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Efficacy of Integrated Mental Health Care with Dual Diagnosis Patients and Their Utilization of Psychiatric Emergency Services

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Efficacy of Integrated Mental Health Care with Dual Diagnosis Patients and Their Utilization of Psychiatric Emergency Services

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This dissertation, written under the direction of the candidate's dissertation committee and approved by the members of the committee, has been presented to and accepted by the Faculty of the Department of Integrated Healthcare School of Nursing and Health Professions in partial fulfillment of the requirements for the degree of Doctor of Clinical Psychology. The content and research methodologies presented in this work represent the work of the candidate alone.

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Dedication

This dissertation, and my work hereafter, is dedicated to all those still suffering from mental illness and addiction. May you all become the best version of yourselves—humbly and sustainably. And for all those that have supported my path and believed in me—from friends, family, and professors, to mentors and magicians.

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Abstract

Historically, patients with dual diagnosis have been subjected to ineffective treatment and negative attitudes from healthcare providers. Further, these patients are plagued with myriad afflictions that exist beyond substance abuse and mental illness. The treatments and collateral damage associated with the diagnosis impose excessive healthcare costs and can be of significant detriment to society. Largely, patients suffering from dual diagnosis do not receive adequate treatment. As such, psychiatric emergency services are frequently utilized as an alternate treatment, wherein the main focus of care is on the substance abuse alone. This study argues that solely treating the substance abuse is not sufficient for positive outcomes because the substance use, in most cases, is merely a self-discovered treatment for an underlying mental illness. This study proposes an integrative model that involves both substance abuse counseling and mental health counseling in order to treat this suffering population more effectively.

Using archival data from the years 2014–2017, this study examined the effectiveness of integrative care among dual diagnosis patients at a methadone clinic in San Francisco, California. The study measured whether patients with dual diagnosis, who were assigned to both Substance Abuse Counseling (SAC) and Mental Health Counseling (MHC), differ in the mean number of Psychiatric Emergency Services (PES) visits from patients with dual diagnosis receiving SAC alone. Additionally, this study measured whether females and males differ in the mean number of PES visits and whether age positively or negatively correlates with the number of PES visits. Independent samples *t*-tests were used to measure mean differences of PES visits between treatment groups (MHC+SAC vs. SAC only) and mean difference of PES visits between gender. Pearson correlation was used to measure correlation between age and PES visits.

Results revealed that patients receiving integrative care (MHC+SAC) had fewer PES visits than those receiving SAC only, suggesting that integrative care is a more effective treatment model than SAC only when treating patients with dual diagnosis. Additionally, although females accessed PES less than males, there were no statistically significant differences found. Lastly, there was no correlation found between age and number of PES visits.

Specific Aims

Dual diagnosis is defined as a substance abuse disorder concurrent with a mental disorder (Mehr, 2001). This population is underserved and plagued by stigma (Conner & Rosen, 2008). The literature identifies that patients with dual diagnosis are not receiving adequate treatment. Most often, only the substance abuse is being treated, and the psychiatric issues are overlooked. Van Boekel, Brouwers, Van Weeghel, and Garretsen (2013) report that, in general, healthcare professionals have negative attitudes towards patients with any type of substance abuse disorder.

Historically, this population overutilizes PES. Because this population is not being treated appropriately or effectively, and their options for treatment are limited, not only are PES being overused, they have also become an alternative treatment option that is both ineffective and expensive.

Methadone clinics are a common destination for patients with dual diagnosis. In 2010, Bay Area Addiction Research Treatment (BAART) began implementation of an integrative approach by adding mental health services in conjunction with substance abuse counseling for their dual diagnosis patients. This study explored the effects of integrative counseling on PES utilization by using archival data at BAART. Essentially, the researcher measured the correlation between SAC and MHC sessions with total PES visits. Counseling effectiveness (independent variable) was measured by total number of PES utilized (dependent variable), between 2014 and 2017.

This study aligns with the Jesuit mission in its support, defense, and service for an underserved population—those who are economically disadvantaged, homeless, uninsured, of racial and/or ethnic minority, living with human immunodeficiency and/or other chronic conditions, including mental illness and illicit substance abuse (Knickman, Bethell, Fiorillo, & Lansky, 2002).

Chapter I: Introduction

The opioid epidemic is a staggering problem in the United States (Rassool, 2006; Rudd, 2016) and illicit opioid use is a major contributing factor in all opioid deaths (Gladden, 2016; Peterson, 2016). Prior research reports that opioids cause more deaths than suicide, automobile accidents, and cocaine combined (Cifuentes, Webster, Genevay, & Pransky, 2010; Manchikanti et al., 2012; Stover et al., 2006). Drug overdose has virtually tripled in the United States between 1999 and 2014. Among overdose deaths in 2014, 60.9 % involved an opioid (Rudd, 2016).

Methadone is the most commonly used pharmaceutical treatment for those who seek reprieve from opioid addiction. In the state of California, methadone clinics are required to provide SAC but not MHC. SAC involves weekly sessions wherein the counselor monitors the patients' substance use and recovery. If a patient misses more than two sessions, the substance abuse counselor can have their methadone dose stopped until patient returns for their weekly sessions. Mental health counseling is comprised of weekly 50-minute psychotherapy sessions with a mental health counselor that aims at exploring and resolving psychological ailments and treating mental disorders such as, general anxiety, mood disorders, psychotic disorders, personality disorders, and more. The mental health counselors apply various evidence-based treatments such as, Cognitive Behavioral Therapy (CBT), Acceptance and Commitment Therapy (ACT), Dialectical Behavioral Therapy (DBT), Motivational Interviewing (MI), and Motivational Enhancement Therapy. The common goal of MHC is to: alleviate distress, decrease symptoms, and improve functionality and overall well-being.

The origins of methadone and how it has evolved into its current position of treating opiate addiction worldwide are explored in the present study. Moreover, this study examined the use of PES among patients with dual diagnosis and explored if MHC provision reduces PES visits for dual diagnosis patients in methadone clinics. Participant data from between 2014 and

2017 was collected from Avatar and Methasoft. Methasoft is the electronic database used by substance abuse counselors, whereas Avatar is the electronic database that mental health counselors use.

Chapter II: Review of the Literature

Overview of Opioids

Opioids are analgesics, what are commonly referred to as "painkillers." However, the effects go far beyond basic pain relief. Humans have opioid receptors that are found in the brain, spinal cord, and gastrointestinal tract. When an individual takes an opioid, the opioid attaches to these receptors, blocking the perception of pain (Jamison & Mao, 2015).

This area of the brain affected, the nucleus accumbens, is also associated with perceived pleasure, which translates into the individual simultaneously experiencing pleasure. This pleasure is often intensified when the opioid is taken by a non-recommended administration, such as snorting or intravenous injection. Along with the euphoria produced by the incorrect administration of opioids comes potentially dire consequences, such as severe drowsiness, nausea, respiratory depression, addiction, and in many cases, death by overdose (Kosten & George, 2002).

Medically, opioids are used to relieve or mediate moderate to severe pain (Ferrari, Capraro, & Visentin, 2012). Prolonged use of opioids will eventually produce a tolerance, meaning progressively higher doses will be required to generate the initial effects (Jamison & Mao, 2015).

Opioid Use Disorder and Dual Diagnoses: Definition and Prevalence

Opioid use disorder. Defined as a repetitive occurrence of two or more of eleven criteria over a 12-month period, opioid use disorder (OUD) was added to the *Diagnostic and Statistical Manual of Mental Disorders* 5 in 2013 (Brady, McCauley, & Back, 2015). OUD is marked by giving up important life events in order to use opioids, excessive time spent using opioids, and withdrawal (Association, 2013; Brady et al., 2015), with diagnostic specifiers including: *in early remission*, *in sustained remission*, *maintenance therapy,* and *in controlled environment*. A

patient is considered to be *in early remission* if they previously met all criteria for opioid use disorder but exhibit no symptoms, except for cravings, for at least 3 months. A patient is considered to be *in sustained remission* if they previously met all criteria for opioid use disorder but currently exhibit no symptoms, except for cravings, for at least 12 months. When an individual is *in sustained remission* they have not presented with symptoms other than craving for at least 12 months. *Maintenance therapy* indicates an individual is being prescribed agonists (a substance that initiates a physiological response when combined with a receptor) such as buprenorphine or methadone, but no criteria for that particular class of medication has been met. *Maintenance therapy* also includes persons being prescribed and maintained on partial agonists, agonists/antagonists, or full antagonists, such as naltrexone or a deport naltrexone (Association, 2013). If one is housed in an environment that restricts opioids, then the specifier *in a controlled environment* is used. This classification includes substance abuse treatment centers, hospitals, and correctional facilities.

Opioid use disorder can be mild, moderate, or severe. A diagnosis of *mild opioid disorder requires the presence of* only 2–3 of the 11. A person presenting with 4–5 symptoms is considered to have *moderate* opioid use disorder. If one has 6 or more symptoms they are considered to have *severe* opioid disorder (Association, 2013). The pattern of opioid use disorder closely resembles other chronic relapsing illnesses such as diabetes and hypertension, wherein symptom management is often difficult and patient compliance with treatment is compromised. Ultimately, the course of this disorder involves stages of exacerbation and remission while the underlying susceptibility never seems to dissolve (Schuckit, 2016).

Opioid abuse prevalence. Rates of the use of illegal opiates continue to rise. According to Rudd (2016), the rates of heroin use and non-medical use of prescribed opioids have reached

epidemic levels. In the United States, between 2002 and 2013, heroin use increased by 62% (Jones, Logan, Gladden, & Bohm, 2015). Approximately 914,000 Americans have used heroin within the past year. An additional 403,000 have abused non-medical prescription opioids (Hedden, 2015). Between 2001 and 2013, heroin overdose fatalities increased 5 times and non-medical prescription opioid abuse has increased trifold (Rudd, 2016).

Dual diagnoses. Historically, individuals with substance abuse issues have been referred to as "addicts" and, more specifically for the opioid abuser, "junkies." While the label "junkie" singularly focuses on the drug abuse, most often the addict is seeking to medicate an underlying mental illness. Individuals with both substance use disorder(s) and at least one mental illness are considered to be persons with dual diagnosis. Individuals with dual diagnosis repeatedly find themselves using PES for myriad reasons, often because the attention of care is focused on the substance use, not the underlying mental illness (Arfken et al., 2004). Both substance abuse and mental illness can pose acute distress on an individual—impairing function and even leading to fatalities—independent of one another. When these conditions occur simultaneously, the potential for acute distress is magnified. For these reasons, individuals with dual diagnosis often over populate psychiatric emergency services (Baillargeon et al., 2008; Lukens et al., 2006; Slade et al., 2007). This trend is the central reason for this research.

Individuals that are dually diagnosed have been labeled in multiple ways using various phrases and acronyms. (Mehr, 2001) reports informal terms such as "double–troubled," "dually troubled" or "dually diagnosed patients." Acronyms such as MISA (mental illness/substance abuse), COAMD (co-occurring addictive and mental disorder), ICOPSD (individuals with co-occurring psychiatric and substance abuse disorder), MICA (mental illness/chemical abuse), SAMI (substance abuse/mental illness), and CAMI (chemical abuse/mental illness) have also

been used in prior literature and clinical practice. Essentially, they all share the same qualities: a concurrent diagnosis of substance abuse or alcoholism and a mental illness. For the sake of this research, the use of "dual diagnosis" refers to the participants in studied population (Mehr, 2001).

Due to its complex and multidimensional nature, dual diagnosis is a challenge to define, and there has been controversy regarding the term (Phillips, McKeown, & Sandford, 2009), suggesting that healthcare professionals need to be careful of the everyday language they use in practice. Rorstad and Checinski (1996) argue that the term dual diagnoses is "labelling of the worse kind." Nonetheless, Todd et al. (2004) provide a simple and concise definition of dual diagnosis: the co-occurrence of one or more mental illness (MI) and a substance use disorder (SUD).

Dual diagnosis is one of the leading problems in healthcare services to date (Rassool, 2006). In general hospitals, a large percentage of patients are admitted due to complications with alcohol or illicit substances (Heslin, Elixhauser, & Steiner, 2015; Lehman, Myers, & Corty, 2000). Lehman and colleagues (2000) report that the co-occurrence of a mental disorder and a substance abuse disorder happen more often than chance would predict. Heslin et al. (2015) report that in 2012, hospital inpatient stays in the US reached 8.6 million (32.3% of all inpatient stays) for patients with either a mental disorder or substance use disorder, and 1.8 million (6.7%) of those inpatient stays were patients with a co-occurring mental disorder and substance abuse disorder.

The trajectory for those with dual diagnosis is challenging. Those with dual diagnosis typically experience onset in their youth, which develops into a chronic course (Di Lorenzo, Galliani, Guicciardi, Landi, & Ferri, 2014) and is associated with poor treatment compliance,

higher relapse rates, and more psychiatric symptoms than psychiatric symptoms alone (Archie & Gyomorey, 2009; Zammit et al., 2008). Additionally, although the literature does not consistently report identical correlations, it does extensively identify that patients with dual diagnoses are associated with greater risk for HIV and hepatitis (Hoff & Rosenheck, 1999), unemployment (Laudet, Magura, Vogel, & Knight, 2002), incarceration (McNiel, Binder, & Robinson, 2005), suicide (Soyka, Albus, Immler, Kathmann, & Hippius, 2002), violence/delinquency (Soyka, 2000), hospitalization (Archie & Gyomorey, 2009; Haywood, Kravitz, Grossman, & Cavanaugh Jr, 1995; Schmidt, Hesse, & Lykke, 2011), and homelessness (Olfson, Mechanic, Hansell, Boyer, & Walkup, 1999).

The literature indicates that, in many cases, dual diagnosis patients are not treated appropriately or with respect. Hansen et al. (2000) report that one of the reasons for mistreatment and lack of respect may be physicians' difficulties differentiating between the symptoms of mental illness (MI) and the symptoms of a substance use disorder (SUD). One of the suggestions for appropriate and respectful treatment is an integrated approach (Drake, Mueser, Brunette, & McHugo, 2004; Mangrum, Spence, & Lopez, 2006; Mueser, 2003), in which both the SUD and MI are treated as primary disorders. Another possible reason for the mistreatment and disrespect of the patient with dual diagnosis may be the clinical incompetence of mental health professionals and medical professionals alike to detect and treat dual diagnosis patients due to the chronic and acute effects (Barry, Tudway, & Blissett, 2002; Cleary, Hunt, Matheson, & Walter, 2009; Griffin, Campbell, & McCaldin, 2008; Morojele, Saban, & Seedat, 2012), which may be further explained by entrenched, negative attitudes toward this particular population (Adams, 2008; Richmond & Foster, 2003). Pinderup, Thylstrup, and Hesse (2016) attribute

negative attitudes toward dual diagnosis patients and the mistreatment of them to the lack of clinical training for this population.

Dual diagnosis prevalence. The prevalence of the dual diagnosis population is striking. Regier et al. (1990) report that the Epidemiological Catchment Area (ECA) study discovered that, over a lifespan, the rate for SUD was 17% compared to 48% of persons on the schizophrenic spectrum and 56% of persons with bipolar disorder. More recently, Toftdahl, Nordentoft, and Hjorthøj (2016) found that the prevalence of those individuals with SUD and MI was 11% with OCD; 17% with PTSD; 25% for depression; 25% for anxiety; 28% for other psychoses; 32% for bipolar; 35% for schizotypal; 37% for schizophrenia; and 46% for personality disorders. Left untreated, these diagnoses have severe consequences on both individuals and society, including but not limited to homelessness, violence, increased severity of mental illness, HIV status, and healthcare costs (Mehr, 2001).

