UNIVERSITY OF CALIFORNIA SAN DIEGO

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# The Affordable Care Act, Substance Use Disorder Treatment, and Opioid Overdoses in Southern California: A Multiple Perspective Approach

A dissertation submitted in partial satisfaction of the requirement for the degree Doctor in Philosophy

in

Interdisciplinary Research on Substance Use

by

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The Dissertation of Sarah Elizabeth Clingan is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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## DEDICATION

I dedicate this dissertation to my mother Beverly Clingan, who died two years ago, as I was contemplating my dissertation topic. I would not be where I am today if it was not for my mother. My mother was my biggest supporter. She always believed in me even when I did not believe in myself. She was my life raft when I was in the middle of the sea, unable to swim to shore. My mother stood by my side during the darkest times of my life, and her love kept me going when hope seemed lost. Thank you, mom, for being the invisible light, that strengthens my might, as I walk toward the finish line.

## TABLE OF CONTENTS

## LIST OF FIGURES

## LIST OF TABLES

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Chapter 3 is currently being prepared for submission for publication as: Clingan S.E., Davidson P.J. Patient brokering in substance use treatment: a qualitative study with people who misuse opioids and professionals in the field. Sarah Clingan was the primary investigator and author of this paper.

Chapter 4 is currently being prepared for submission for publication as: Clingan S.E., Gaines T.L., Woodruff S.I., Davidson P.J. Correlates of non-fatal opioid overdose among a suburban/exurban opioid-using population. Sarah Clingan was the primary investigator and author of this paper.

# VITA AND PUBLICATIONS

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## PUBLICATIONS

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1. **Clingan S.E.,** Fisher D.G., Hardan-Khalil K., Reynolds G.L., Huckabay L., Costa C., Pedersen W.C., Hohnson M.E. (2019). Health implications of sex trader characteristics in Long Beach California, USA. *International Journal of STD and AIDS*. doi: 10.1177/0956462419828138

2. **Clingan S.E.,** & Woodruff S.I. (2017). Drug-avoidance self-efficacy among exclusive cannabis users vs. other drug users visiting the emergency department. *Substance Use and Misuse,* 52(9), 1240-1246. doi:10.1080/10826084.2017.1305412

3. Shirvani M., Reed M.B., & **Clingan S.E.** (2017). The relationship between emerging adult alcohol consumption and military enlistment. *Military Medicine*, 182(9), e1731-e1737. doi:10.7205/MILMED-D-16-00312

4. **Clingan S.E.,** Fisher D.G., Pedersen W.C., Reynolds G.L., & Xandre P. (2016). Impulsiveness, and trait displaced aggression among drug using female sex traders. *Addictive Behaviors*, 6024-31. doi:10.1016/j.addbeh.2016.03.027

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1. **Clingan S.E.,** Fisher D.G., Reynolds G.L, Janson M.A., Rannalli D.A., & Huckabay L. (2019) Survival sex trading in Los Angeles County, California, USA. *Journal of Sex Research*. Under review.

## ABSTRACT OF THE DISSERTATION

The Affordable Care Act, Substance Use Disorder Treatment, and Opioid Overdoses in Southern California: A Multiple Perspective Approach

by

Sarah Elizabeth Clingan

Doctor in Philosophy in Interdisciplinary Research on Substance Use

University of California San Diego, 2019
San Diego State University, 2019

Professor Peter J. Davidson, Chair
Professor Susan I. Woodruff, Co-Chair

**Background:** More than 70,000 people died in the United States in 2017 as a result of a drug-related overdose. Among those who died, 46,600 died from the use of an opioid. While several policies have been enacted to reduce the harms caused by drug use, by increasing access to substance use disorder (SUD) treatment, little is known about how these policies have transformed the SUD treatment industry.

**Aims:** (1) determine the effectiveness of the ACA at addressing SUD related issues using a policy analysis approach (2) qualitatively investigate how changes in healthcare policy have negatively impacted substance use treatment services and caused abuses in the treatment industry, and (3) quantitatively analyze factors associated with non-fatal opioid overdose among a suburban/exurban opioid-using population in Southern California.

