response to ongoing program assessment. The program may also

benefit from reducing the number of screeners and pages overall in the pain packets. This reduction would ideally minimize frustration felt by participants of the Pain Pathway that are already distressed. In addition, staff could encourage participants to engage in individual therapy to supplement material covered in group therapy and more importantly treat and monitor any significant mood changes. Lastly, clinicians could caution clients that they may not experience immediate improvement as they progress through the stages of group therapy and that continuing to experience some pain does not necessarily equate to their condition worsening.

Recommendations for Future Studies

Future researchers would benefit from redesigning the experiment so that it included true control and experimental groups via random selection and assignment. As the field moves more toward the Quadruple Aim, assessing provider satisfaction as well as patient outcome and patient satisfaction would strengthen conclusions regarding the potentially positive impact of a group intervention for patients with chronic pain.

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Appendix A – Patient Health Questionnaire (PHQ-9)

Patient Name: _____ Date: _____

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

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

Appendix B

Generalized Anxiety Disorder 7-item (GAD-7) scale

Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all sure	Several days	Over half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it's hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3
Add the score for each column	+	+	+	
Total Score *(add your column scores)* =				

If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all _____
Somewhat difficult _____
Very difficult _____
Extremely difficult _____

Source: Spitzer RL, Kroenke K, Williams JBW, Lowe B. A brief measure for assessing generalized anxiety disorder. *Arch Inern Med.* 2006;166:1092-1097.

Appendix C – Brief Pain Inventory (Short Form)

STUDY ID# _____ HOSPITAL # _____

DO NOT WRITE ABOVE THIS LINE

Brief Pain Inventory (Short Form)

Date: _____/_____/_____ Time: _____

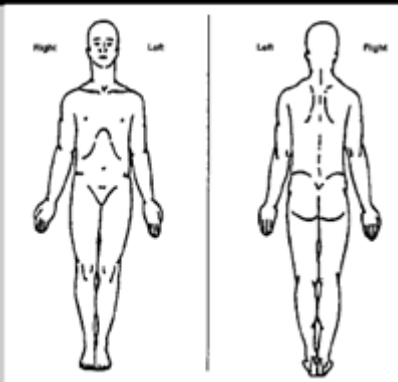
Name: _____ _____ _____

Last First Middle Initial

1. Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these every-day kinds of pain today?

1. Yes 2. No

2. On the diagram, shade in the areas where you feel pain. Put an X on the area that hurts the most.



3. Please rate your pain by circling the one number that best describes your pain at its worst in the last 24 hours.										
0 No Pain	1	2	3	4	5	6	7	8	9	10 Pain as bad as you can imagine
4. Please rate your pain by circling the one nuimber that best describes your pain at its least in the last 24 hours.										
0 No Pain	1	2	3	4	5	6	7	8	9	10 Pain as bad as you can imagine
5. Please rate your pain by circling the one number that best describes your pain on the average.										
0 No Pain	1	2	3	4	5	6	7	8	9	10 Pain as bad as you can imagine
6. Please rate your pain by circling the one number that tells how much pain you have right now.										
0 No Pain	1	2	3	4	5	6	7	8	9	10 Pain as bad as you can imagine

7. What treatments or medications are you receiving for your pain?

8. In the last 24 hours, how much relief have pain treatments or medications provided? Please circle the one percentage that most shows how much relief you have received.

0% No Relief	10%	20%	30%	40%	50%	60%	70%	80%	90%	100% Complete Relief

9. Circle the one number that describes how, during the past 24 hours, pain has interfered with your:

A. General Activity

0 Does not Interfere	1	2	3	4	5	6	7	8	9	10 Completely Interferes

B. Mood

0 Does not Interfere	1	2	3	4	5	6	7	8	9	10 Completely Interferes

C. Walking Ability

0 Does not Interfere	1	2	3	4	5	6	7	8	9	10 Completely Interferes

D. Normal Work (includes both work outside the home and housework)

0	1	2	3	4	5	6	7	8	9	10
Does not Interfere										Completely Interferes

E. Relations with other people

0	1	2	3	4	5	6	7	8	9	10
Does not Interfere										Completely Interferes

F. Sleep

0	1	2	3	4	5	6	7	8	9	10
Does not Interfere										Completely Interferes

G. Enjoyment of life

0	1	2	3	4	5	6	7	8	9	10
Does not Interfere										Completely Interferes

Appendix D – Physical Functional Ability Questionnaire (FAQ5)

This tool has not been validated for research; however, work group consensus was to include it as an example due to the lack of other validated and easy-to-use functional assessment tools for chronic pain.

Name: _____

Date: _____

Date of Birth: _____

MR #: _____

Instructions: Circle the number (1-4) in each of the groups that best summarizes your ability.