Awareness of this increasing pattern of coexisting mental health and substance use has been growing for some time in the United States (Regier et al., 1990), and more recently in the United Kingdom. The National Comorbidity Survey (NCS) discovered that among those with lifetime SUD, 41.0%–65.5% have at least one mental disorder and of those with a mental disorder, 50.9% have at least one SUD (Kessler et al., 1996). In May of 1996, a report designed to formulate a strategy to determine effective treatment for drug misusers by the Department of Health stated that "Purchasers and providers should ensure that people working in both drugs and mental illness services are aware of the need to identify and respond to problems of combined psychiatric illness and drug misuse" (Department of Health, 1996). In 2003, the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA) conducted an epidemiological study which found that, of adults aged 18 years and older, there were 19.6 million with severe

mental illness. Of those 19.6 million adults, 27% used an illicit drug within the last year and 21% of them were dependent on drugs as opposed to 13% and 8% of adults without a mental illness (Buckley, 2005). In 2016, SAMSHA reported that 8.2 million adults had any mental illness (AMI) and an SUD, and 50% of them did not receive treatment for either. Additionally, 2.6 million people had a severe mental illness (SMI) and an SUD, and 1/3 of them did not receive treatment for either (Park-Lee, Lipari, Hedden, Copello, & Kroutil, 2016).

This is precisely why it is absolutely critical to treat both SUD and MI of individuals with dual diagnosis in order to decrease their use of psychiatric emergency facilities, which provide poor treatment for these particular individuals and also costs the United States' economy billions in healthcare dollars (Heslin, Elixhauser, & Steiner, 2015).

Opioid Addiction Treatment

Pharmaceutical intervention for opioid addiction. To date, the leading medical treatments approved by the FDA for opioid use disorder are buprenorphine, naltrexone, and methadone (Kampman & Jarvis, 2015).

Buprenorphine is a partial agonist that has both agonistic and antagonistic properties (Foltin & Fischman, 1996). Just like methadone, buprenorphine can be used for both maintenance and detoxification purposes for those being treated for opioid addiction. Buprenorphine can also be effective with one dose per day (Dugosh et al., 2016).

Naltrexone, on the other hand, is used primarily for maintenance. An opioid antagonist that binds to opioid receptors for 24–30 hours, naltrexone substantially blocks the effects of incoming opioids, and in most cases, eliminates the effects completely (Dugosh et al., 2016). In other words, if an individual administers opiates into their system within 24–30 hours of a naltrexone dose, they will not experience the effects of the opioid.

Methadone is a long-lasting opioid agonist (approximately 24–30 hours), which typically allows the patient to only need to dose daily. These long-acting effects are the principal advantage of methadone for treating opioid abuse. It is used to decrease withdrawals in the detoxification process and is also used as a maintenance treatment to decrease non-medical use/abuse of opioids (Dugosh et al., 2016).

Methadone: origins and current application. In the nineteenth century, opioid use was viewed with less stigma than alcoholism. Those who abused opioids were typically from respectable families and were not associated with any criminal activities (Lindesmith, 1968). Interestingly, opioids were often used to treat alcoholism—they were less expensive than alcohol and individuals were less destructive when under the influence of opioids versus alcohol. Because of a heavy increase in opioid addiction and overprescribed opioids, 25,000 physicians were arraigned by 1938 on narcotic charges for treating addiction and alcoholism with opioids. Subsequently, this line of treatment was temporarily suspended (Dole & Nyswander, 1965; Payte, 1991; Renner Jr, 1984).

Toward the end of the World War II, addiction to narcotics in the United States had essentially come to an end (Inciardi, 1986). According to Payte (1991), it was not because of successful treatments but because resources for morphine from Asia had been stymied due to conflicts of war. Meanwhile, there was a theory that Hitler had scientists creating an alternative to morphine. Ultimately, German scientists at I.G. Farbenindustrie, a chemical and pharmaceutical industry conglomerate at Hoechst-am Main, Germany, who worked closely with the Nazi regime, discovered amidon(e) with the trade name Dolphine, Today, this morphine alternative is known as methadone (Renner Jr, 1984).

It would still be over a decade before the United States would utilize methadone as a maintenance treatment for opiate addiction, specifically because of the Narcotic Control Act of 1956, which criminalized and detained those involved in narcotics (Payte, 1991). After its passage, the climate surrounding the character of opioid users shifted from benign to criminal. Consequently, Payte (1991) states physicians were hesitant to be involved in any form of treatment of addiction that organized medicine's willingness to treat addiction was halted.

Conversely, the US narcotic addiction epidemic was increasing and other forms of treatment such as hospitalization, detoxification and release, and abstinence were not proving effective. By the late 1950s and early 1960s it became increasingly obvious that detox and release and complete abstinence were not working. Interests began to revert back to a pharmacological/medical maintenance treatment approach (Newman & Cates, 1977; Renner Jr, 1984). Waldorf (1973) reports that in 1963, the New York City Health Council awarded Dr. Vincent Dole a research grant for medical maintenance treatment of opioid addiction. Despite resistance from the U.S. Bureau of Narcotics, methadone maintenance treatment (MMT) for addiction began to evolve.

During the first 2 months of medical maintenance treatment for addiction, Dole and his colleagues were administering patients with daily doses of up to 600 mg of morphine parentally (Dole & Nyswander, 1965; Payte, 1991). Quickly, researchers noticed the morphine dosages needed were excessively high (up to 600 mg), tolerances were increasing rapidly, and the patients seemed dissociated and passive, only sitting and patiently waiting for their next injection (Dole & Nyswander, 1965; Louria, Hensle, & Rose, 1967). At this point, clinicians began administering a replacement of 150–180 mg of methadone by mouth. The patients responded well to this adjustment and showed interest in purposeful activity and engagement. In sum,

researchers found that, unlike morphine and other opiates, there was an optimal dose wherein patients could achieve a stable state without having to continuously increase the dosage. Each person had their own threshold of effective dosage, which was determined by titrating the patient until relief from opiate withdrawal symptoms was reached (Dole & Nyswander, 1965). The same method of determining the effective dosage is still used today (Newman & Cates, 1977; Renner Jr, 1984; Zweben & Payte, 1990).

Presently in the United States, maintenance treatment with methadone is offered by approved clinics that are closely monitored and regulated by state and federal laws (Ball & Ross, 2012). The clinics require almost daily participation by the patient in order to receive the methadone, which means that the patient is required to come to the clinic nearly every day in the beginning of treatment to receive their dose (Mattick, Breen, Kimber, & Davoli, 2009). Take-home methadone doses are permitted by those patients who adhere to the clinic rules and regulations over time (Schuckit, 2016).

Therapeutic Interventions Within the Medical Maintenance Treatment Model

In 2007, Assembly Bill 2071 (AB2071) was passed in California, mandating methadone clinics to provide a minimum of 50 minutes of SAC to methadone patients. MHC, however, was not required (Kletter, 2003). As previously mentioned, opioid use disorder is often accompanied by another underlying or primary mental disorder (Lehman et al., 2000). Consequently, it is vitally important that both ailments be addressed.

As part of a comprehensive treatment for opioid addiction, Medical Maintenance Treatment (MMT) has been approved for practice within the context of social, medical, and psychological support. Nonetheless, there is minimal research addressing the effectiveness of MMT in combination with mental health treatment interventions (Dugosh et al., 2016). When providing mental health treatment interventions, the aim is to help patients control compulsions

to use and sustain abstinence, while at the same time helping them manage the emotional discord that often comes with addiction (Dugosh et al., 2016). The literature indicates that in general, a relatively small number of patients with dual diagnosis are receiving MMT and various mental health treatment interventions. Some of these interventions include Cognitive Behavioral Therapy (CBT), Acceptance and Commitment Therapy (ACT), and general support counseling. All of these interventions are used to augment medical maintenance treatment of substance misuse.

CBT. Prior studies show that patients with dual diagnosis who were assigned to MMT both did and did not differ from patients who were assigned to MMT and CBT group, as well as, MMT and Recovery Line (RL) group in studied variables described below (Kouimtsidis, Reynolds, Coulton, & Drummond, 2012; Moore et al., 2012).

Kouimtsidis et al. (2012) conducted a study that examined the efficacy of providing CBT in combination with standard MMT as opposed to MMT alone. The sample consisted of both males and females between 18 and 70 years old. Ethnicity, race, and socioeconomic status were not provided. Participants were either assigned to MMT only (n=31) or MMT plus CBT (n=29). MMT participants received bi-monthly sessions that involved manual-directed sessions. The MMT plus CBT group were offered 50-minute one-on-one CBT sessions weekly and could attend up to 24 sessions over a 6-month period of time. The primary outcome measures were percentage of days abstinent from heroin and the amount of money spent on heroin in the past 180 days. Secondary outcome measures consisted of addiction severity, severity of drug dependence, quality of life, psychological symptoms, and methadone treatment compliance. The groups did not yield significant differences in primary or secondary outcome measures. MMT plus CBT participants did, however, show significant increases ($P < 0.02$) in their positive

appraisal *at* the 6-month check-in assessment. They also showed significantly lower ($P < 0.05$) emotional discharge at the 12-month assessment stage than the MMT group.

In a similar study, Moore et al. (2012) randomized participants to either MMT only (n=18) or MMT plus Recovery Line (RL) (n=-18) over a 4-week period. RL was defined as an interactive voice response system based on CBT principals that included coping skill rehearsal, goal setting, and self-monitoring. The MMT plus RL group also attended a RL orientation, received weekly reminders to utilize the system, a manual explaining RL, and had 24-hour access to the RL system for the entire 4 weeks of the study. MMT only group was granted one-on-one psychosocial sessions over the 4-week span of the study. They were also encouraged to attend open groups that covered topics such as spirituality, overdose preparation, scheduling of activities, and methadone. The groups did not differ in study retention, MMT satisfaction, self-reported substance use, urinalysis-verified opioid and cocaine abstinence, coping skills, or number of sessions attended beyond the minimum required (Kouimtsidis et al., 2012; Moore et al., 2012). However, RL group did reveal that they were more likely to report cocaine and opioid abstinence on days that they utilized RL relative to the days that they did not.

Based on these studies, patients with dual diagnosis are difficult to treat even using additional mental health interventions such as CBT and RL. However, there are some findings that patients with dual diagnosis report significantly greater positive appraisal ($P < 0.02$) and lower emotional discharge over time ($P < 0.05$). However, there are no longitudinal studies to date, therefore, future research needs to measure these outcomes over time through longitudinal studies.

ACT. Prior studies reveal that patients with dual diagnosis who were assigned additional Acceptance and Commitment Therapy (ACT) treatment showed mixed results from patients that

were assigned drug counseling (DC) alone. The same applied to those assigned to treatment as usual (TAU).

In one study, Stotts (2012) randomized participants to one of two groups: Drug Counseling DC group (n=26) and ACT group (n=30). The DC group was comprised of 24 weekly sessions lasting 50 minutes, which addressed abstinence-oriented behaviors and support during a 6-month methadone reduction phase. Those in the ACT group received 24 weekly sessions lasting 50 minutes. The sessions addressed fears around the detoxification process and experiential avoidance during the stabilization phase, continuing through the dose reduction phase of the study. Although the "fear of detoxification" among the participants in the ACT group was reduced over time relative to those in the DC group, the study found no significant differences between the groups regarding severity of opioid withdrawal, opioid use, treatment attendance, completion or success, or engagement in HIV/HCV risk behaviors.

In another study, Thekiso et al. (2015) added ACT to an integrated treatment approach used to treat dual diagnosis patients at St. Patrick's University Hospital in their inpatient substance abuse program. The integrated approach, referred to as Treatment As Usual (TAU), included extensive pharmaceutical interventions, behavioral activation, and 12-step groups. The aim of the study was to determine if adding ACT interventions would improve TAU outcomes.

The study consisted of two groups, an ACT group and TAU group. Inclusion criteria for the ACT group (N=26) were: 18 years or older, capable of providing informed consent, met criteria for Alcohol Dependence and either Major Depression Disorder or Bipolar Disorder, and being enrolled in the St. Patrick's University Hospital inpatient integrated treatment program (Farren & McElroy, 2008).

Archival data were used for the TAU group (N=26). The TAU group was comprised of patients that completed inpatient integrated treatment program without the additional ACT treatment. Inclusion criteria for TAU mimicked the ACT group minus the ACT intervention.

Results revealed that at 3- and 6-month follow-up the ACT group had 100% retention rates compared to the TAU group, which had 92% retention at 3 months and 84% retention at 6 months. Patients in the ACT group reported longer abstinence at 3 and 6 months as well. Additionally, there were significantly lower Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) scores after 3 and 6 months and significantly lower Obsessive-Compulsive Drinking Scale (OCDS) scores in the ACT group.

General counseling. Prior studies have found patients with dual diagnosis who were assigned to enhanced psychosocial groups had significantly more positive outcomes than patients with dual diagnosis who were assigned to standard psychosocial treatment group (SPS) group (Dugosh, 2016).

In order to determine how to improve outcomes in individuals receiving buprenorphine or methadone maintenance treatment, Hesse and Pedersen (2008) conducted a quasi-experimental matched-sample study that compared the effectiveness of enhanced and standard psychosocial treatment. In the SPS group (n=177), dual diagnosis participants received case management along with MMT. In the enhanced psychosocial treatment group (EPS, n=126) dual diagnosis participants received case management, access to staff members, access to a drop-in center and MMT. There were several significant findings. EPS group had significantly more contact with treatment ($P = 0.04$) and missed fewer appointments ($P < 0.0001$) than the SPS group. The researchers also found that EPS group showed significantly higher social and psychiatric improvements ($P's < 0.05$ and 0.01, respectively) than the SPS group. Inversely, the SPS group

showed significantly better financial improvements (determined through tax records) than EPS group. Neither group differed on self-reported alcohol or drug use.

In another general support study on dual diagnosis patients, Gu et al. (2013) compared a basic MMT only (n=146) group to a MMT plus group, which consisted of standard MMT plus a behavioral maintenance therapy-based psychosocial intervention (n=142). Control group (MMT only participants) received a 5–15-minute orientation their first day, which provided them with program guidelines and services. No counseling services were provided, nor were they provided for the duration of the study. With aims to enhance therapeutic expectation, self-efficacy of maintenance, and satisfaction of therapeutic experiences associated with health-related outcomes (i.e. therapeutic alliance), and to increase family support, the experimental group (MMT plus) were provided twenty 30-minute counseling sessions by social workers. Results revealed that participants in the MMT plus group showed significantly more days of attendance of MMT during the study and were less likely to drop out of treatment ($P's < 0.001$).

Although the primary studied variables did not produce significant results, it appears that additional support in general does aid in MMT attendance. However, psychiatric needs were not addressed or met.

Supportive-Expressive. Prior studies have found patients with dual diagnosis who were assigned to supportive-expressive psychotherapy plus substance abuse counseling showed no significant differences during the course of treatment over those patients receiving substance abuse counseling only. However, follow-up measurements at the 6-month mark revealed significant gains by the supportive-expressive psychotherapy plus substance abuse counseling group, while the 6-month follow-up measures revealed losses by the substance abuse counseling only group.