**Methods:** Professionals in the addiction field (Chapter 2 and 3; $n$ = 20), people who misuse opioids (PWMO) who attended SUD treatment (Chapter 3; $n$ = 20), and PWMO (Chapter 4; $n$ = 355) were interviewed. Thematic data analysis was conducted in Chapter 2, a grounded theory approach to data analysis was conducted in Chapter 3, and a logistic regression analysis was conducted on non-fatal opioid overdose and its association with SUD treatment in Chapter 4.

**Results:** In Chapter 2, five themes were reported: 1) effectiveness of the ACA for the treatment of an SUD, 2) unintended effects of the policy, 3) effect of the policy on different groups, 4) medication-assisted treatment, 5) and solution to the problem. In Chapter 3, four themes emerged:1) patient brokering, 2) financial enticements, 3) drug use to get into treatment and, 4) opioid overdose risk. In Chapter 4, first using an opioid drug by non-oral methods, methadone detox, buprenorphine detox, and 12 step attendance were found to be positively associated with lifetime non-fatal opioid overdose.

**Conclusions:** While the ACA has increased access to SUD treatment, the unethical and sometimes illegal practices in the SUD treatment environment may have decreased its effectiveness. Furthermore, some types of SUD treatment may increase the risk of an overdose. This dissertation is an important contribution to the field because it will inform future policy decisions.

# CHAPTER 1: INTRODUCTION

## OVERVIEW

I worked in the substance use disorder (SUD) treatment industry during the beginning stages of the Affordable Care Act (ACA). The ACA was passed in 2010, and I left the industry to start my Ph.D. in 2015. I initially expected behavioral health parity and the ACA to have only positive effects for people seeking treatment because it put SUD treatment on par with medical treatment. Furthermore, I was hopeful that these changes in healthcare policy would decrease rates of overdose because access to SUD treatment would be increased for people who misuse opioids (PWMO). However, my first observations of the effects of behavioral health parity and the ACA on SUD treatment were mostly negative, and I suspected the lack of regulation and the overall treatment environment had something to do with it. Specifically, I observed providers engaging in unethical and possibly illegal conduct after the ACA was enacted. For instance, some providers would incentivize people seeking treatment in outpatient settings with housing (e.g. sober living). The practice unfairly encourages patients to attend programs that offer free housing over other programs and is a type of inducement that was unethical and is now illegal.[1] I also became aware of a practice where treatment providers would overbill insurance for multiple and unnecessary urinalysis screening in an effort to increase profit. Furthermore, I heard of multiple reports of people overdosing when they were in SUD treatment or soon after leaving SUD treatment. One of the biggest risk factors for overdose is a rapid change in tolerance from being incarcerated or in abstinence-based treatment,[2,3] and I suspected these changes in tolerance along with improper care in SUD treatment had something to do with the reported opioid overdoses reported locally.

These personal experiences and observations made me think about the interaction of the ACA and problems in the treatment industry. I noticed that the ACA impacted SUD treatment in profound ways that were both positive and negative. Behavioral health parity and the ACA increased access to SUD treatment for people in need, but bad actors in the SUD treatment field emerged as the outflow of money increased from the ACA into the industry. In addition, opioid overdoses were on the rise,[4] and the connection between opioid overdoses and unethical practices in SUD treatment had not been considered. Furthermore, most of the research that had been conducted in the area was narrow in scope and focused solely on the positive aspects of behavioral health parity and the ACA.

Behavioral health parity and the ACA were expected to have primarily positive effects for people who misuse drugs (PWMD), and most of the research that has been conducted has focused on confirming those assumptions. For instance, studies have shown that the ACA has increased rates of insurance and increased access to care for PWMD.[5,6] However, research in the area has not been conducted on the possible negative effects of the ACA for PWMD. Furthermore, most reports of unethical and illegal conduct in SUD treatment have been reported in journalism formats[7] and only one academic study reported on the emerging of unethical practices in SUD treatment when assessing barriers to care.[8] The limited research in the area, along with my personal observations made me come to a central question that I wanted to answer. Broadly, I wanted to understand the negative impact of SUD treatment on the opioid epidemic and how healthcare policy might have impacted SUD treatment services as a whole.