Add the numbers and multiply by 5 for total score out of 100.

_____ **Self-care ability assessment**

1. Require total care: for bathing, toilet, dressing, moving and eating
2. Require frequent assistance
3. Require occasional assistance
4. Independent with self-care

_____ **Family and social ability assessment**

1. Unable to perform any: chores, hobbies, driving, sex and social activities
2. Able to perform some
3. Able to perform many
4. Able to perform all

_____ **Movement ability assessment**

1. Able to get up and walk with assistance, unable to climb stairs
2. Able to get up and walk independently, able to climb one flight of stairs
3. Able to walk short distances and climb more than one flight of stairs
4. Able to walk long distances and climb stairs without difficulty

_____ **Lifting ability assessment**

1. Able to lift up to 10 lbs. occasionally
2. Able to lift up to 20 lbs. occasionally
3. Able to lift up to 50 lbs. occasionally
4. Able to lift over 50 lbs. occasionally

_____ **Work ability assessment**

1. Unable to do any work
2. Able to work part-time **and** with physical limitations
3. Able to work part-time **or** with physical limitations
4. Able to perform normal work

_____ **Physical Functional Ability (FAQ5) Score**

Appendix E

Curriculum Vitae

William Summers

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Education

PsyD **George Fox University,** Newberg, OR **Anticipated Graduation May 2020**
Dissertation: Studying the effectiveness of group therapy on chronic pain: A program evaluation **(Defended on May 8th, 2019)**
Committee: Kathleen Gathercoal, Ph.D. (chair), Mary Peterson, Ph.D., Kristie Schmidlkofer, PsyD

MA **George Fox University,** Newberg, OR **April 2017**
Masters of Arts in Clinical Psychology

MA **LeTourneau University,** Longview, TX **April 2015**
Masters of Arts in Marriage and Family therapy

BA **University of Mary Hardin-Baylor,** Belton, TX **April 2013**
Bachelors of Arts, Psychology Major

Supervised Clinical Experience

National Psychology Training Consortium- Cascades Region Internship **June 2019-June 2020**
Yakima, WA; **APA Accredited Internship**
Supervisors: David Bauman, Psy.D., Bridget Beachy, Psy.D., Ruth Olmer, Psy.D., Steven Olmer, Psy.D., Arissa Walberg, Ph.D
Position title: Behavioral Health Consultant- Intern
Treatment setting: Rural medical clinic, pediatric clinic
Population: Low SES individuals, 0-65+ years old, LBGTQ+

- Provide brief group and individual evidence-based therapy (>4 visits, 20-30 minutes) at a resident-training medical clinic, pediatric clinic, rural medical clinic, and LBGTQ+ youth space. Additionally, conduct same-day appointments via warm-handoffs or cold-crashes as needed.
- Develop a quality improvement project toward enhancing patient/provider experience within a primary care setting. The project aim is to implement functional living assessments and assess the utility of such testing in primary care.

- Briefly consult with primary care providers regarding patient's behavioral health and other contextual concerns to ensure patients receive optimum care.

Evergreen Clinical Services **July 2018-May 2019**
Portland, Or
Supervisors: Brian Goff, Ph.D.
Position title: Practicum Therapist
Treatment setting: Private Practice
Population: Low SES individuals, 18-65+ years old

- Provide Acceptance and Commitment Therapy in traditional 40-50 minute sessions.
- Charge patients a small fee per session and monitor patient balances.

Pre-internship, Assessment Clinic at the Behavioral Health Center **August 2018-Present**
Newberg, Or
Supervisors: Glena Andrews, Ph.D
Position title: Student Assessment Specialist
Treatment setting: Community Mental Health
Population: Typically low SES individuals, 5-65+ years old

- Administer an array of psychodiagnostic, neuropsychological, and personality assessments to answer referral questions from a variety of referral sources
- Write cohesive integrated reports utilizing data from multiple sources to offer comprehensive answers to complex referral questions.
- Conduct 60-90 minute clinical interviews to gather relevant data that informs test battery creation and test interpretation.

Practicum II, Portland VA Medical Center **July 2017-July 2018**
Portland, Or
Supervisors: Jason Steward, Ph.D., Brett Fuller, Ph.D., Walter Winfree, Psy.D., Nina Hidalgo, Ph.D., Annette Tardif, Ph.D., Drew Fowler, Ph.D., Marilyn Huckans, Ph.D..
Treatment setting: VA Hospital
Population: Veterans and family, 25-65+ years old

- Provide mental health services across a diverse span of needs within the following rotations/departments: Outpatient Mental Health, Health Psychology, Palliative Care (with NW Pain Clinic sub-rotation), Primary Care Mental Health Integration (PCMHI).
- Provide brief individual therapy (4+ visits for 60 minute sessions) using empirically validated modalities toward treating mood and functioning concerns.
- Conduct psychodiagnostic assessments to clarify diagnostic questions from referring providers and guide overall treatment. Referral questions included ADHD concerns, sexual dysfunction, PTSD concerns, and other mood related difficulties.