Woody et al. (1995) designed a study to determine whether professional psychotherapy, namely supportive-expressive psychotherapy, would appeal to patients at community-based methadone clinics, and whether it would be an effective approach. The study used 84 opiate-dependent volunteers with moderate to high levels of psychiatric symptoms from three different community-based methadone treatment centers. The volunteers were randomly assigned to either supportive-expressive psychotherapy plus drug counseling (N=57) or drug counseling only (N=27). The average age of participants was 41 (SD=7): 40% were women; 57% were African American, and the remaining participants were white. All treatment was provided weekly for 24 weeks. After treatment ended, follow-ups were done at 1 and 6 months, during which outcomes were measured based on the Addiction Severity Index scoring scale that includes 20 different measurable domains. Urinalysis were given weekly to all participants for active treatment outcome measurements.

There were no significant opiate-positive urine sample differences between groups. However, participants in the supportive-expressive psychotherapy plus drug counseling group had fewer cocaine-positive urine samples and required lower doses of methadone. At the 1-month follow-up, after extra treatment ended, both groups showed significant gains but there were no significant differences between groups. At the 6-month follow-up, based on the Addiction Severity Index scores, gains made by the supportive-expressive psychotherapy plus drug counseling group remained while gains made by the drug counseling only group had diminished. More specifically, of the 20 indices included in the addiction severity scores measured between the 1- and 6-month mark following the end of treatment, the supportive-expressive psychotherapy group showed improvement in 11, no change in 5, and worsening in 4, as compared to the drug counseling group that only showed 4 improved indices, no change in 1,

and a regression in 15. Although there were no significant differences shown during the study, it appears that the addition of supportive-expressive psychotherapy fosters sustained improvements and produces superior long-term results compared to the drug counseling only group.

Crits-Christoph et al. (1999) conducted another study utilizing supportive-expressive psychotherapy in addition to drug counseling to measure the effectiveness of psychosocial treatments for cocaine dependence. The study measured four groups: individual drug counseling plus group drug counseling (GDC), cognitive therapy plus GDC, supportive-expressive therapy plus GDC, or GDC alone. Treatment included 36 individual sessions and 24 group sessions over 6 months. Patients were assessed monthly during treatment and additionally at 9 and 12 months from baseline. The principal outcome measures used were number of days of cocaine use per month and the drug use composite score from the Addiction Severity Index.

The results revealed that although comparable overall, the individual drug counseling plus GDC showed significantly greater improvement on the Addiction Severity Index composite score and number of days of cocaine use than the two psychotherapies: supportive-expressive therapy plus GDC and cognitive therapy plus GDC. However, Crits-Cristoph et al. (2008) used data from the same study, the 1999 National Institute on Drug Abuse Collaborative Cocaine Treatment Study, to look more specifically at the outcomes of the patients who received supportive-expressive psychotherapy plus group drug counseling (GDC). While it was not the most efficacious treatment while the study was active, results were comparable with the other approaches and mean drug use scores were metrically lower at all follow-up assessments of 9, 12, 15, and 18 months. More importantly, Crits-Christoph et al. (2008) found evidence that patients receiving supportive-expressive psychotherapy plus GDC were superior to individual drug counseling plus GDC regarding positive change in family/social problems at the 12-month

follow-up assessment, which, as previously mentioned, is a well-known protective factor for both drug abuse and mental illness.

Collectively, these studies (Woody et al., 1995; Crits-Christoph et al., 2008) imply promising long-term outcomes by adding supportive-expressive psychotherapy to drug counseling, and protective factors that further suggest a more successful trajectory for overall recovery.

Overview of Psychiatric Emergency Services (PES) in the United States

There is great mental illness diversity amongst those that utilize PES. Prior studies have shown that high rates of PES use are associated with patients that are diagnosed with Bipolar Disorder, Schizophrenia (Baillargeon et al., 2008), Major Depressive Disorder (Himelhoch, Weller, Wu, Anderson, & Cooper, 2004; Johnson, Weissman, & Klerman, 1992), General Anxiety Disorder (Himelhoch et al., 2004), Posttraumatic Stress Disorder (Onoye et al., 2013), and Substance Use Disorder (Bai, Lin, Hu, & Yeh, 1998; Vu et al., 2015).

Additionally, co-occurrence with substance use is excessive. In 2012, researchers conducted a national study of PES use in the Veteran's Health Administration (VHA) and found that substance abuse disorders and psychiatric disorders were highly correlated in PES (Doran, Raven, & Rosenheck, 2013). Although it has been generally established that patients with dual diagnosis use PES more frequently than those without dual diagnosis (Haywood et al., 1995; Hoff & Rosenheck, 1999), there has been minimal research done regarding how to approach the problem of dual diagnosis patients overusing PES (Curran et al., 2003). According to policy proposals, assertive community treatment, and case management, VHA suggested improved access to outpatient services, which may be potentially a vital component to decreases PES usage.

Additionally, previous research reported a continued and rapid increase in PES due to ongoing diminished rates of institutionalization, reduced availability of hospital beds, shortage of financial resources, and decreased duration of hospital stays for psychiatric purposes (Brasch & Ferencz, 1999; Currier, 2000; Pasic, Russo, & Roy-Byrne, 2005). For patients with chronic mental illness, PES are where the majority enter into the mental health system (Allen, 1996; Gerson & Bassuk, 1980). Patients that utilize these services typically present with psychosis, substance use disorders, depression, or Axis II disorders, with substance abuse identified as the primary cause of PES utilization (Lukens et al., 2006).

As previously stated, PES have been used as a default source of treatment for this population. An emerging increase in patient volume, the complexities of patients' emergency presentations, and decreased inpatient care led Gerson and Bassuk (1980) to present the concept and first model of PES. Their model essentially consisted of walk-in crisis services staffed by non-health professionals (Curran et al., 2003; Currier & Allen, 2003; McIlwrick & Lockyer, 2011). According to Currier (2000), the attending patients were often sent to emergency rooms where staff triaged them to crisis workers that had very little access to mental health training. The main focus of these earlier PES was simple crisis intervention with inadequate referrals, and did not involve thorough assessment or psychopharmaceutical treatment. Recognizing this problem, Gerson and Bassuk (1980) introduced more comprehensive models that have necessitated the triage model, providing a broader range of services with comprehensive assessment (Allen, 1996). Existing PES provide diagnosis, psychopharmaceuticals, treatment, psychotherapy, follow-up visits, resource allocation, and referrals to applicable community services (Currier & Allen, 2003; Gerson & Bassuk, 1980; McIlwrick & Lockyer, 2011).

In most cases, PES are open 24 hours a day, 7 days a week, and have a psychiatrist on site at least 8 hours daily. According to a meta-analysis conducted by (Currier & Allen, 2003), psychiatrists are responsible for the preliminary medical evaluation and medical clearance at 55% of psychiatric emergency sites after the triage process. Pharmacological therapy is regularly initiated in patients being admitted and released. Currier and Allen (2003) also report that the average stay is approximately 9 hours. Depending on their condition and available referrals, patients often remain overnight. Referrals to aftercare and options for substance abuse care are also allocated during the patients' visits, as well as follow-up visits. Unfortunately, the research reveals insufficient referral opportunities for substance use— the primary cause of recidivism for PES care (Pasic et al., 2005; Pines et al., 2011).

There is a continuous upsurge of individuals using PES (Larkin, Claassen, Emond, Pelletier, & Camargo, 2005; Pines et al., 2011; Salinsky & Loftis, 2007). However, PES have not been a sufficiently studied component of community mental health systems (Lincoln et al., 2016). To date, there has been only minimal research done on why people repeatedly utilize these services. In fact, Lincoln et al. (2016) state that there have been no studies wherein repeat users were asked about their experiences with PES or why they were seeking it. Therefore, Lincoln et al. (2016) conducted a Community-Based Participatory Research (CBPR) to identify why individuals access PES and what their experiences were. CBPR is defined as a scientific investigation conducted collaboratively that engages affected community members in every aspect of the study (Viswanathan et al., 2004). Essentially, the CBPR is driven by the community, where those community members' needs are specifically heard and, hopefully, met (Israel et al., 2003). Overall, the findings were mixed. Results are discussed in more detail in the following section.

PES and Patients with Dual Diagnosis

There is a common theme amongst the majority of the frequent PES users: the contributing factors are often associated with both substance abuse and psychiatric issues (Andrén & Rosenqvist, 1985; 1987). Because there are very few integrative options for this population, beyond inpatient substance abuse treatment centers, the symptoms of dual diagnosis frequently go untreated and the trajectory of the condition is not halted until the symptoms are acute. At which point, neither the public health nor the mental health clinician is adequately prepared to provide care. Unfortunately, interventions do not happen until symptoms are acute, and the dual diagnosis patient is left in crisis. Consequently, PES has become an alternate treatment option for this population (Wolfe & Sorensen, 1989).

This population is also burdened by homelessness (Olfson et al., 1999), violence (Soyka, 2000), suicide (Soyka et al., 2002), incarceration (McNiel et al., 2005), and an increased risk for HIV and hepatitis (Hoff & Rosenheck, 1999). Considering the association of mental health disorders and substance use disorders with frequent PES visits (Baillargeon et al., 2008; McGeary & French, 2000), there may be a positive correlation between frequent use of PES and dual diagnosis, providing another compelling reason to treat both opioid use disorder and MI in patients with dual diagnoses.

In one cross-sectional study, Vu et al. (2015) found that patients with higher rates of substance use disorders and mental health disorders were more likely to be a frequent user of PES than patients who had lower rates of substance use disorders and mental health disorders. The study found that 31% of those with mental disorders were frequent PES users as compared to 22% of those without a mental disorder. Additionally, the study found that 10% of participants with a substance use disorder were frequent PES users as compared to 6% of those without. Lastly, the study found that 25% of the participants that had both a mental disorder and a

substance use disorder were frequent PES users as compared to 8 % of those who did not have either. However, it appeared that physicians under-diagnosed participants across both groups—frequent and non-frequent PES users. Additionally, PES patients that screened positively for psychiatric disorders and substance abuse disorders were more likely to be a frequent user of PES than patients with no diagnosed disorder. The researchers also found that there were higher proportions of patients with substance use disorders and mental health disorders compared to proportions of the patients attending mainstream emergency rooms (no disorder: 35% vs. 67%; mental health disorders only: 31% vs. 22%; substance use disorders only: 10% vs. 6%; both mental health and substance use disorders: 25% vs. 8%.).

Concerning whether frequent use of PES can be predicted by mental health disorders or substance abuse disorders, the study found that patients who screened positively for either a mental health disorder or a mental health disorder and substance use disorder were at a higher risk of being classified as a frequent user (4 visits or more over a 12-month period of time), compared to patients without a diagnosed disorder. These findings are consistent with previous studies that show those with mental health issues and substance use issues could hypothetically be associated with the convenience and accessibility of PES (Baillargeon et al., 2008; McGeary & French, 2000), especially among uninsured patients (Baillargeon et al., 2008).

In their CBPR, Lincoln et al. (2016) found that in all but one interview, substance abuse was discussed. Many participants reported that they were seeking PES because they inadvertently discontinued their prescribed medications and consequently used alcohol or other substances, which eventually exacerbated their mental illness (two-thirds of the respondents reported that their medication regimens had been compromised prior to admitting themselves to PES). Over half of these individuals reported that they were unable to afford copayment for their

medications or could not afford insurance at all. The participants complained that in seeking PES, they found that they were over-identified with their substance abuse and were often simply placed in a detox. Participants commonly reported that they were not interested in repeated detoxifications but rather wanted assistance and treatment with and for their mental illness symptoms. Ultimately, many reported that they would like to have access to more dual diagnosis programs. For those who were not familiar with the term dual diagnosis, they reported they would like to engage in treatment that addressed both their psychiatric issues and their substance abuse issues (Lincoln et al., 2016). This is important to acknowledge. Clearly, we have eager individuals that want therapy that treats the whole individual.

Overall findings suggest that screening for substance use and mental health disorders warrants a plan of intervention that considers the overrepresentation of dual diagnoses in the PES (Vu et al., 2015). Future research determining the feasibility and appropriateness of screening for mental health and substance use disorders (Vu et al., 2015) is warranted. Additionally, improving access to outpatient services may be a vital component in decreasing PES usage among frequent users with dual diagnosis.

Consequences of Frequent Use of PES on United States' Healthcare System and Economy

Due to the higher proportions of substance abuse use disorders and mental health disorders utilizing PES, frequent users have become of special interest to researchers as compared to mainstream emergency room users (Bieler et al., 2012; Fuda & Immekus, 2006; Williams et al., 2001). Bieler and colleagues define frequent users as adult patients that utilize PES 4 or more times in a 12-month period. As previously stated, individuals with dual diagnosis present an assortment of problematic issues such as violence, homelessness, arrest, and suicide (Cornelius et al., 1995). According to the literature, the abuse of substances accelerates the psychiatric symptoms from which this population already suffers. Because substance abuse

exacerbates the symptoms, these individuals are often left in crisis (McCarrick, Manderscheid, & Bertolucci, 1985) and, commonly, enter the mental health system through PES (Elangovan et al., 1993).

There is a wide range of problems related to those who frequent PES, including increased rates of mortality and morbidity. Many healthcare stakeholders such as providers, payers, employers and consumers find this troubling (Hansagi, Edhag, & Allebeck, 1991). For instance, since frequent PES users are not being appropriately accommodated with services to treat the duality of their diagnosis, they continue to loop back through the services and often worsening their condition by increasing crime involvement (Degenhardt et al., 2014), homelessness, healthcare costs (Black, Trudeau, Cassidy, Budman, & Butler, 2012) and lessening service productivity because of overcrowded waiting rooms (Weiss et al., 2012).

In 2015, The Healthcare Cost and Utilization Project (HCUP) reported that aggregate costs in the United States for inpatient visits for dual diagnosis patients utilizing PES reached an astounding 11 billion dollars. Further, HCUP notes that the average stay was more than 38% higher for dual diagnosis patients as compared to all other patients and that Medicaid was the most common payer for dual diagnosis visits, at 30.9% (Heslin, Elixhauser, & Steiner, 2015). Additionally, these frequent users typically have fewer social resources, are of lower socioeconomic status, and much more socially isolated (Andrén & Rosenqvist, 1985; Spillane et al., 1997), often resulting in treatment compliance barriers and the aforementioned unfavorable outcomes (Curran et al., 2003). According to health policy, health services, and economic perspectives, there are small subclasses of repeat patients that utilize a disproportionate amount of PES (Malone, 1995). Consequently, there is an evolving body of multidisciplinary research

that seeks solutions and interventions to improve patient care and decrease the use of PES (Curran et al., 2003).

Bay Area Addiction and Research Treatment (BAART): An Integrated Clinical Model

Introduction of mental health services to BAART. As described previously, the California state legislature passed Assembly Bill 2071 (AB2071) in 1997, which instructed that methadone clinics were required to provide at least 50 minutes of SAC each month to their patients. Prior to the passage of this bill, methadone clinics were only required to provide two SAC sessions per month, with a 15-minute session minimum (Kletter, 2003). Kletter (2003) recognized severe cocaine issues among patients at BAART, a methadone clinic in the Tenderloin District of San Francisco. Given the recent mandated counseling implementation and the cocaine problem amongst the patients at BAART, Kletter (2003) decided to conduct a study measuring cocaine use differences at baseline and after mandated counseling among patients who were in the electronic database conserved at BAART.

In the study, 179 cocaine-abusing patients were examined using a pretest-intervention-posttest design. Cocaine use was measured via urinalysis, which was recorded in the electronic database. Counseling time was extracted accordingly. Baseline study outcomes were measured 12 months prior to AB2071 and posttest measurements were taken 2 years after mandated counseling. The researcher found that there was a decrease in cocaine use after AB2071 was passed. Additionally, the amount of counseling time was negatively correlated ($r=-22$, $p=.0431$) with heroin use; that is, the more counseling the patients received, the less positive urinalysis for cocaine they produced (Kletter, 2003).