In order to answer my question and add new knowledge to the field, I created three specific aims. The aims of the dissertation are to (1) determine the effectiveness of the ACA

at addressing SUD related issues using a policy analysis approach, (2) qualitatively investigate how changes in healthcare policy may have negatively impacted substance use treatment services and caused abuses in the treatment industry, and (3) quantitatively analyze non-fatal opioid overdose and its association with SUD treatment among a suburban/exurban opioid-using population in Southern California.

To meet the aims for the dissertation, I conducted a thematic analysis drawn from 20 interviews with professionals in the addiction field (Aim 1), used a grounded theory approach to data analysis with data drawn from 20 professionals in the SUD treatment field, and 20 PWMO who have attended substance use treatment (Aim 2), and applied a logistic regression analysis to assess factors (e.g. addiction treatment, age at first use) associated with non-fatal opioid overdose (Aim 3). This dissertation will shed light on how healthcare policies have transformed substance use treatment and how the unintended effects of healthcare policy have harmed PWMD seeking substance use treatment. The results from the dissertation has implications for policy reform and future research in the area of substance use treatment.

This dissertation follows a three-paper dissertation format. In Chapter 2, there is a stand-alone paper that addresses aim 1 and is titled, The Affordable Care Act and Substance Use Disorder Treatment in Southern California: A Qualitative Policy Analysis with Professionals in the Field. Chapter 2 primarily looks at how behavioral health parity and the ACA impacted SUD treatment. As the sole author of Chapter 2, I devised the project, collected the data, transcribed the data, analyzed the data, and wrote the manuscript. Dr. Peter Davidson provided feedback at each stage of the process in order to identify potential biases and to provide research guidance. In Chapter 3 there is a stand-alone paper that addresses aim 2 and is titled, Patient Brokering in Substance Use Disorder Treatment: A Qualitative Study

with People Who Use Opioids and Professionals in the Field. Chapter 3 primarily looks at unethical and illegal practices in the SUD treatment industry. As first author I devised the project, collected the data, transcribed most of the interviews, analyzed the data and wrote the manuscript. The second author Dr. Peter Davidson provided critical feedback from the beginning of the project till the end. In Chapter 4 there is a stand-alone paper that addresses aim 3 and is titled Correlates of Non-Fatal Opioid Overdose Among a Suburban/Exurban Opioid Using Population. Chapter 4 looks at the relationship between drug treatment and opioid overdoses. Chapter 4 used data from an existing study. As first author, I helped collect the data, analyzed the data in consultation with authors 2 and 3, and wrote the manuscript. Author 2, Dr. Tommi Gaines transformed some of the variables for analyses and provided critical feedback. Author 3, Dr. Susan Woodruff encouraged further quantitative analyses and provided critical feedback on the manuscript. Author 4, Dr. Peter Davidson was the Principal Investigator on the study and provided critical feedback on the manuscript.

## BACKGROUND

There are seven basic things that need to be explained to understand why the dissertation topic is important and to understand why original research needed to be conducted. First, I am going to explain the extent of SUDs and illicit drug use in the United States. Then I am going to define SUD treatment and discuss different types of evidence-based approaches for the treatment of an SUD. Next, I am going to discuss the laws related to SUD treatment. Then I am going to discuss unethical practices in SUD treatment. Next, I am going to discuss risk factors for opioid overdoses. Finally, I will discuss behavioral health parity, the ACA, and the Drug Medi-Cal program in California. These topics will provide an overview of literature in the area and will provide context for the dissertation.