- Perform chronic pain assessments via intake/structured interview and provide appropriate recommendations.

Practicum I, Physicians Medical Center **November 2016-July 2017**
McMinnville, Or
Supervisor: Kristie Schmidlkofer, Psy.D.
Treatment setting: Integrated Health Care; rural medical clinic
Population: 3 years old to 65+, LBGTQ

- Work alongside physicians to provide an integrated medical care team for patients that have behavioral and mental health concerns.
- Provide brief individual therapy (>4 visits for 20-30 minute sessions) using empirically validated therapy modalities, including Motivational Interviewing, CBT, Acceptance and Commitment Therapy.
- Conduct same-day appointments and warm handoffs from physicians for patients who are experiencing acute crises.
- Assessment of ADHD, depression, anxiety and cognitive functioning.

Practicum I, Northwest ADHD Treatment Center **July 2016-September 2017**
Tualatin, Or
Supervisor: Tim Neary, Psy.D.
Treatment Setting: Multidisciplinary Outpatient Mental Health and Psychiatric Clinic
Population: 18-64 years old

- Provide assessment, consultation, and brief behavioral interventions to patients with attention related difficulties and other emotional concerns, such as anxiety, depression, and PTSD.
- Administer the Test of Variables of Attentions (T.O.V.A.) and write succinct reports integrating patient history to generate diagnoses and subsequent recommendations.
- Assess if patient is appropriate for medication management with on-site nurse practitioners.
- Coordinate paperwork with insurance companies toward requesting psychological testing for patients.

Pre-Practicum II, George Fox University **January 2016– May 2016**
Newberg, Or
Supervisors: Glena Andrews, Ph.D., Shaun Davis, Psy.D.

- Provide outpatient individual psychotherapy services to volunteer young adult university students; conduct intake interviews, prepare treatment plans, and generate fitting diagnostic impressions.
- Create professional reports, present case conceptualizations.

•Tape all sessions, review, and discuss them in individual and group supervision.

Treating Competition Anxiety in Collegiate Athletes, George Fox University **Oct. 2015– May 2018**
Newberg, OR
Supervisor: Glena Andrews, Ph.D.
Treatment Setting: College/University Counseling
Population: Undergraduate College Athletes, 18-22 years old

- Provide psychotherapy for collegiate student-athletes with an emphasis on measuring and reducing pre-competition anxiety.
- Receive individual supervision on therapeutic alliance and intervention techniques used in session.

Pre-Practicum I, George Fox University **September 2015 – December 2015**
Newberg, OR
Supervisors: Glena Andrews, Ph.D., Shaun Davis, Psy.D.

- Learned psychotherapy skills at the graduate level with group and individual supervision. These skills include intake interviews/reports, basic counseling skills, person-centered conceptualization, conducting an MMSE, and learning the ORS/SRS.

Teaching Experience

Teacher Assistant for PsyD 512 Statistics **Fall 2018**
Aid graduate level students in completing statistics-related coursework during class and outside of predetermined class times.

Guest lecture for Psyc 150 General Psychology **Spring 2017**
Deliver comprehensive lecture appropriate to introductory level psychology undergraduate students about the brain with regard to structure and subsequent behavior.

Teacher Assistant for PsyD 552 Cognitive Behavioral Therapy **Fall 2017**
Demonstrate and guest lecture on schema therapy and ACT for graduate level students.

Teacher Assistant for Psyc 382 Advanced Counseling Skills **Fall 2017, Fall 2018**
Assess and monitor the ongoing development of undergraduate students' counseling skills while utilizing bidirectional feedback to maximize this process.

Relevant Work/Volunteer Experience

ACT For Business **October 2018-May 2019**
Provide local businesses an overview of mindfulness and values guided decision making training designed to increase what ACT calls "Psychological Flexibility".

- Conduct a one-hour presentation to the non-teaching/support staff of Tualatin Independent School District during an in-service training day on October 12,2018.
- Guide participants in mindful eating exercise to encourage mindfulness practices.
- Emphasize that the program is dedicated to healthier employees, *not* more productive employees though increases in productivity often accompany improvements in health.
- Provide multiple metaphors that capture the utility and essence of mindfulness, such as “Leaves on a stream”.

Psychometrician for Dr. Gary Monkarsh’s, Ph.D., Private Practice **June 2018-Present**

A private practice that specializes in ADHD and PTSD evaluations across the lifespan.