In 2010, BAART added another counseling modality to their program, MHC, which has not been investigated to date. Therefore, the present study examined BAART's latest mental health program, an integrated treatment model.

Description of BAART model. BAART is not only a methadone clinic but also a primary care practice. Many patients receive their medical maintenance treatment (MMT), psychiatric treatment, and medical services at BAART, making BAART a community-based integrated behavioral health medical center. When a patient comes to BAART for methadone maintenance, the stabilized or effective maintenance dosage is found by titrating the patient upward until the withdrawals subside and the patient discovers a dose that is comfortable for them. If the patient continues using opiates, the program may increase their dose. The maximum starting dose is 30 mg. Patients who miss 3 consecutive days of dosing will have their dose dropped by 10 mg and will be required to wait on an order from the doctor prior to future dosing. The clinic is open 7 days a week. Weekday dosing hours are from 7:00 am to 2:30 pm. The 7:00–7:30 am timeslots are reserved only for patients with jobs. Weekend dosing hours are from 8:00 am to 12:00 pm and holiday dosing hours are from 9:00 am to 12:00 pm. Maintenance patients may receive a take home dose on holidays if the program believes the patient can responsibly handle the take home and has a history of adhering to program rules.

BAART has a 6-step take home policy for patients who are meeting particular requirements and deemed by their physician responsible enough to handle narcotic medication. Step 1 allows for the patient after 3 months of continuous program adherence to potentially receive one day of take homes a week. Step 2 allows for the patient after 6 months of continuous program adherence to receive two days of take homes a week. Step 3 allows for the patient after 9 months of continuous program adherence to receive three take homes a week. Step 4 allows for the patient after one year of continuous program adherence to receive 4 take homes a week. Step 5 allows for the patient after two years of continuous program adherence to receive 5 take homes a week. Step 6, the final step, allows for the patient after 3 years of continuous program

adherence to receive 6 take homes a week. Patients are given random urinalysis, typically once a month. Positive urinalysis for illicit drugs or negative results for methadone will be reviewed by staff and consequences may apply. For those with take homes, their step status may be reduced.

As previously mentioned, methadone clinics in California are required to provide at least 50 minutes of substance abuse counseling a month. However, patients at BAART are required to accumulate a minimum of 90 total minutes a month of SAC. They then have the option of mental health counseling to accommodate their psychiatric needs. Those that choose to use mental health counseling typically receive one 50-minute session a week in which the psychiatric needs are the sole focus, while the substance abuse needs are the sole focus of the 90 minutes of required time with their substance abuse counselor. Because BAART is an integrated behavioral health center and substance abuse counselors, mental health counselors, psychiatric, medical doctors, nurse practitioners, and psychiatric nurses are all under the same roof, collaboration between professions is the common approach. This model demonstrates practical sense and provides the patient with a team of providers all working together to afford the best possible outcome for the patient. However, this study focused specifically on the benefit of adding mental health counseling to the program. Most methadone clinics only provide substance abuse counseling because it is a legal requirement. However, as we have noticed throughout this review, the substance abusers most often have other psychiatric issues and are considered dually diagnosed. BAART's approach of coupling substance abuse counseling with mental health counseling answers the duality of their issues. Accordingly, this study confirmed that patients receiving MHC in addition to SAC show a significant decrease in PES utilization.

Significance of Research Project for Clinical Psychology

The first goal of the present study was to examine whether adding mental health services in addition to SAC services at a methadone clinic would have an impact on patients' use of PES

services. This was the first study to examine the use of PES services among patients at a methadone clinic either receiving standard SAC-only treatment or receiving SAC and MHC treatment. Therefore, the effects of an integrative treatment approach at a methadone clinic were explored. Due to the multitude of complications and adversities that individuals that suffer from addiction and mental health illness are plagued with, and the high prevalence rates of PES services that they utilize, it is crucial for clinicians and institutions alike to fully understand how to affordably and effectively provide treatment. Furthermore, the health disparities that distance this population from more privileged populations is already overwhelming. In many cases, it is systemic oppression that contributes to the individuals' deep states of distress in the first place. Therefore, as healthcare research fueled by the University of San Francisco's Jesuit social justice mission to honor the welfare of every individual—regardless of SES, race, gender, or sexual orientation, with the data at hand, this study aims to expose, study, and correct the momentum that continues to separate them from the rest.

This dual diagnosis population is influenced by many multiple impairing issues such as disease, opioid overdose, incarceration, homelessness, and death, among others but at a higher rate than substance abuse population or mental health illness population. Historically, PES has been most common place where this population is seen. This trend is not only taking a toll on the economy, but PES is also not equipped to handle this population properly, often resulting in multiple repeat visits by the same patients. Therefore, creating another environment to treat this population is beneficial to the patients, hospitals, healthcare system, and economy.

Patients in both groups were compared on the primary and secondary outcomes variables, the results of which can further provide information if the effects of an integrative treatment approach at a methadone clinic is beneficial to this dual diagnosis population. Archival data were

used, as well as patients' outcome variables and other information from 2014 to 2017. Patients who would have started before 2014 and/or ended before 2017 were excluded from the study. The following research questions were addressed in the present study:

Main Research Questions

Research Question 1: Do patients with dual diagnosis who are assigned to Substance Abuse Counseling (SAC) and Mental Health Counseling (MHC) differ in the mean number of Psychiatric Emergency Service (PES) visits from the patients with dual diagnosis who receive Substance Abuse Counseling (SAC) only between 2014 and 2017?

Research Question 2: Do females and males differ in the mean number of Psychiatric Emergency Service (PES) visits between 2014 and 2017?

Research Question 3: Does age positively or negatively correlate with the number of Psychiatric Emergency Services (PES) visits between 2014 and 2017?

Chapter III: Methods

Design

Using archival data, this program evaluation is designed to assess whether dual diagnosis patients at a methadone clinic who received voluntary MHC in conjunction with SAC between the years 2014 and 2017 utilized PES more times or less times than those who received SAC only.

MHC is comprised of weekly 50-minute psychotherapy sessions with a mental health counselor that aims at exploring and resolving psychological ailments applying theories such as Cognitive Behavioral Therapy (CBT), Acceptance and Commitment Therapy (ACT), Dialectical Behavioral Therapy (DBT), Motivational Interviewing (MI), and Motivational Enhancement Therapy. SAC involves meeting with a substance abuse counselor weekly to monitor substance use and aspects of recovery, such as encouraging 12-step membership, monitoring abstinence, or assisting in harm reduction.

The setting is Bay Area Addiction Research Treatment (BAART), an Integrated Behavioral Health Medical Methadone clinic in the Tenderloin District of San Francisco, California. The differences between groups were measured using secondary/archival data from electronic databases used by BAART to store patient records.

Participants

There were 34 (50.7%) patients with dual diagnosis who received SAC and MHC, and there were 29 (43.3%) patients with dual diagnosis who received SAC only between 2014 and 2017 from BAART archival electronic records. A total of 67 persons were randomly selected from the electronic database. Of these, four participants (6.0%) were dropped because they had missing data. The final sample of 63 participants (94.0% of the 67 patients who had data) consisted of those who had sufficient data on at least demographic variables to provide

descriptive statistics for the sample. Data were missing for 2 participants from each treatment group, All analyses were performed separately for SAC only and SAC and MHC groups.

G-Power was used to determine the number of participants per group needed for all analyses in order to have minimal power of 0.80. The majority of participants were of low socioeconomic status. Inclusion criteria for all participants included: at least one mental illness diagnosis, Opioid use disorder, methadone medical treatment (MMT), and SAC. MHC is the additional qualification for the experimental group. Because this population often presents under the influence of illicit drugs during evaluation, and the long-term side effects of substance use that resemble neurological disorders, neurological disorders are often misdiagnosed. Therefore, patients with neurological disorders were excluded from the study. Patients who started receiving any services prior to 2014 and/or finished services before 2017 were also excluded.

Participants' data from 2014 to 2017 was collected from Avatar and Methasoft. Methasoft is the electronic database used by substance abuse counselors, whereas Avatar is the electronic database that the mental health counselors use.

"Avatar is a certified electronic health record (EHR) solution specifically designed for behavioral healthcare and addiction treatment in community-based, residential, and in-patient programs (Avatar, 2017)." BAART uses Avatar to record and store all patient information. "It offers a robust set of features that support roles throughout the organization, from front desk staff and clinicians to billing administrators and executive management (Avatar, 2017)." Applicable data such as diagnosis, mental health counseling notes, and PES episodes are stored in Avatar. If a patient at BAART utilized PES anywhere in San Francisco County, it was recorded into Avatar.

"The Methasoft Treatment Management System is a cutting-edge clinical, computerized software designed particularly for opiate addiction treatment facilities. Methasoft aids in improving communication, increasing accountability, greater efficiency and enhancing reporting within all areas of a methadone clinic (Methasoft, 2017)." Modules for Methasoft include Financial Management, Pharmacy Management, Patient Management, and Clinic Management. Additional data, collected through Methasoft, might include: employment, marital status, type/status of the insurance, housing situation, age, ethnicity, SAC units serviced (1 unit is 10 minutes of SAC), methadone dosing frequency, case notes, and urinalysis results. Substances screened for in urinalysis include: methadone, methadone metabolite, 6 acetylmorphine, amphetamine, methamphetamine, barbiturates, cocaine, hydromorphone, hydrocodone, codeine, morphine, benzodiazepines, and oxycodone (Methasoft, 2017). At BAART, patients are randomly tested approximately once a month.

For patients with dual diagnosis who received SAC and MHC, there were 19 males (52.7%) and 15 females (41.6.%). The mean age of this group of patients was 49.91 years (*SD* = 11.10). The mean number of PES episodes for this group was 0.44 years (*SD* = 0.84). Finally, this group of patients received mean number of 544.66 (SD = 106.35) SAC units, which was 77.42 (SD = 36.50) hours.

For patients with dual diagnosis who received SAC only, there were 15 males (48.4%) and 14 females (45.16%). The mean age of this group of patients was 54.16 years (*SD* = 12.82). The mean number of PES episodes for this group was 1.48 years (*SD* = .3.42). Finally, this group of patients received mean number of 449.87 (SD = 117.66) SAC units, which was 84.83 (SD = 54.99) hours.

Materials

Psychiatric Emergency Service (PES). PES provides psychiatric evaluation, intervention and referral for both voluntary and involuntary patients 24 hours a day, 7 days week. When a patient visits PES anywhere in the county of San Francisco, each PES episode/visit is recorded into Avatar. A PES episode/visit is defined as any emergency psychiatric care a patient receives within the county where the patient resides. The researcher used Avatar to calculate total number of PES visits utilized by both groups between 2014 and 2017. Patients who received treatment outside of the dates examined in the study were excluded**.**

Substance Abuse Counseling (SAC) sessions. Patients receive SAC weekly. The length of SAC sessions varies. The time is measured in units and patients are required to attain 9 units each month, and each unit equals 10 minutes of duration. SAC sessions accrued between 2014 and 2017 were taken from Methasoft's Data Assessment and Plan (DAP) notes. Each substance abuse counselor entered the number of units rendered per service into Methasoft, along with their DAP notes each week.

Procedure

The control group (n=29) consisted of dual diagnosis participants receiving SAC only from 2014 to 2017. The experimental group (n=34) consisted of dual diagnosis patients receiving SAC plus MHC from 2014 to 2017. The time period for the SAC group was from 7/1/14 to 7/1/17. However, the time period for MHC and SAC group varied starting with different years and ending with different years. In order to compare groups on all outcomes and avoid confounding variables, participants who started in 2014 and ended in 2017 were included, and others were excluded from all analyses. All participants in this study were methadone patients, divided into two groups: MHC+SAC group and SAC-only group. Because Methasoft is the database for the methadone patients, the investigator used Methasoft to extract all group

members. Random number generator table was used to randomly select the participants from the database. Then, selected participants were placed into Avatar to see if they were receiving mental health services at BAART. If they were, 34 participants were randomly assigned through random number generator chart to the experimental group (SAC+MHC). If they were not, then 31 participants were randomly assigned through random number generator chart to the control group (SAC only).

Once the groups were determined, the investigator copied and pasted participant names into AVATAR to identify and calculate their PES episodes from 2014 to 2017. An episode is defined as any emergency psychiatric care a patient receives within the county where the patient resides. For example, if a patient at BAART accessed psychiatric care of any variety (i.e., general counseling, dual diagnosis substance abuse programs, or PES anywhere in San Francisco County), it was recorded and stored within the Avatar database. PES episodes included any visits to Westside Crisis, Progress Foundation, Dore Street Clinic, Psyche Emergency Services, Crisis Response Team, Mobile Crisis, San Francisco General Hospital, Conversion Program, Crisis Stabilization, Psyche Emergency, Avenues Crisis, Shrader House Crisis, La Posada, and St. Francis Hospital Psyche Emergency. Patients in both groups were compared on the number of PES episodes/visits between 2014 and 2017, so those who started services before 2014 were excluded.

Sessions accrued for the MHC group between 2014 and 2017 were extracted from the client service report stored in Avatar. SAC sessions (1 unit = 10 minutes of SAC) accrued in 2014–2017 were taken from Methasoft's Data Assessment and Plan (DAP) notes. Each substance abuse counselor entered the number of units (1 unit = 10 minutes of SAC) rendered per service into Methasoft along with their DAP notes.

Demographic variables, such as age, gender, ethnicity, socioeconomic status, psychiatric diagnosis(es), relationship status, and housing were extracted and descriptive statistics were reported. Moreover, males and females were compared in their use of PES visits. Finally, the study examined if there was a relationship between age and number of PES visits. This additional information might provide answers to unexpected findings.

Purpose

As the literature review reveals, this population suffers an extensive profile of detrimental consequences. There are systemic determinants that put many of these individuals in this position, including oppression, discrimination, and limited access to resources. Methadone clinics offer an ideal and rare opportunity to treat this population holistically. Further, as the drive to improve mental health services continues, this study provided a prime opportunity to investigate whether the integrative treatment approach of MHC & SAC is more successful in the quest to avoid crisis situations for this vulnerable population.

Chapter IV: Evaluation/Analytic Plan and Results

Preliminary Analyses

Statistical Software SPSS 22 was used to obtain descriptive characteristics, as well as to conduct statistical analyses to answer Research Questions 1–3. Demographic data were limited to gender and age because those were the only consistently collected data available (see Table 1). Had we included only participants that had all their descriptive data available, the sample size would have been too small for a robust statistical analysis.

Table 1

Demographic Data

	Age	Males	Females
Group	*M* (*SD*)	*n* (%)	*n* (%)
SAC and MHC	49.91 (11.10)	19 (52.7%)	15 (41.6%)
SAC only	54.16 (12.82)	15 (48.4%)	14 (45.16%)

Evaluation of Parametric Assumptions and Conceptual Plan

Parametric assumptions, such as normality, linearity, and homoscedasticity, were evaluated prior to conducting Pearson correlation analyses. The assumption of homogeneity of variance, in addition to normality, was evaluated prior to conducting independent samples *t*-tests. Normality was evaluated through consideration of descriptive statistics, visual inspection of score distributions, and computations of normality statistics. The normality assumption clearly was violated for all studied variables with the exception of SAC units in hours, which approached a normal distribution.

Linearity was evaluated through visual inspection of bivariate scatterplots. This assumption was violated. The assumption of homoscedasticity was evaluated through visual

inspection of regression plots relating standardized predicted values to standardized residuals. This assumption was violated as well.