**Substance Use Disorders and Illicit Drug Use in the United States**

Substance misuse can be costly to society and negatively impact individuals, families, and communities.[9,10] For instance, substance misuse is estimated to cost society $442 billion each year in lost productivity, health care costs, and crime.[11,12] Substance misuse and having an SUD differ in that substance misuse is often characterized as using drugs that are illegal or not in line with medical guidelines (e.g. opioid use without a prescription). Whereas an SUD occurs when continued drug use or alcohol use causes clinically significant impairment in one's life.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) defines an SUD by 11 criteria that are divided into four categories of behavior and are as follows: impaired control, social impairment, risky use, and pharmacological indicators (e.g. tolerance and withdrawal). The severity of an SUD is assessed from the 11 criteria and require that a person meet at least two of the criteria in a 12-month period to be classified as having a mild SUD. If a person meets four or five criteria then they would be considered to have a moderate SUD, and if they meet six or more of the criteria than they would be defined as having a severe SUD.[13] For instance, if a person had health problems and was unable to meet their responsibilities at home or work they would be considered to have a mild SUD. However, these distinctions are not always defined in the literature, and the terminology for drug use, misuse and having an OUD is often used interchangeably.

Millions of Americans suffer from an SUD that negatively affects their life. According to the National Survey on Drug Use and Health (NSDUH), 20.3 million Americans aged 12 or over had an SUD in 2018 that were related to illicit drug misuse or alcohol misuse (NSDUH uses the DSM to categorize those who have a SUD). Among those with an SUD, 14.8 million

struggled with an alcohol use disorder, and 8.1 million struggled with an illicit drug use disorder. Opioid use contributed to 10% of those with a SUD. For instance, 1.7 million Americans had an SUD related to their use of prescription pain relievers, and another 0.5 million Americans had an SUD related to their use of heroin in 2018.[14]

Data on the misuse of substances show that 3.6% of the United States population misused a prescription pain reliever in 2018. While opioid misuse seems to be stabilizing, the number of Americans who misused an opioid in 2018 was still considerable. For instance, 10.3 million Americans reported past-year misuse of an opioid with 9.9 reporting prescription pain reliever misuse and 808,000 reporting heroin misuse, in 2018. Tranquilizer or sedative misuse (6.5 million), cocaine or crack misuse (5.5 million), and methamphetamine misuse (1.9 million) have remained somewhat stable from 2017 to 2018, but still represents a large portion of the drugs misused in the United States. However, note these estimates do not account for polydrug misuse.

**Substance Use Treatment and Use of Evidence-Based Services**

There are many forms of SUD treatment, but the most common three types of treatment approaches are 12-step abstinent based, cognitive-behavioral, and medication-assisted treatment (MAT). Furthermore, these different approaches can be used together or independently and can take place in a variety of treatment settings (e.g. residential, outpatient). One of the most common psychosocial interventions used in SUD treatment is 12-step abstinence-based. The 12-step approach is popular and most often used because many of the people who provide treatment are in recovery themselves and used a 12-step based approach when they received assistance for their SUD. However, there is not strong support for the use of 12-step abstinence-based approaches,[15,16] and other treatment approaches may

be more appropriate. For example, cognitive-behavioral evidence-based approaches have a strong evidence base for thier use.[17] However, the use of cognitive-behavioral evidence-based approached in the SUD treatment sector is limited.[18,19]

MAT has been shown to be most effective for people who have an opiate use disorder (OUD). Specifically, methadone and buprenorphine maintenance treatment has been shown to reduce illicit opioid use, decrease craving, improve social functioning, and increase retention in treatment.[20,21] The use of methadone and buprenorphine for detox only has shown to be less effective than the use of methadone and buprenorphine for maintenance.[21] Methadone detox treatment is often provided for 21 days or less,[22] while buprenorphine detox treatment is provided for seven days or less. Buprenorphine detox treatment is provided in a shorter duration because buprenorphine detox treatment has been shown to resolve withdrawal symptoms more quickly than methadone detox treatment.[23] In comparison to methadone and buprenorphine detox treatment, methadone and buprenorphine maintenance treatment is administered over a prolonged period of time and is not used solely for the purpose of detoxing from opioids.