- Work with other colleagues and the owner of the practice to schedule patients with limited space and time.
- Dictate test results and behavioral observations for a transcriptionist to type and redirect to the licensed psychologist for writing purposes.
- Administer cognitive, achievement, attention, and malingering tests.

Friendsview Retirement Community **June 2016-January 2017**

Volunteer at a retirement community for adults over 65 years old needing from little to constant care. Provides technical support and engages in community-wide activities.

- Conduct interviews with residents and upload their stories to an archive for residents’ family members to access.
- Plan a group for bereavement that enables residents to grieve loved ones and process the transition into assisted living.
- Offer IT support to residents in the technology lab.

Mental-Health Technician at the Regional Crisis Response Center **May 2014 –May 2015**

Provide specialized care for adults needing 24-hour inpatient psychiatric care offering psychiatric interventions, medication stabilization, cognitive therapy, stress management, anxiety and depression education, and group therapy. Located in Kilgore, TX. Supervisors: Jeffery Quiett Ph.D., Ashley Bing, M.A.

- Conduct intake screens according to protocol, uphold the therapeutic milieu, tend to client comfort and transport, measure and report client’s vital signs, and maintain facility cleanliness.
- Lead group therapy sessions about hope, depression, and bereavement.
- Consult with supervisors and members of a multidisciplinary clinical team that involved nurses, physicians, psychiatrists, and psychologists.

Dissertation

Studying the effectiveness of group therapy on chronic pain: A program evaluation

The study sought to evaluate the effectiveness of group therapy with respect to how it conducted at a rural medical clinic in McMinville, Oregon. The preliminary defense of this proposal was conducted on May 17, 2017. The final defense was conducted on May 8, 2019.

Invited Presentations

Meguro, L., Weeks, T., **Summers, W.**, Roid, G., Bufford, R. (2018, May). Nonverbal cognitive assessment for special-needs or non-English ADHD or LD cases. Poster presented at the Western Psychological Association (WPA). Portland OR.

Summers, W. (2017, November). The effectiveness of the Pain Pathway at Physicians Medical Center: A program evaluation. Presented at Pain Summit 4.0. McMinville, OR.

Summers, W., Wendler, D., Neary, T. (2017, January). A meta-analysis of ADHD and increased risk for suicide. Poster presented at The American Professional Society of ADHD and Related Disorders (APSARD). Washington, D.C..

Professional Affiliations

Collaborative Family Healthcare Assocation (CFHA) **2017- Present**
Academic organization that seeks to stimulate the exchange of scientific and Professional ideas for those interested in behavioral sciences.

Western Psychological Assocation (WPA) **2017- Present**
Academic organization that seeks to stimulate the exchange of scientific and Professional ideas for those interested in behavioral sciences.

Association of Contextual Behavioral Science (ACBS) **2017- Present**
Professional organization that promotes online learning, in-person training opportunities and research for clinicians interested in ACT, RFT, or contextual behavioral science.

American Psychological Association (Student Affiliate) **2013 - Present**
Scientific and professional organization that represents psychologists in the USA

Other Affiliations

Gender, Sexuality, and Identity Student Interest Group **2015-2019**
**Student leader (September 2016- May 2018)*
PsyD student-led organization that discusses and researches human sexuality and gender identity

Geriatric Psychology Student Interest Group **2016- 2017**
**Student leader/Founder (September 2016- May 2017)*
PsyD student-led organization that investigates the aging process and overall experience of older adults.

Selected Trainings and Workshops

Gender and Sexuality Certificate Course **October-December 2018**
Speaker: Brooke Kuhnhausen, Ph.D.
Site: George Fox University

Spiritual Formation: Looking Closer at Soul-Care **September 2018**
Speaker: Mark McMinn, Ph.D., Lisa McMinn, Ph.D.
Site: George Fox University

Treating Complex Patients with Chronic Pain **February 2018**
Speakers: Nina Hidalgo, Ph.D.
Site: Portland VA Medical Center

Leadership Training: A seminar **November 2017**
Speaker: Mary Dunn, Ph.D.
Site: George Fox University

Diversity and psychotherapy **November 2017**
Speakers: Jeff Sordahl, PsyD
Site: George Fox University

Pain Summit 4.0- All About Opioids **November 2017**
Speakers: Bill Koenig, D.O., Representative Ron Noble,
Dwight Holton (former Attorney General), Kody Quinlan,
Mary Borges, Ph.D., Cory Bradly, Pharm.D., **Will Summers, M.A.,**
Site: Grand Ballroom, McMinville OR

ACT II- Seattle **October 2017**
Speaker: Steve Hayes, Ph.D.
Site: Marriott Inn, Seattle WA

Languages

- English — Native Proficiency
- Spanish — Limited Working Proficiency