Although the assumption of normality is not critical in Pearson correlations (Havlicek & Peterson, 1977), violation of the assumption of linearity for certain pairs of variables was a concern. To gauge the impact of violation of these assumptions on correlational results, Pearson and Spearman correlations were both run when bivariate correlation analyses were called for, and results were compared. Obtained results were very similar. Consequently, Pearson correlations are presented for all correlation analyses.

Independent samples *t*-tests and Mann-Whitney *U* tests were run to analyze gender differences on the studied variables. The homogeneity of variance assumption, evaluated through Levene's test, was not met, and bootstrapping was used when possible. Results obtained with the *U* tests were very similar to those obtained with the *t*-tests. Consequently, independent samples *t*-tests were used for analyses of differences between the studied groups.

Tests of Hypotheses

Analyses of means. Research Question 1 asked if patients with dual diagnosis who received SAC differed in the mean number of PES visits from the patients with dual diagnosis who received SAC and MHC between 2014 and 2017. Patients with dual diagnosis who received SAC (M = 1.48, SD = 3.42) reported higher number of PES visits than patients with dual diagnosis who received SAC and MHC (M = 0.44, SD = 0.84), t = -16, df =59, p = .02, 95% CI [-2.29, 0.20].

Research Question 2 asked if females differed in the mean number of PES visits from males between 2014 and 2017. For both treatment groups combined together, there was no significant gender difference found in mean PES visits between males (M = 0.86, SD = 1.90) and

females (M = 0.31, SD = 0.74), t = 1.391, df = 53, p = .169, Service, 95% CI [-0.01, 1.35], based on 1000 bootstrap samples.

Associations among age and drug-related variables. Research Question 3 asked if there were significant correlations between age and the number of PES visits between 2014 and 2017 among patients who received SAC and patients who received SAC and MHC. For patients who received SAC, there was no significant association between age and the number of PES visits, r = .18, p = .331 (Figure 1). For patients who received SAC and MHC, there was no significant association between age and the number of PES visits, r = -.12, p = .541 (Figure 2). For both treatment groups combined, there was no significant association between age and the number of PES visits, r = - 0.01, p = .958 (Figure 3).

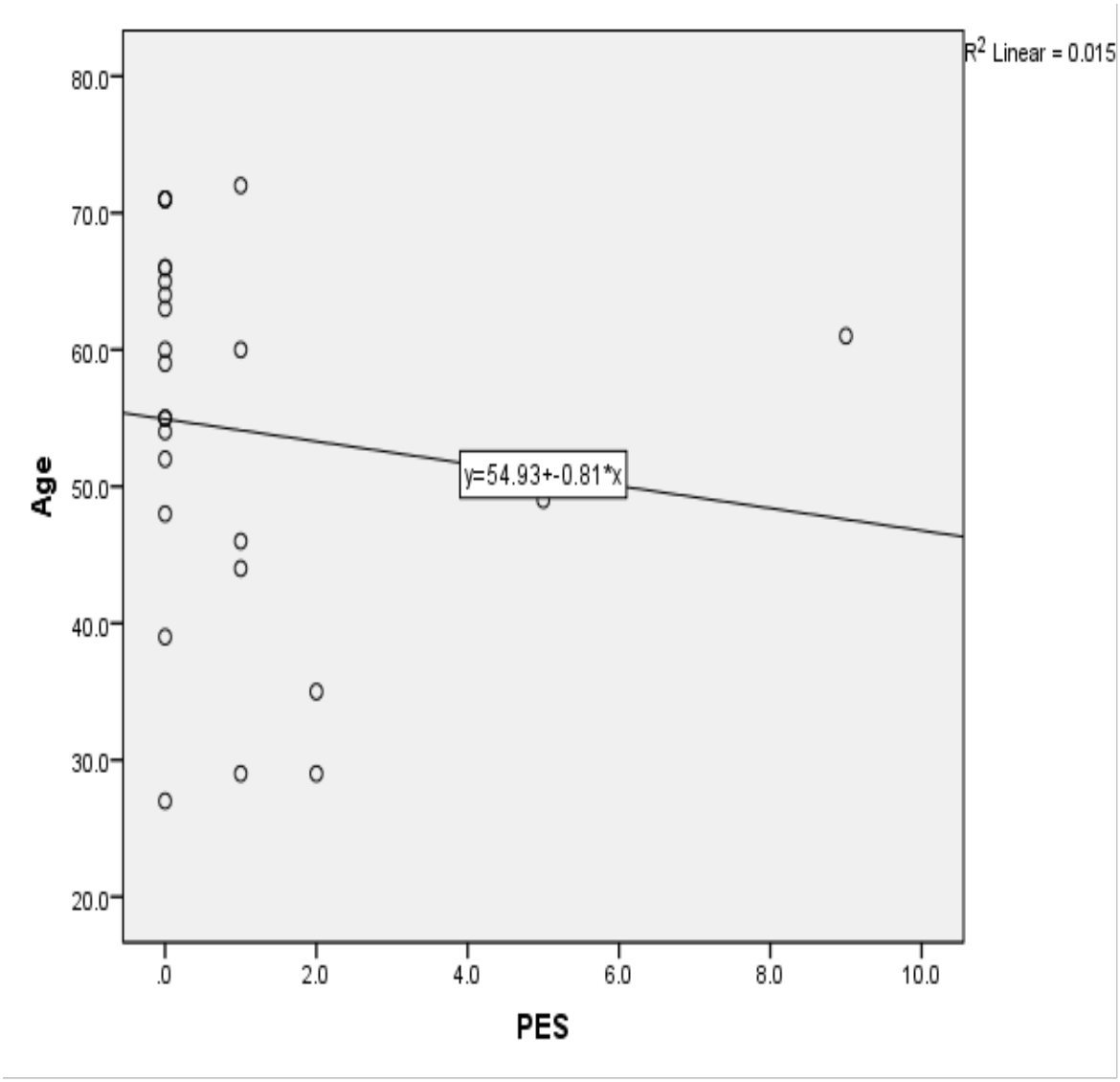

Figure 1. Bivariate scatterplot of PES and age, for SAC-only group.

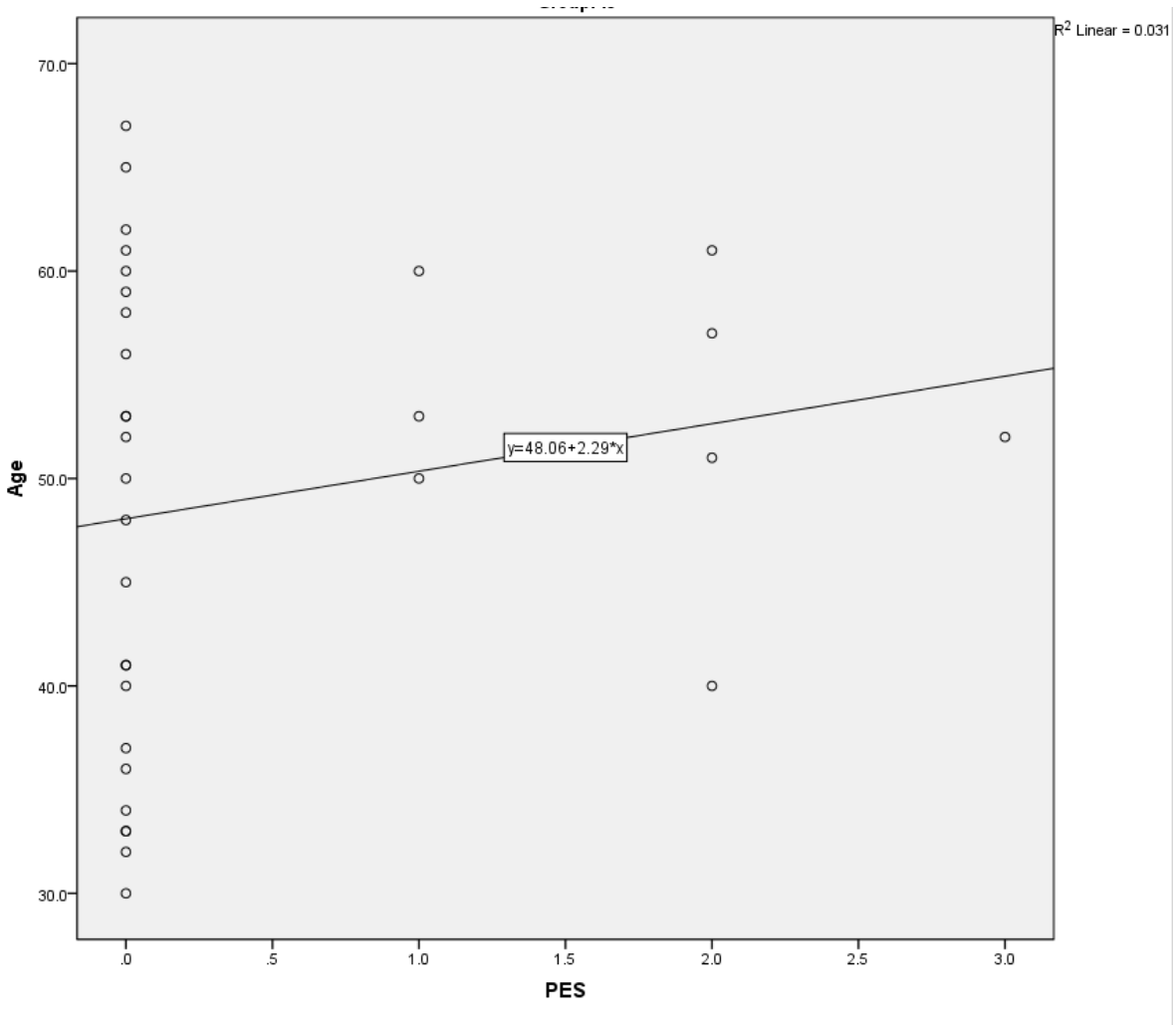

Figure 2. Bivariate scatterplot of PES and age, for SAC & MHS group.

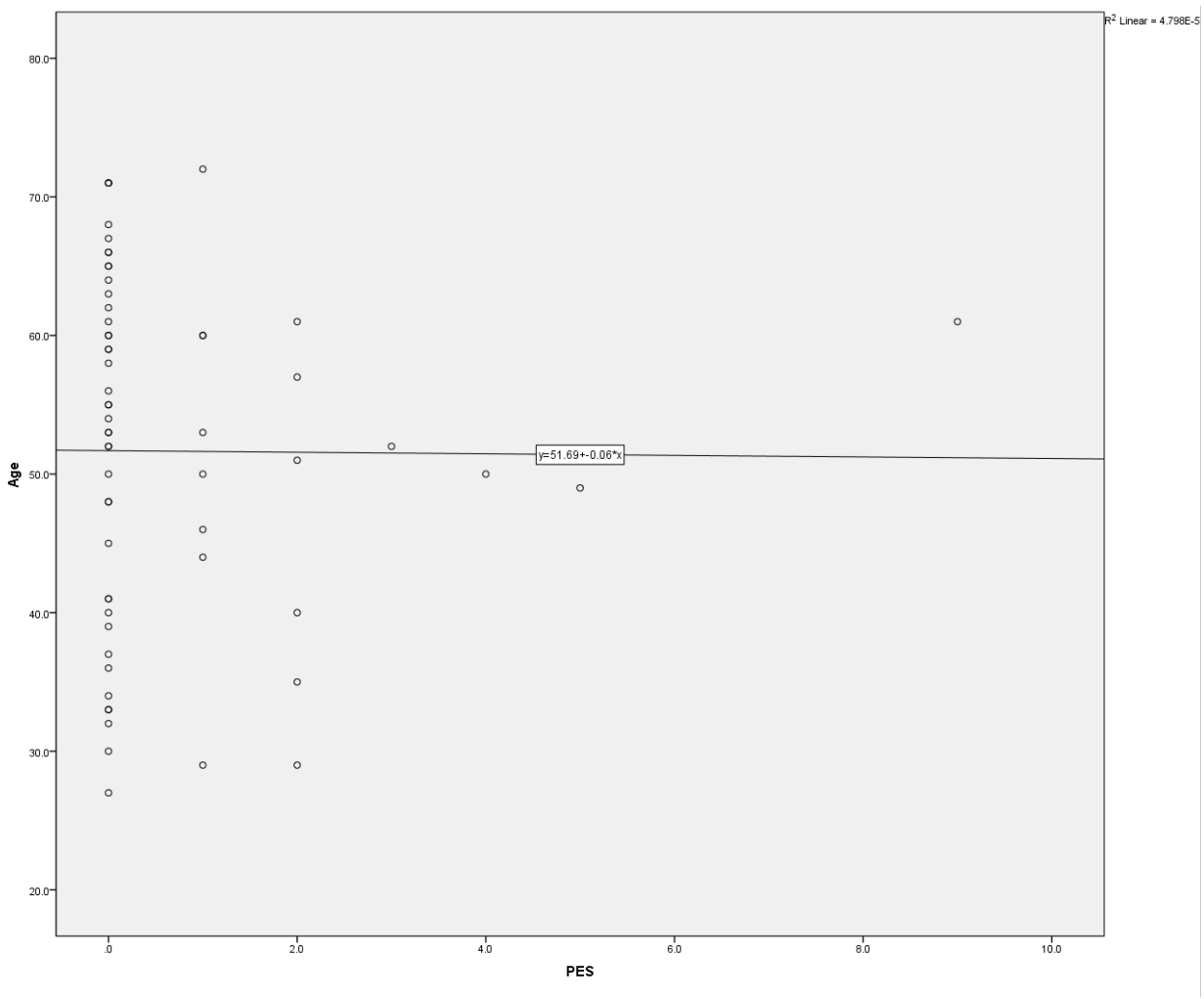

Figure 3. Bivariate scatterplot of PES and age, for both groups combined.

Chapter V: Discussion

The present study aimed to contribute to the existing research by exploring a more effective treatment model for individuals with dual diagnoses at methadone clinics. The objective was to determine whether or not individuals with dual diagnosis receiving integrative care (MHC and SAC, specifically those with an opioid disorder and a mental illness) at a methadone clinic accessed PES less than individuals who were receiving SAC alone. Differences in PES utilization between females and males from both treatment groups were also measured, as were correlates of age and number of PES visits of both groups.

The results indicate that individuals with dual diagnosis at a methadone clinic, who are receiving both SAC and MHC, access PES significantly less than those who are receiving SAC only. These findings suggest that those who suffer from dual diagnosis benefit from an integrative health care model. Furthermore, these individuals can potentially avoid unfavorable outcomes when both their substance use and mental health issues are addressed.

SAC Only Versus SAC and MHC

Research question 1 asked if patients with dual diagnosis who received SAC differed in the mean number of PES visits from patients with dual diagnosis who received SAC and MHC between 2014 and 2017. The results revealed that the SAC group's mean score of 1.48 PES visits was significantly higher than the SAC plus MHC group's mean score of .44 PES visits. These findings suggest that SAC plus MHC is a more effective treatment modality for patients with dual diagnosis at a methadone clinic than SAC only. These findings will be discussed in further detail below.

Females Versus Males

Research Question 2 asked if dually diagnosed females differed in the mean number of PES visits from dually diagnosed males between 2014 and 2017. The results revealed that for

both treatment groups combined, although not significant, the males' mean score of .86 psychiatric emergency services visits was higher than the females' mean score of .31 psychiatric emergency service visits. These findings indicate that, in general, males with dual diagnosis have a higher probability of accessing psychiatric emergency services. There is a paucity of literature addressing the main questions of this study. A review of the literature does not reveal other studies specifically examining gender differences in PES utilization for dual diagnosis patients, so there is no existing empirical data to explain the trend discovered toward greater PES use by males. However, we speculate that females may utilize more protective factors (such as social support) than males, while we also speculate that males may be engaging in more risky behaviors that increase the need for PES. These psychosocial factors may contribute to the trend found in this study.