Another popular form of MAT is oral naltrexone or injectable Vivitrol (naltrexone in injection form). Naltrexone, a non-opioid form of MAT, tends to have more support for its use in abstinence-based forms of treatment but lacks strong evidence for its use for the treatment of an OUD.[20,24] For the purpose of the dissertation, methadone maintenance, buprenorphine maintenance, cognitive-behavior therapy, will be classified as evidence-based forms of treatment, while 12-step, naltrexone, methadone detox, and buprenorphine detox will be classified as non-evidence based forms of treatment.

A combination of evidence-based psychosocial and MAT are most effective,[25,26] but the adoption and implementation of MAT in SUD treatment sector has been slow.[27,28] For example, a study published in 2011 conducted 345 face-to-face interviews with a nationally represented sample of administrators from privately funded treatment centers located throughout the United States. The study was conducted to assess the adoption and implementation of medication in the privately funded treatment sector. When only assessing programs that had access to physicians, the researchers found that MAT was used in less than half of privately funded treatment. In private treatment centers that offered MAT, only 34.4% of patients received the services.[28]

**Substance Use Disorder Regulation and Recently Legislation**

In California, the laws and regulations for SUD treatment providers have historically been lenient in comparison to other states and have contributed to the unethical practices in the SUD sector. However, in an attempt to address these issues, several laws were passed in 2018. For instance, Senate Bill 823 was passed and signed by Governor Brown in September of 2018, and the bill requires licensed SUD treatment programs in California to adopt the American Society of Addiction Medicine treatment criteria as the minimal standard of care.[29] However, the bill does not go into effect until 2023 and only includes licensed SUD treatment programs. Currently in the state of California, anyone can run an unlicensed outpatient treatment program or sober living facility, and the current laws do not mandate that they become licensed or provide evidence-based care.

## Unethical Practices in the Substance Use Disorder Industry

It is well known among those who work in SUD treatment that unethical and illegal practices have increased in recent years. Insurance fraud, overbilling, excess urine screening for profit, signing patients up for insurance through the ACA marketplace, and patient brokering are some of the unethical and illegal practices that have been reported.[8,30,31] Patient brokering (also called body brokering) can be defined as unlawful payment to an individual or business for the referral of a patient and is considered unethical because patient brokers often "sell" treatment-seeking individuals to the highest bidder. For instance, patient brokers will direct people who are seeking treatment to SUD programs that offer the biggest "referral" and often do not direct people seeking treatment to programs that offer the best services.

Patient brokering is considered unethical but were not illegal until recently.[1,32] However, unethical and illegal behaviors are still being reported,[33] and the negative impact of those practices on people who attended SUD treatment is unknown. Furthermore, some have speculated that patient brokering has increased opioid overdoses and that unethical conduct in the SUD treatment field has harmed people with an SUD who have attended treatment.[34]

## Risk Factors for an Overdose in the Context of SUD Drug Treatment

More than 130 people die every day in the United States from an opioid overdose, and the driving force behind recent opioid overdoses is the use of synthetic opioids (e.g. fentanyl).[35] Several factors can increase or decrease the likelihood of a PWMO from experiencing an opioid overdose. For instance, injection drug use has been well established as a risk factor for an opioid overdose.[36-38] Furthermore, the risk for an opioid overdose is greatest soon after being released from abstinence-based substance use treatment or jail.[3,38,39] Reduced tolerance and subsequent opioid use after leaving treatment or jail are likely

responsible for these findings.[2] In addition, long-term adherence to MAT has been shown to reduce the risk of an opioid overdose.[40] In comparison, detox treatment alone increases the risk of an opioid overdose.[41]

**Behavioral Health Parity and the ACA**

Congress enacted the Paul Wellstone and Pete Domenici Mental Health Parity and Addictions Equity Act (MHPAEA) in October of 2008. MHPAEA requires that substance use and mental health benefits are no more restrictive than medical and surgical benefits. Prior to the passage of MHPAEA, a majority of people with employer-sponsored health insurance had special limits placed on their inpatient and outpatient behavioral health coverage.[42] The ACA was enacted soon after MHPAEA. The ACA increased healthcare access to millions of Americans, in part, by expanding the individual healthcare market and by expanding Medicaid.[43] The combination of MHPAEA and the ACA have improved rates of substance use treatment, and reduced barriers to care.[5]