Age Correlation

Research question 3 asked if there were significant correlations between age and the number of PES visits between 2014 and 2017 among patients who received SAC and patients who received SAC and MHC. The results revealed that there was no correlation with age. As noted above, due to the paucity of studies in this general area of concern, there are no studies that this author was able to find that directly looked at the variable of age in relation to dual diagnosis patients' utilization of PES. Given that, I can only speculate on the findings of this study in relation to this question. In broad terms, I speculate that there are many different reasons at various ages that this population requires PES, as they appear to be susceptible to emergency situations in general throughout the course of their affliction—regardless of age. It is likely that in the absence of impactful treatment that produces enduring effects, this population continues to overutilize PES services throughout their lifespan.

The results confirm the hypothesis that individuals with dual diagnosis at a methadone clinic, who are receiving both SAC and MHC, access PES significantly less than those who are receiving SAC only, indicating that those who suffer from dual diagnosis benefit from an integrative health care model. Further, although not significant, results indicated a trend suggesting that males access PES more than females. Lastly, results revealed that there is no significant correlation between age and number of PES visits among patients who received SAC and patients who received SAC and MHC.

Clinical Implications

Clinical Competence and Training

In general, our results indicate that employing an integrative approach is effective with all individuals with dual diagnosis. This treatment could provide the answer to a long-standing problem. Drake, Mueser, Brunette, and McHugo (2004), Mangrum, Spence, and Lopez (2006), and Mueser (2003) have all indicated an appropriate and respectful treatment for those with dual diagnosis would be an integrated approach, which addresses both the substance use disorder (SUD) and mental illness (MI) as primary disorders. Hansen and colleagues (2000) report that one of the reasons for mistreatment and lack of respect among this population is physicians' difficulties in differentiating between the symptoms of MI and SUD, causing feelings of clinical incompetence, and often resulting in negative treatment of patients. Consequently, appropriate treatment is not provided. Using the integrative approach negates the differentiation problem, as it is designed to address both diagnoses from the beginning. Additionally, as physicians are armed with a model that provides them with an appropriate treatment model with which to effectively treat this population, one would expect physicians to treat the dually diagnosed with more respect, ultimately decreasing the stigma, increasing treatment retention and compliance, and, consequently, improving overall outcomes among this population.

Healthcare Costs

These findings provide a simple solution to a deep-rooted, persistent challenge. Clinicians and physicians alike have been baffled for decades about how to treat this population, so much so that many care providers ultimately turn their back on them. Additionally, PES has become an alternative and costly source of treatment for individuals with dual diagnosis, as they are unable to find proper treatment elsewhere. When they are unable to find appropriate treatment, their symptoms increase to the point that emergency services are ultimately required. There are myriad problems with using PES, or emergency services in general. These problems can be prevented with the development of clinics that properly accommodate this population. There are astronomical costs associated with routine access of PES. Healthcare Cost and Utilization Project (HCUP) reported that in 2015, there were $11 billion of aggregate costs for inpatient visits for dual diagnosis patients utilizing PES in the United States. Additionally, HCUP noted that patients with dual diagnosis stay at PES 38% longer than all other patients (Heslin, Elixhauser, & Steiner, 2015). A decrease of merely 20% would lessen costs by approximately $3.67 billion. This issue not only affects the overall cost of health insurance, but also supports the stigma that this population is problematic given these associated costs. The stigma alone can deter this population from seeking services until it is an emergency, when they once again find themselves accessing services that are costly and ineffective. In no uncertain terms, the underlying problem of dual diagnosis patients accessing PES is not effectively being addressed on a macro level.

As noted, healthcare costs associated with patients with dual diagnosis accessing PES are exceedingly high. However, these costs do not even include the collateral costs associated with other healthcare problems or the consequences of risky behavior associated with substance abuse. As previously mentioned, this population is burdened with homelessness (Olfson et al.,

1999), which affects social security and welfare costs. These individuals are disproportionately associated with violence (Soyka, 2000) and incarceration (McNiel et al., 2005), which often lead to excessive legal costs in addition to exorbitant healthcare costs. Previous studies also note that this population is at an increased risk for HIV and hepatitis (Hoff & Rosenheck, 1999), both of which, again, increase healthcare costs. Of additional concern is the general safety of the rest of the population, as both HIV and hepatitis can be transmitted to those outside of the dual diagnosis population.

All of these factors suggest PES facilities are a pragmatic and ideal place for training clinicians to properly triage this population to proper treatment, thus filling a hole in our healthcare system—establishing a place where those with dual diagnosis could receive appropriate and evidence-based care. For a first step, given the prevalence of this population found in methadone clinics, these clinics provide an ideal setting in which to implement immediate treatment improvement for this population. The implementation would be quite simple to adopt across these clinics, considering how close their current model is to the one this study found effective for treatment of the population in question.

Methadone Clinics

The adoption of this model by methadone clinics could be a great start in revolutionizing treatment for a population which, historically, has suffered remarkably and been exceptionally difficult to treat. Given the number of methadone clinic patients in the United States and the correlation with mental illness and substance abuse, these clinics may be the most common health care destination for individuals with dual diagnosis. We can begin making tremendous strides in effective treatment amongst this population in these locations. Methadone clinics already provide counseling services because substance abuse counseling is required for its patients. However, substance abuse counseling, in most cases, is the only mode of counseling

offered. In order to provide a significantly more effective model of care, methadone clinics simply need to implement a mental health component by adding mental health counselors to their staff, while leaving the existing model in place. The exact cost of adding mental health counseling to methadone clinics is unknown. However, because of the national opioid epidemic, government funding to treat this population and address the epidemic has grown exponentially. Clinics that employ a model that has been shown to improve treatment outcomes and save on healthcare costs by decreasing PES visits would be prime candidates for funding.

Methadone clinics present an ideal place to implement this model, given the high number of dual diagnosis patients that they serve. Furthermore, these sites are an ideal location for future research on testing and modifying this model, providing empirical evidence that illustrates the effectiveness of this treatment modality. The practical application of this dual treatment model and the subsequent anticipated improved outcome rate suggests a revised, more comprehensive model for treating individuals with dual diagnosis. While methadone clinics serve a huge portion of patients with dual diagnosis, they only serve those with an opioid use disorder. This leaves a large portion of dual diagnosis patients without proper treatment. We have already identified that a large percentage of individuals using or abusing any type of substance are likely to be suffering from un underlying mental health condition. This model of care is easily replicated among those suffering from both mental illness and substance use disorder.

Substance Abuse in General

These findings suggest that integrative care (both MHC and SAC) is effective in treating dual diagnosis. Additionally, given the high percentage of people with co-occurring mental illness and substance abuse issues, these findings indicate that substance use may, in many cases, be a maladaptive, self-discovered treatment for mental illness and not necessarily a disorder in and of itself. The National Comorbidity Survey found that, of those with a lifetime SUD, 41.0%–

65.5% have at least one mental disorder (Kessler et al., 1996). There is no proof that an even higher percentage of those with a SUD do not have an underlying mental illness. Thus, given the high percentages of comorbidity, it raises the important clinical question of how often untreated mental illness underlies the substance abuse disorder. In most substance abuse recovery models, it is reported that abstinence alone is not effective. This implies that if a problem still exists once the individual is properly detoxed, no longer chemically dependent, and no longer using the substance, then there is a psychological element to their illness. Until that psychological element is addressed, the user will often need their substance, as it is their self-discovered treatment for their underlying psychological condition. This suggests that associated or underlying mental health issues should always be considered and/or addressed when treating substance abuse conditions. Provided that this is true, and a significant percentage of substance abuse cases involve a self-discovered treatment for an underlying untreated mental illness, the substance abuse becomes a new problem, and needs to be addressed—necessitating the need for integrative care. The findings of this study expose a hole in our healthcare system that warrants a new, more effective model of care.

New Model for All Dual Diagnoses

A new, more inclusive model is warranted for those suffering from dual diagnoses. The opportunity for methadone clinics to adopt this integrative model through simple modifications to their current model presents an exciting option—a model that provides both substance abuse and mental health treatment to patients regardless of whether the patient formally carries an additional psychiatric/mental health diagnosis. This model, if successful, could be applied to all substance abuse treatment programs, not exclusively to opioid use disorders.

Currently, treatment in general for those with substance abuse issues often involves PES, intensive outpatient, or inpatient care. All of these options are costly, while intensive outpatient

and inpatient care both require a great deal of the patients' time and, in some instances, their autonomy. Convincing individuals suffering from substance abuse to commit to an inpatient or an outpatient program can be daunting. Even when they do commit, retention is often a problem and there is no continuity of care. Therefore, a model similar to the methadone clinic model, with the addition of mental health treatment in an integrated care setting, and which assumes the prominence of dual diagnosis, appears to be a more clinically realistic, effective, and ultimately more cost-effective model.

Based on what we have identified, including the high rates of comorbid mental illness with substance abuse, as well as costly collateral health conditions such as disease, namely HIV and hepatitis, and our current failure to effectively treat this population, this study strongly suggests a more holistically oriented integrated care model that involves medical doctors, psychopharmaceutical prescribers, substance abuse counselors, and mental health counselors. Patients would have their physical needs met by the medical doctor or nurse practitioner, their psychopharmaceutical needs met by either a psychiatrist or psychiatric nurse, their substance abuse needs met by their substance abuse counselor, and their mental health needs met by their mental health counselor. Considering the results of this study, which indicate that those who receive integrative care access PES less, we can assume that those who receive integrative care would not only prevent acceleration of the substance use, but also prevent or decrease associated consequences—such as violence, incarceration, and disease—as well as reduce costly PES visits. One also supposes that those costs associated with intensive outpatient and inpatient care would be reduced dramatically. Ultimately, this model increases quality care for a suffering population while decreasing the overall healthcare and welfare costs for the rest of the country.

Training

The intent of this study was to examine alternative ways of treating those with dual diagnosis, more specifically measuring the effectiveness of integrated care. In the literature review, we explored models that use variations of integrated treatment. Most of them did not provide conclusive results but did, however, imply valuable ideas to consider as we move forward in our quest to improve treatment for this suffering population. Given that the study identified that a high percentage of people with SAD have a co-occurring psychiatric disorder, we can argue that most or all with SAD have underlying mental health issues, whether there is a formal psychiatric diagnosis or not, and a significant percentage of this population may have initiated substance use as a self-discovered treatment for untreated mental health issues, leading eventually to a comorbid substance abuse disorder. Therefore, we conclude that maybe the root issue is often not being addressed by substance abuse counseling only, thereby leaving treatment incomplete. With confidence, we hypothesize that adding psychotherapy to SAC would significantly improve outcomes for treatment of this population.

For training purposes, it is important to specifically recall the addition of supportive-expressive psychotherapy to substance abuse counseling, given the long-term success and protective factors it conferred, which were revealed in the literature review. Therapy does not always generate immediate results and outcomes frequently are ever-evolving. It is because of these very reasons that the supportive-expressive psychotherapy findings are so encouraging and should be considered when treating this population. If we are considering the long-term effects of treatment and desire to decrease recidivism, then it is imperative that we pay close attention to the limited but existing scientific literature. Although supportive-expressive psychotherapy did not show greater improvements during treatment, patients who received it showed gains beyond treatment, which indicates that the overall recovery trajectory points in the direction of outcome

improvement over the long term—a goal every health provider should value when treating a patient. Moreover, the significant improvement in family and social relationships, which supportive-expressive psychotherapy plus GDC positively affected above all other approaches, speaks volumes when considering long-term progress. Positive family and social relations serve as one of the greatest protective factors with both mental illness and substance abuse. This alone warrants great merit when aiming to improve treatment of both substance abuse and mental illness.

There is an abundance of literature which indicates that, in most cases, psychotherapy prides itself on having a positive relationship with the patient, commonly referred to as the therapeutic alliance. Many scholars note that the therapeutic alliance is imperative for positive treatment outcomes. Mental illness and substance abuse, which the author would suggest are intimately interrelated, often evolve from a maladaptive relationship. Based on that theory, one might posit that a potential answer is to experience a relationship with a mental health professional that allows for emotional exploration, integration, and expression in a safe supportive context. In conclusion, as we continue our mission toward improving treatment for this suffering population and training clinicians to facilitate better long-term outcomes, the relational approach of supportive-expressive psychotherapy is a practical training option, and one that has already revealed great promise.

Study Limitations

Although the study produced encouraging results, there were several limitations. There were various diagnoses to contend with. Additionally, there was insufficient data, which prevented the researchers from controlling for the nature of the PES visits and the participants' access to resources, as well as their previous treatment experience.

Diagnosis Variability

To begin with**,** this study included a sample size with various diagnoses that complicated variable control and invited the potential for multiple extraneous variables. As we know, different diagnoses come with a diverse profile of symptoms. Some symptoms may be more severe, while some may induce or influence risky behavior. For instance, a sample size with a greater portion of psychosis might look significantly different than a sample size with little to no psychosis. Individuals with Bipolar I or II not only present symptomatically different than someone with anxiety, but they also present symptomatically different from each other, given the varying degrees of a manic episode involved with Bipolar I versus the hypomanic episodes associated with Bipolar II. If one group contains 45% individuals with disorders involving mania or psychosis and the other group contains only 10%, it may not matter what kind of treatment each group is receiving, as the group with the more severe symptoms is likely to produce less favorable outcomes under the measurement being discussed.

Data Limitations

Because we used archival data, there was potentially significant information unavailable for collection. This unavailable data included: the nature of the PES visits, availability of resources amongst participants, and prior treatment experience. Additionally, because certain demographic data—such as ethnicity, SES, and marital status—were not consistently reported or collected, these items were not included. Therefore, only gender and age were collected, which compromises and limits the generalizability of this study.

Nature of PES Visit. The nature of the participants' PES visits could have provided this study with insight into the severity of the diagnosis and how closely related the nature of the visit was with the diagnosis. For instance, we could conclude that experiencing a distressing event that induces a trauma-infused response could be a collateral consequence of a person with dual

diagnosis, landing them in PES, but it does not inform us of how well that particular individual is dealing with their condition or how well therapy (or the lack thereof) is affecting their condition. An individual could end up in psychiatric services for numerous reasons. Knowing the precise reason would inform us whether or not it should be included in our outcome measurements. Moreover, while we know that stress plays a significant role in symptom expression and psychotherapy is designed to reduce stress, we do not entirely know the precise biological mechanisms that induce an experience such as a manic episode. A person with Bipolar I may be doing well in therapy and show no signs indicating concerns with their condition but still suffer a manic episode by an arbitrary stressor that requires PES, but ultimately, has nothing to do with current treatment or lack thereof. Again, this type of information would inform us as to whether it should be included in our outcome measures.

Resources. An individual's availability of resources (in both variety and in regard to socioeconomic status) significantly influences symptom expression and severity, and ultimately, the need for PES. An individual without social support versus someone with a cadre of social support will, most likely, fare differently regardless of their receipt of integrative care versus substance abuse care only. As social support is a protective factor against poor mental health outcomes, we know that someone who has healthy social support will likely have an advantage over someone who does not. Therefore, knowledge of an individual's available resources would have enabled us to control for the variable in our measurements. As this sample was pulled from an impoverished region of San Francisco, there was a predictably high rate of homelessness. An individual who is homeless would likely present with different outcomes than an individual with safe, sustainable housing—regardless of the fact that they received the exact same course of

treatment. If housing data had been available, it would have enabled us to control for this variable as well, producing more reliable results.

Previous treatment. Overall length of treatment is associated with better outcomes. An individual that received therapy for several years before their PES visit data were included, will likely have an advantage over someone who had never received therapy, regardless of which group they are in. There is a trajectory of growth one might expect over the course of therapy. It would not be fair to measure the effectiveness of an intervention using a person that has experienced 10 years of psychotherapy compared to one that has only experienced 3 years. This is not to say that the individual who has received 10 years of therapy will automatically be more psychologically sound than the one who has only received 3 years, but it does invite an unfairness that needs to be factored into this discussion. If these data had been available, we would have controlled for it and produced more reliable and conclusive results.

Direction for Future Research

There are numerous directions for future research. As mentioned before, this study included a sample size with various diagnoses that complicated variable control and invited the potential for multiple extraneous variables. In future studies, ideally, researchers would use a sample with only one co-occurring mental illness to control for diverse symptom expression, such as depression, in order to reduce extraneous variables and produce more reliable results.

Because the study used archival data, participant data were limited. Future studies would benefit from a self-designed study with a sample that could provide more information about the participants. This study could not identify why participants were accessing PES—there could have been a myriad of reasons. A study that could identify if the PES visit was directly related to the diagnosis could produce more reliable results and having the precise reason would inform the researcher whether or not it should be included in the outcome measurements.

In future research, having knowledge of participant resources would be beneficial, as well. This study was not able to identify social or socioeconomic resources per participant. Resources impact the overall welfare of individuals. A participant who has significantly healthier social support or a higher socioeconomic status will likely have an advantage over someone with less. Knowledge of a participant's available resources would enable future researchers to control for these variables in their measurements. Housing status data would also assist future research. This sample was drawn from an area with a disproportionate amount of homelessness, but housing status was not indicated in the data set. A participant without a home would be at a disadvantage compared to one with a home. Regardless of the type of treatment received, a participant who is homeless would likely present with different outcomes than an individual with safe, sustainable housing. If future researchers have these data, they would be able to control for this variable as well, producing more reliable results.

Further, this study did not contain data that accurately indicated whether or not participants had received treatment prior to this study or how much treatment they may or may not have received. As previously mentioned, overall length of treatment is associated with better outcomes. It would be unfair to measure the effectiveness of an intervention using a participant that has experienced 10 years of psychotherapy versus one that has only experienced 3 years. A participant with significantly less treatment experience than another participant would be at a distinct disadvantage. Having these data would help future researchers control for this variable and produce more reliable results.

When conducting future research, we suggest a larger sample size that includes more demographic data. If future studies contain a larger sample that includes participant's race, ethnicity, SES, employment, and education, in addition to age and gender, the study's findings

would then be significantly more generalizable, and additionally, might potentially signal the need for more targeted interventions for subgroups within this generalized population.

Lastly, because this study discovered positive outcomes when adding supportive-expressive therapy to substance abuse counseling in follow-up measures, that were not yet found in the measurements taken during the course or treatment, future researchers interested in the long-term effects of treatment would want to routinely conduct follow-up measures to determine the true effectiveness of adding psychotherapy to substance abuse counseling when treating an individual with dual diagnosis.

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Appendix A: IRB Application Procedure

PROCEDURE: To submit a protocol for review, follow these steps

1. Login to Mentor (www.axiommentor.com) using your USF Connect ID and password. Institution ID = usfca
2. Click on the **IRB** top level tab and then click on the **My Applications** link in the left *navigation bar.*
3. Download and complete the appropriate application form by clicking on **Documentation** and **Application Forms.**
4. Click the **Create New Protocol** button at the top of the resulting page.
5. Mentor will open a new protocol submission form. Complete the form and be sure to use the **Upload Protocol** function (located towards the bottom) on the submission form to attach the MS Word application that you completed in step 3.
6. Use the **Upload Informed Consent Form** function to attach your protocol's consent form.
7. The IRB makes its own judgment on the eligibility of your protocol as to whether it is *exempt, expedited, or full board review.*
8. When the new protocol form is complete, be sure to click the Add Protocol button at the bottom to submit your information.

When you submit a new protocol, the IRB is automatically notified by email of the new submission. The IRB will review your protocol and the IRB Chair will send you notification of the IRB's action. Please remember that reviews may take up to 3 weeks after all documentation is complete and all concerns of the reviewer are adequately addressed. Allow a minimum of 3 weeks for processing and review, as there are NO RUSH REVIEWS. The applicant is responsible for checking on the status of their application regularly. Correspondence from the IRB is done via email only and sometimes our messages may be marked as spam.

Appendix B: IRB Application

UNIVERSITY OF SAN FRANCISCO

CHANGE THE WORLD FROM HERE

APPLICATION FOR IRB REVIEW OF NEW RESEARCH INVOLVING HUMAN SUBJECTS

If you believe your study meets the criteria for expedited review or full IRB review, complete the following form and upload this document to the online IRB system in Mentor.

1. RESEARCH PROJECT DESCRIPTION

Provide, in lay terms, a detailed summary of your proposed study by addressing each of the following items:

Clearly state the purpose of the study (Usually this will include the research hypothesis)
To expose the effectiveness and necessity mental health counseling has on dual diagnosis patients at methadone clinics.

Background (Describe past studies and any relevant experimental or clinical findings that led to the plan for this project)

Research plan (Provide an orderly scientific description of the intended methodology and procedures as they directly affect the subjects)
Data is archival. No identifiers.

Give the location(s) the study will take place (institution, city, state, and specific location)
Archival data will be retrieved at Bay Area Addiction Research at 433 Turk St San Francisco, California

Duration of study project
1 year

2. PARTICIPANTS

2(a) Participant Population and Recruitment

Describe who will be included in the study as participants and any inclusion and exclusion criteria.
Data will come from participants with dual diagnosis (Mental illness with Substance Use Disorder).

What is the intended age range of participants in the study?
19-70

Describe how participant recruitment will be performed.
No participants will be recruited, only archival data.

Do the forms of advertisement for recruitment contain only the title, purpose of the study, protocol summary, basic eligibility criteria, study site location(s), and how to contact the study site for further information? ☐ Yes ☐ No
*If you answered "no," the forms of advertisement must be submitted to and approved by the IRB prior to their use.

2(b) Participant Risks and Benefits

What are the benefits to participants in this study?
Participants will not be aware that theyre in a study, only poplualtion means will be used.
What are the risks (physical, social, psychological, legal, economic) to participants in this study?
N/A
If deception is involved, please explain.
N/A

Indicate the degree of risk (physical, social, psychological, legal, economic) you believe the research poses to human subjects *(check the ~~one~~ that applies)*.
☐ MINIMAL RISK: A risk is minimal where the probability and magnitude of harm or discomfort anticipated in the proposed research are not greater, in and of themselves, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.

☐ GREATER THAN MINIMAL RISK: Greater than minimal risk is greater than minimal where the probability and magnitude of harm or discomfort anticipated in the proposed research are greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests. **If you checked "Greater than Minimal Risk",** provide a statement about the statistical power of the study based on intended sample size, design, etc. to test the major hypotheses)

2(c) Participant Compensation and Costs

Are participants to be financially compensated for the study? ☐ Yes ☐ No If "yes," indicate amount, type, and source of funds.

Amount: Source: Type (e.g.,. gift card, cash, etc.):

Will participants who are students be offered class credit? ☐ Yes ☐ No ☐ N/A

If you plan to offer course credit for participation, please describe what alternative assignment(s) students may complete to get an equal amount of credit should they choose not to participate in the study.

Are other inducements planned to recruit participants? ☐ Yes ☐ No If yes, please describe.

3. CONFIDENTIALITY AND DATA SECURITY

Will personal identifiers be collected (e.g., name, social security number, license number, phone number, email address, photograph)? ☐ Yes **X No**

Will identifiers be translated to a code? ☐ Yes X No

Describe how you will protect participant confidentiality and secure research documents, recordings (audio, video, photos), specimens, and other records.

There will be no identifying information. Data will be kept password secured device.

4. CONSENT

4a. Informed consent

Do you plan to use a written consent form that the participant reads and signs? ☐ Yes **X No**

***If "no," you must complete Section 4b or 4c below.**

If "yes," describe how consent will be obtained and by whom.

If the participants are minors under the age of 18 years, will assent forms be used? ☐ Yes ☐ No ☐ N/A

If "no," please explain.

Upload to the online IRB system the consent form(s) that the participants and/or parent/guardian will be required to sign, and the assent forms for children under the age of 18, if applicable.

Note: All consent forms must contain the following elements (quoted directly from Office for Human Research Protections regulations, available at: http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm#46.116). The IRB has consent templates containing all required elements, **and we ask that you use these templates**.

If you believe it is important to create your own consent form, you are free to do so but please ensure that your consent form has each of the following elements and indicate you have done so by checking this box:

☐ I have chosen to create my own consent form and have ensured that it contains the 8 essential elements listed below:

(1a) A statement that the study involves research, (1b) an explanation of the purposes of the research, (1c) the expected duration of the subject's participation, (1d) a description of the procedures to be followed, and (1e) identification of any procedures which are experimental;

(2) A description of any reasonably foreseeable risks or discomforts to the subject;

(3) A description of any benefits to the subject or to others which may reasonably be expected from the research;

(4) A disclosure of appropriate alternative procedures or courses of treatment, if any, that might be advantageous

to the subject;

(5) A statement describing the extent, if any, to which confidentiality of records identifying the subject will be maintained;

(6) For research involving more than minimal risk, an explanation as to whether any compensation and an explanation as to whether any medical treatments are available if injury occurs and, if so, what they consist of, or where further information may be obtained;

(7) An explanation of whom to contact for answers to pertinent questions about the research and research subjects' rights, and whom to contact in the event of a research-related injury to the subject; and

(8) A statement that participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which the subject is otherwise entitled, and the subject may discontinue participation at any time without penalty or loss of benefits to which the subject is otherwise entitled."

4b. Waiver of documentation of written informed consent (Complete only if answered "no" to 4a)

The regulations allow instances in which the IRB may waive the requirement for documentation of informed consent, that is , the collection of a signed consent form. If you are requesting a waiver of written documentation (signed) of informed consent, please answer the following questions:

Will the only record linking the participant and the research be the consent document and the principal risk to the participant would be from breach of confidentiality? **X Yes** ☐ No

Do you consider this a minimal risk study that involves no procedures for which written consent is normally required outside of research (see 2B above for definition);? **X Yes** ☐ No

Explain why you are requesting waiver or modification of documentation of written (signed) informed consent and how you plan to obtain consent.
There are no identifiers being used, only population means that will be obtained via archival data.

4c. Waiver or modification of informed consent (Complete only if answered "no" to 4a)

The regulations also provide an opportunity for the IRB to waive the requirement for informed consent or to modify the informed consent process, provided the protocol meets the following criteria:

(1) The research involves no more than minimal risk to subjects (see 2b above for definition);
(2) The waiver of alteration will not adversely affect the rights and welfare of the subjects;
(3) The research could not practicably be carried out without the waiver or alteration; and
(4) Whenever appropriate, the subjects will be provided with additional pertinent information after participation.

If you are requesting a waiver or modification of informed consent (e.g., incomplete disclosure, deception), explain how your project meets the requirements for waiver or modification of informed consent, as outlined above. .
Only non-identifying data from participants will be used. Participants will not know they are a part of the research. There is zero chance of harm coming to participants whose data will be used.

Appendix C: IRB Waiver Response

Gmail

Beau Scott <beauscott15@gmail.com>

Fwd: IRB Review Not Required - IRB ID: 881
5 messages

Denton "Beau" Scott <dmscott@dons.usfca.edu> Thu, Jun 1, 2017 at 12:14 PM
To: Beau Scott <beauscott15@gmail.com>

Sent from my iPhone

Begin forwarded message:

From: Christy Lusareta <noreply@axiommentor.com>
Date: May 31, 2017 at 8:06:48 AM PDT
To: dmscott@usfca.edu
Subject: IRB Review Not Required - IRB ID: 881
Reply-To: Christy Lusareta <calusareta@usfca.edu>

UNIVERSITY OF SAN FRANCISCO

IRB Review Not Required

To: Denton Scott
From: *Terence Patterson, IRB Chair*
Subject: Protocol #881
Date: 05/31/2017

The protocol **881. Archival Data extraction** has been reviewed by the IRB chair and found not to require further IRB review or oversight.

Please note that changes to your protocol may affect its exempt status. Please contact our office to discuss any changes you may contemplate.

Sincerely,

Terence Patterson, EdD, ABPP

Professor & Chair, Institutional Review Board for the Protection of Human Subjects

University of San Francisco

irbphs@usfca.edu

USF IRBPHS Website

Appendix D: City and County of San Francisco Department of Public Health, DPH Research Proposal Approval

City and County of San Francisco – Department of Public Health

DPH Research Proposal Approval

TITLE OF STUDY	"The effects of integrated care vs. SU treatment only on Methadone patients' use of PES Services"
Principal Investigator	Michelle J. Montagno, PsyD

Research projects that are conducted at DPH facilities, use DPH clients as participants, use DPH staff to recruit participants or supply data, or use data generated from DPH programs, require approval from DPH administration. This form must be completed by researchers who propose to perform such projects. **Researchers are strongly encouraged to receive approval prior to submitting projects for funding, as the Department cannot guarantee that it will participate in projects without preapproval.**

When completed, this form should be submitted along with applications for Institutional Review for the protection of human subjects (IRB). The completed form indicates that DPH administrators approve the proposal, pending institutional review.

By signing this form, the researcher for the study named above indicates that he or she:

a. Has received approval for the project from the appropriate program representative and divisional administrator.[1] Signatures from these DPH staff or their designees must be affixed to this form.
b. Will comply with all applicable federal and state laws and regulations relating to acquisition of any necessary client/patient prior authorizations, maintenance of the PHI, safeguarding of the confidentiality of the PHI, and use and disclosure of the PHI. Violation of state and federal laws regarding patient privacy may result in substantial monetary penalties and/or subjection to civil or criminal action pursuant to the Health Insurance Portability and Accountability Act of 1996 (HIPAA), the California Medical Information Act, the Welfare and Institutions Code, and other federal and state privacy laws.
c. Will provide a copy of the IRB application for DPH review to ensure that the treatment of research participants and data are consistent with DPH standards.
d. Will provide a copy of the IRB letter of approval to DPH prior to commencing with research. Researchers' activities in the conduct of the research will be strictly limited to conform to those specified in the approved IRB application.
e. Will inform DPH program personnel about significant alterations in the IRB protocol, including changes in key personnel.
f. Will use and disclose the PHI only for the purpose(s) identified in the approved IRB protocol, or as otherwise required by law, and for no other purpose.
g. Will use all appropriate safeguards to prevent the use and disclosure of the PHI, other than for a use or disclosure expressly permitted by approved IRB protocol.
h. Will immediately report to SFDPH and the IRB any use or disclosure of the PHI other than as expressly allowed in the IRB application or any other serious adverse events that occur to DPH clients.
i. Will ensure that, for the purposes of health care operations, if a third party (non-DPH employee) is used to analyze or review PHI, that party must also have a Business Associate Agreement in place with DPH.
j. Will ensure that its employees and representatives comply with the terms and conditions of this Agreement, and ensure that its agents, Business Associates, and subcontractors to whom Recipient provides the PHI agree to comply with the same restrictions and conditions that apply to Recipient hereunder.