**Drug Medi-Cal Organized Delivery System**

The Drug Medi-Cal Organized Delivery System (DMC-ODS) is a voluntary pilot program that was created to provide greater access to substance use treatment for Californians who have Medi-Cal insurance while reducing costs. The DMC-ODS uses a continuum of care model based on the American Society of Addiction Medicine criteria in order to reduce waitlist and decrease barriers to care. Furthermore, the DMC-ODS gives each county control over how the program is implemented. Each county serves as a managed care plan for SUD treatment services and is responsible for making sure proper care is being provided to their Medi-Cal beneficiaries. The DMC-ODS program also mandates that counties provide

evidence-based services, including MAT.[44] The DMC-ODS started providing services in 2017, and as of July of 2018, 40 counties out of 58 counties were either providing services or were preparing to provide services.[45] The DMC-ODS is the first program in the nation to implement a program of this kind, but 12 other states have been approved to carry out similar programs.[46]

### Study Setting

The dissertation research was conducted in Southern California for several reasons. One, opioid overdose deaths have risen 16% in the State (from 2016 to 2018), and Orange County and San Diego County have higher opioid overdose rates than the state average.[47] Secondly, unethical and illegal conduct may be more pronounced in the treatment industry in Southern California.[33] Thirdly, California started providing services under the DMC-ODS in 2017, giving us a unique opportunity to understand how changes in public health care have effected SUD treatment services.

## CONCEPTUAL FRAMEWORK

Morestin's framework for analyzing public policies[48] (Figure 1.1), the social-ecological model (SEM),[49] and the treatment careers perspective[50] were used to conceptually organize the dissertation and to provide structure to the theories and hypotheses underlining the research. For instance, I needed to understand how behavioral health parity and the ACA affected people with an SUD and how the policy positively or negatively impacted those they serve. After reading literature in the area of policy analysis, I chose Morestin's framework to provide a structured process to help me analyze how behavioral health parity and the ACA has impacted SUD treatment services. In addition, I needed a framework that helped me

conceptualize the multiple factors that impact the opioid overdose epidemic. The SEM fit this need and was utilized throughout the dissertation process. Initially, I started with two frameworks, but as I analyzed the data, I realized I needed a framework or perspective that conceptualized treatment as an ongoing process and not a single episode of care. After reading the literature in the area of SUD treatment and conceptual models, I found the treatment careers perspective and included it with my other two frameworks. In the following paragraphs, I provide an in-depth explanation of each of the frameworks that were used for my dissertation.

Morestin's framework for analyzing public policies is an analytical framework that integrates concerns of policymakers within a public health perspective. Morestin's framework is useful for analyzing public policies that have already been implemented and can be used to identify weaknesses in public policy so that they can be corrected.[48] In Morestin's framework, there are three dimensions for analyzing the effects of a public policy and are as follows: the effectiveness of a policy, the possible unintended effects of a policy, and the impact of the policy on different groups (defined as equity). For example, effectiveness addresses the effect the policy has on the targeted health problem. In healthy public policies, we would see the policy achieving its objective. For example, one might expect that increased coverage for substance use treatment would lead to a reduction in harms caused by drug use and a reduction in opioid overdoses. Unintended effects of the policy are effects that were not intended by the policy but are a direct result of the policy and can be positive or negative. Finally, equity determines if the policy has different effects on different groups.

However, it is hard to judge the ultimate effect of a policy on the target problem because it is hard to prove a cause and effect relationship that has several influencing factors.