City and County of San Francisco – Department of Public Health

DPH Research Proposal Approval

TITLE OF STUDY	"The effects of integrated care vs. substance use treatment only on methadone patients' use of PES services"
Principal Investigator	Michelle J. Montagno, PsyD

k. May not re-release PHI Data or share PHI learned about a patient or client to another party without prior authorization from the IRB and/or patient.

l. Will indemnify, defend, and hold SFDPH harmless from all costs and expenses (including attorney fees) that relate to a breach of Recipient's obligations.

I verify that I have read and agree to comply with all DPH policies regarding research involving DPH affiliated staff, settings, clients/patients, and data, including protected health information. I commit that this research will be conducted with approval from a duly constituted IRB.

I further agree that if references to SFDPH participation, data, or subjects are made in publications or presentations to the public, the following disclaimer will be included: "The views expressed herein do not necessarily reflect the official policies of the City and County of San Francisco; nor does mention of the San Francisco Department of Public Health imply its endorsement."

Principal Investigator		
PRINTED NAME: Michelle J Montagno	TITLE: Director & Faculty PsyD Program	
AGENCY: University of San Francisco	ADDRESS: 2130 Fulton Ave, San Francisco	PHONE: 4158677572
SIGNATURE: Michelle Montagno, PsyD	DATE SIGNED: 4/27/17	

SFDPH Program or Dataset Representative	
☑ APPROVED ☐ NOT APPROVED ☐ APPROVED, PENDING REVISIONS COMMENTS:	
PRINTED NAME: Helen Geller, PsyD	TITLE: Mental Health Program Director
AGENCY: BAART Community Healthcare	ADDRESS: 433 Turk St, SF, CA 94102
SIGNATURE: [illegible], PsyD	DATE SIGNED: 5/1/2017

City and County of San Francisco – Department of Public Health

DPH Research Proposal Approval

TITLE OF STUDY	"The effects of integrated care vs. SU treatment only on methadone patients' use of PES services"
Principal Investigator	Michelle J. Montagno, PsyD

SFDPH Administrative Representative

☑ APPROVED ☐ NOT APPROVED ☐ APPROVED, PENDING REVISIONS

COMMENTS:

PRINTED NAME: Deborah Sherwood	TITLE: Director of Quality Management	
AGENCY: SF-DPH	ADDRESS: 1380 Howard St	PHONE: 415-255-3435
SIGNATURE: [signature]	DATE SIGNED: 6/2/2017	

[1] Appropriate divisional administrator, or their designees are as follows:

1. Community Programs: Director of Community Programs designee, Director of the Office of Quality Management
2. Laguna Honda Hospital: Executive Administrator of Laguna Honda Hospital
3. San Francisco General Hospital Medical Center:
   a. For UCSF researchers: Associate Dean for SFGHMC programs, UCSF
   b. For all other SFGH researchers: Executive Administrator of SFGHMC
4. Jail Health Services: Director of Health Services
5. Population Health and Prevention: Each Section's Director

Appendix E: City and County of San Francisco Department of Public Health, DPH Health Information Data Use Agreement

City and County of San Francisco – Department of Public Health
DPH Health Information Data Use Agreement

TITLE OF STUDY	The effects of Integrated Care vs Substance use only
RECIPIENT	Dantan Beau Scott

This Agreement is entered into by and between the City and County of San Francisco Department of Public Health (**"SFDPH"**) and a Data Recipient **("Recipient")** named on **Schedule 1**, as of the Effective Date noted on **Schedule 1**.

A. SFDPH is providing certain health information regarding its patients and clients to Recipient for the purpose(s) identified in **Schedule 1**. Data sets may be provided in the following format:
   a. SFDPH DE-IDENTIFIED Health Information, or
   b. SFDPH Protected Health Information (PHI) in the form of:
      i. Full PHI Data Set
      ii. LIMITED PHI Data Set

   With the provision of that PHI, pursuant to the Health Insurance Portability and Accountability Act (HIPAA) and regulations, SFDPH is required to obtain assurances from Recipient that Recipient will only use or disclose PHI as permitted herein. The provisions of this Agreement are intended to meet the Date Use Agreement requirements of HIPAA.

B. The parties enter into this Agreement as a condition to SFDPH furnishing the health information to Recipient, and as a means of Recipient's providing assurances about use and disclosure.

NOW THEREFORE, the parties agree as follows:

1. **Definitions.** Each capitalized term used in this Agreement and not otherwise defined, shall have the meaning given it in HIPAA.

2. **Term.** This Agreement shall commence on the Effective Date and continue until terminated in accordance with Section 4 below.

3. **Recipient's Obligations for DPH Protected Health Information (PHI) Data Sets.**
   Recipient shall:
   a. Comply with all applicable federal and state laws and regulations relating to acquisition of any necessary client/patient prior authorizations, maintenance of the PHI, safeguarding of the confidentiality of the PHI, and use and disclosure of the PHI. Violation of state and federal laws regarding patient privacy may result in substantial monetary penalties and/or subjection to civil or criminal action pursuant to the Health Insurance Portability and Accountability Act of 1996 (HIPAA), the California Medical Information Act, the Welfare and Institutions Code, and other federal and state privacy laws.
   b. Use and disclose the PHI only for the purpose(s) identified in **Schedule 1**, as otherwise required by law, and for no other purpose.
   c. Use appropriate safeguards to prevent the use and disclosure of the PHI, other than for a use or disclosure expressly permitted by this Agreement.
   d. Immediately report to SFDPH any use or disclosure of the PHI other than as expressly allowed by this Agreement.
   e. For the purposes of health care operations, if a third party (non-DPH employee) is used to analyze or review PHI, that party must also have a Business Associate Agreement in place with DPH.
   f. Ensure that its employees and representatives comply with the terms and conditions of this Agreement, and ensure that its agents, Business Associates, and

City and County of San Francisco – Department of Public Health
DPH Health Information Data Use Agreement

TITLE OF STUDY	The effects of Integrated ear vs Substance use only . . .
RECIPIENT	Denton Beam Sr. H

subcontractors to whom Recipient provides the PHI agree to comply with the same restrictions and conditions that apply to Recipient hereunder.

g. Not identify or attempt to identify the information contained in the Full or LIMITED Data Set, nor contact any of the individuals whose information is contained in the Full or LIMITED Data Set.
h. Not attempt to reidentify any client for whom identifying information has been removed to create a deidentified database.
i. (For researchers) obtain IRB approval before re-releasing PHI. (For others) not re-release PHI Data Sets or share PHI learned about a patient or client to another party.
j. Not request use of or disclose more PHI than the minimum amount necessary to perform its functions pursuant to the purpose identified in **Schedule 1**.
k. Indemnify, defend, and hold SFDPH harmless from all costs and expenses (including attorney fees) that relate to a breach of Recipient's obligations.
l. "Activity Preparatory to Research" includes access to PHI for purposes of preparing a protocol or grant or to determine the size of the research pool, etc.
    i. Researchers outside the DPH Safety Net: Not use PHI for activities preparatory to research without IRB waiver of informed consent.
    ii. DPH Safety Net[1] researchers may if all of the following conditions are met:
        1. The use or disclosure is sought solely to review PHI as necessary to prepare for research or grant;
        2. The researcher meets the requirements set forth in the DPH Electronic Data Security policies[2] if, in the course of the review, PHI is removed from the premises from which it is obtained,
        3. The PHI will not be further disclosed by the researcher without obtaining prior IRB approval; and
        4. The researcher has provided a written representation with respect to the foregoing conditions and attaches to **Schedule 1**.

4. **Termination.**
    a. SFDPH may terminate this Agreement without cause at any time.
    b. Return or destruction of Protected Health Information (PHI) Data Sets, whether full or LIMITED:
        i. Upon Completion, Recipient shall return or destroy the PHI data sets received from SFDPH on the completion date on **Schedule 1**. If destroyed, Recipient shall notify DPH. If IRB approval stipulates retention of research data beyond the completion of the study, Recipient shall continue the protections required under this Agreement for the PHI consistent with the requirements of this Agreement and applicable HIPAA privacy standards during the time period.
        ii. Violations. If Recipient violates or breaches any material term or condition of this Agreement, SFDPH may terminate this Agreement and any disclosures of PHI data sets identified in **Schedule 1** immediately. Recipient agrees to return or destroy all PHI contained in the Data Set received from SFDPH within 10 business days of notice. If destroyed, Recipient shall notify DPH.

[1] DPH Safety Net Providers are listed at http://www.sfdph.org/dph/comupg/oservices/medSvs/HIPAA/
[2] DPH Data Security Policies are located at http://www.sfdph.org/dph/comupg/healthliv/yourRights/

City and County of San Francisco – Department of Public Health
DPH Health Information Data Use Agreement

TITLE OF STUDY	The effects of Integrated care vs Substance use only
RECIPIENT	Denton Bean Scott

iii. Ceasing To Do Business. If Recipient ceases to do business or otherwise terminates its relationship with SFDPH, Recipient agrees to return or destroy all PHI contained in the Data Set received from SFDPH within 10 business days. If destroyed, Recipient shall notify DPH.

5. **Governing Law and Venue**. This Agreement shall be governed by the laws of the State of California. Venue for any claim, action or suit, whether state or federal, between Recipient and SFDPH, shall be the City and County of San Francisco, California.

City and County of San Francisco – Department of Public Health
DPH Health Information Data Use Agreement

TITLE OF STUDY	-the effects of Integrated Care vs Substance Use only
RECIPIENT	Denton Bean Scott

IN WITNESS WHEREOF, the parties have executed this Agreement effective on the approval date by the SFDPH Administrative Representative.

Recipient

PRINTED NAME: Denton Bean Scott	TITLE: Intern Counselor
AGENCY: BAART	ADDRESS: 433 Turk st, SF, CA 94102
SIGNATURE: D. B. Scott	DATE SIGNED: 6/6/17

SFDPH Data Set Representative

☒ APPROVED ☐ NOT APPROVED ☐ APPROVED, PENDING REVISIONS
COMMENTS:

PRINTED NAME: Helen Gedlter, PsyD	TITLE: Program Director, 38J80P
AGENCY: BAART Community Healthcare	ADDRESS: 433 Turk St, SF, CA 94102
SIGNATURE: , PsyD	DATE SIGNED: 6/5/17

SFDPH Administrative Representative

☒ APPROVED ☐ NOT APPROVED ☐ APPROVED, PENDING REVISIONS
COMMENTS:

PRINTED NAME: Deborah Sherwood	TITLE: Director of Quality Management
AGENCY: SFDPH	ADDRESS: 1380 Howard St, SF, CA 94103
SIGNATURE:	DATE SIGNED: 7/6/17

City and County of San Francisco – Department of Public Health
DPH Health Information Data Use Agreement

TITLE OF STUDY	The effects of integrated care vs substance use only. . .
RECIPIENT	Denton Beam Scott

EFECTIVE DATE 6-6-17		TERMINATION DATE 6-6-18		**Schedule 1**
DATA RECIPIENT (Individual completes this form)	FULL NAME	Denton Beam Scott		
	TITLE	intern MH counselor		
	AGENCY	BEART		DPH Safety Net? ☐ YES ☐ NO
	ADDRESS	433 Turk St SF, CA 94102		
	PHONE	(415) 928-7800	EMAIL bscott@beartprogram.com	
PURPOSE OF DISCLOSURE	☐ HEALTH CARE OPERATIONS ☑ RESEARCH ☐ ACTIVITY PREPARATORY TO RESEARCH ☐ STUDENT (other than dissertations)			
	TITLE OF STUDY	The effects of integrated care vs substance use only		
	PURPOSE OF STUDY	To identify the benefits of MH Counseling at Methadone Clinic		If PHI...Informed Consent Obtained? ☐ YES ☐ NO
	IF RESEARCH	PRINCIPAL INVESTIGATOR NAME	Dr. Michelle Montagno	
		IRB # (Attach documents)		Authorization waived by IRB? ☒ YES ☐ NO
		SPONSOR		
DATA SOURCE	DATABASE NAME	Avatar + Methasoft		
	MED REC NAME			
	OTHER			

DATA REQUESTED	DATASET CATEGORY	PROTECTED HEALTH INFORMATION ☐ FULL ID	PROTECTED HEALTH INFORMATION ☐ LIMITED ID	☒ DE-IDENTIFIED HEALTH INFORMATION
	NAME	☐	NO NAMES	NO NAMES
	IDENTIFIABLE NUMBERS	☐	Any other unique identifying number or code that is not expressly listed under De-Identified Dataset.	NO SS#, MR#, Health Plan Beneficiary #, Account #, Certificate & License #, Vehicle ID #, Device ID #, Serial #, URLs and IP addresses, biometric identifiers, identifiable photographs, or any other unique identifiers. *
	ADDRESS	☐	NO Telephone, Fax, Email ☐ Geographic Destinations above the Street Level or PO Box **	NO Telephone, Fax, Email NO geographic designations smaller than a state (except for the initial three digits of zip codes if the first three digits cover an area having more than 20,000 people) **
	DEMOGRAPHICS	☐	☐	NO DATES OF BIRTH OR DEATH (years are okay) and NO AGE over 89 (although all persons over 89 may be aggregated into a single category) ** ☐ All Other Demographics
	OTHER (LIST DATA TYPES REQUESTED)	Attached		☐ Must Exclude Dates (years are okay) **

* DPH may code the identifiers prior to accessing and releasing the data. The code must not be derived from any information about the patient, such as a record number or SS#. No means of re-identification may be disclosed with the de-identified information or subsequent to its analysis.

** DPH may have a qualified statistician determine that the risk is very small that the identifiers present could be used alone, or in combination with other available information, to identify the patient. The statistician must be knowledgeable and experienced with accepted methods for rendering information non-individually identifiable, and must document the methods and results of the analysis that justifies the conclusion of very small risk. The HIPAA covered entity must keep this documentation for six years.

City and County of San Francisco – Department of Public Health
DPH Health Information Data Use Agreement

TITLE OF STUDY	The effects of Integrated Care vs Substance use . . . .
RECIPIENT	Damon Beam Scott

Instructions – Data Use Agreement and Schedule 1

1. **Data Recipient**:
   a. Completes Schedule 1
   b. Completes and signs "Recipient" box on last page of the Data Use Agreement
   c. Sends the completed forms to the DPH Data Set Representative assigned to the data set being requested.

2. **DPH Data Set Representative**:
   Completes and signs "Data Set Representative" box on last page of the Data Use Agreement
   a. If "**Approved**":
      i. Sends the completed forms to the DPH Administrative Representative assigned to the Division within which the DPH data resides
   b. If "**Approved, Pending Revisions**":
      i. Notes the revisions needed in Comments section
      ii. Files copy and returns original to Data Recipient
      iii. If desired, Data Recipient revises Schedule 1 and revises and submits a new Data Use Agreement
   c. If "**Not Approved**":
      i. Notes the reasons in the Comments section
      ii. Files copy and returns original to Data Recipient

3. **DPH Administrative Representative**:
   Completes and signs "Data Set Representative" box on last page of the Data Use Agreement
   a. If "**Approved**":
      i. Copies and sends the completed forms to the Data Set Representative and the Data Recipient
   b. If "**Approved, Pending Revisions**":
      i. Notes the revisions needed
      ii. Files copy and returns original to Data Set Representative and Data Recipient
      iii. If desired, Data Recipient revises Schedule 1 and revises and submits a new Data Use Agreement
   c. If "**Not Approved**":
      i. Notes the reasons
      ii. Files copy and returns original to Data Set Representative and Data Recipient