Therefore, it is important to take into account the intermediate effects that influence the ultimate effect on the problem. In doing so, the expected chain of events between the public policy (behavioral health parity and the ACA) and the target problem (e.g. harms caused by drug use, opioid overdoses) can be analyzed. A useful tool to visualize the expected chain of events between the public policy and the targeted problem is with a logic model. As shown in Figure 1.2, a logic model was adapted from Morestin's framework and demonstrate the expected intermediate effects of the policy on the ultimate effect on the problem. The logic model also makes it possible to identify events in the chain that do not function well and negatively influence the ultimate effect on the target problem. For instance, changes in healthcare policy should lead to increased access to SUD treatment, and more access to SUD treatment should lead to a reduction in the harms caused by drug misuse (e.g. opioid overdoses). However, if SUD treatment providers fail to provide adequate care, the ultimate effect on the target problem will be negatively affected. By using Morestin's framework and constructing a logic model, the unintended effects can be identified. For the purpose of the dissertation and specifically for aim 1, Morestin's framework was used to analyze behavioral health parity and the ACA effects on the harms caused by drug use (e.g. opioid overdoses) by focusing on the intermediate effects of the policy (e.g. treatment utilization, treatment quality, adoption and acceptance of MAT). In other words, Morestin's framework was used to analyze how behavioral health parity and the ACA impacted SUD treatment services (intermediate effects of the policy).

The SEM is useful for explaining complex problems that result from multiple and interacting factors. Furthermore, distal and proximal variables, as described in the SEM, are thought to influence opioid use patterns and factors that increase the risk for an opiate

overdose. The foundation of the SEM is based on Bronfenbrenner's work in child development in which a series of interrelated systems are assumed to affect individual behavior,[49,51] and the SEM has been widely used to explain and improve a variety of health behaviors including HIV risks,[52] physical activity and nutrition,[53] and interpersonal violence.[54] Minnesota recently applied the SEM to describe the multilevel influences on the opioid overdose crisis in their area.[55]

The SEM takes into consideration a person's complete environment and includes the following levels: policy, community, organizational, interpersonal, and individual. For the purpose of the dissertation, the SEM was used to guide research questions and provide a broad framework for understanding how multiple interrelated factors influence a person's risk for an opioid overdose. For instance, policy level determinates such as behavioral health parity and ACA interact with other levels (e.g. community) in the SEM to affect a person's risk for an opioid overdose (Aim 1). Furthermore, organizational level determinates of the SEM (e.g. treatment culture) interact with interpersonal level determinates (e.g. patient brokering) and individual level determinates (e.g. treatment attempts, addiction severity) to influence opioid overdose risk (Aim 2). Specifically, treatment culture can impact ethical norms in SUD treatment (e.g. patient brokering) and can further interact with an individual's level of motivation for treatment to increase opioid overdose risk (Aim 2). In addition, how many times a person has been in treatment or the type of treatment they have attended (e.g. individual) can interact with other levels in the SEM (e.g. organizational) to affect a person's risk for an opioid overdose. For example, having greater insurance coverage could lead to more treatment attempts, and the type of treatment attended could affect overdose risk (Aim 3).

The treatment careers perspective was proposed in 1997 by Hser and colleagues at the University of California, Los Angeles. The treatment careers perspective applies a longitudinal approach to understand the factors that impact drug dependence and the course of its treatment among persons who have an SUD.[50] Oftentimes, drug use increases in intensity and escalates to more severe levels, and persons with an SUD cycle through abstinence, to returned drug use, back to abstinence, over prolonged periods of time. These processes have been described as a drug use career.[56,57] Similarly, people with an SUD cycle through periods of SUD treatment, abstinence, and return to drug use, which can be defined as a treatment career. Because people with an SUD often attend treatment multiple times and cycle through periods of abstinence and returned to drug use,[58] a longitudinal approach is useful for understanding the complex interaction between drug misuse and treatment.

The treatment careers perspective also posits that motivation levels to stay abstinent or to reduce drug use will vary depending on "where a person is at" in terms of their treatment career (e.g. just started going to treatment or been to treatment multiple times) and these different motivation levels can affect treatment outcomes (e.g. abstinence).[50] For example, motivation to remain abstinent at later stages in a person's treatment career may be different than their motivation to remain abstinent early on in their treatment career, and their first encounter in treatment may determine their later willingness to enter into treatment again. For instance, prior research has shown that successful prior experiences with treatment (e.g. abstinence for more than three months) increase the likelihood of subsequent treatment entry within a six month follow up period compared to no subsequent treatment entry within a six month follow up period.[59] Furthermore, the treatment careers perspective postulates that treatment use will be related to SUD severity. For instance, research conducted to support the

use of the treatment careers perspective has shown that higher SUD treatment use (more times in treatment) is associated with more severe dependence career characteristics. (e.g. HIV risk behaviors, years of heroin use, number of drugs used).[60]

Several studies have used a drug treatment careers perspective to examine SUD treatment processes.[61,62] For the purpose of the dissertation, the treatment careers perspective was useful for conceptualizing how multiple treatment episodes and motivation levels affect treatment outcomes and subsequent overdose risk after leaving treatment in aim 2 and 3. Furthermore, the treatment careers perspective was useful for understanding how times in treatment and types of treatment attended interact with drug use severity in aim 3.

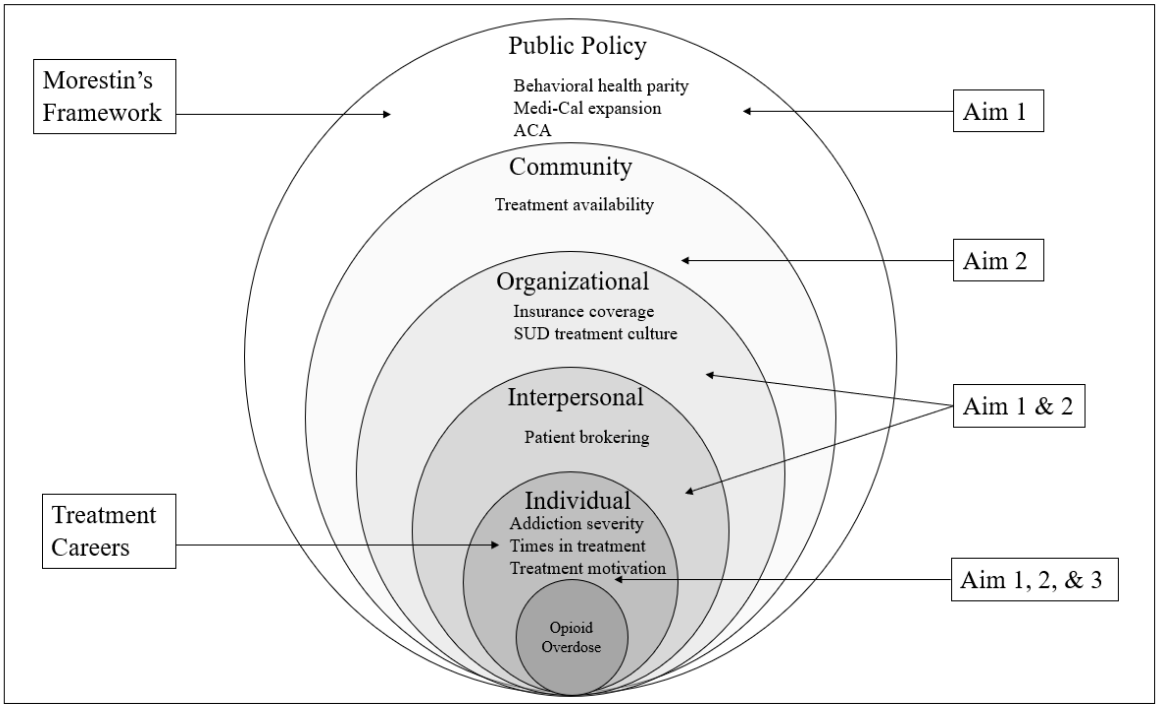


**Figure 1.1: The Social-Ecological Model Applied to the Dissertation**

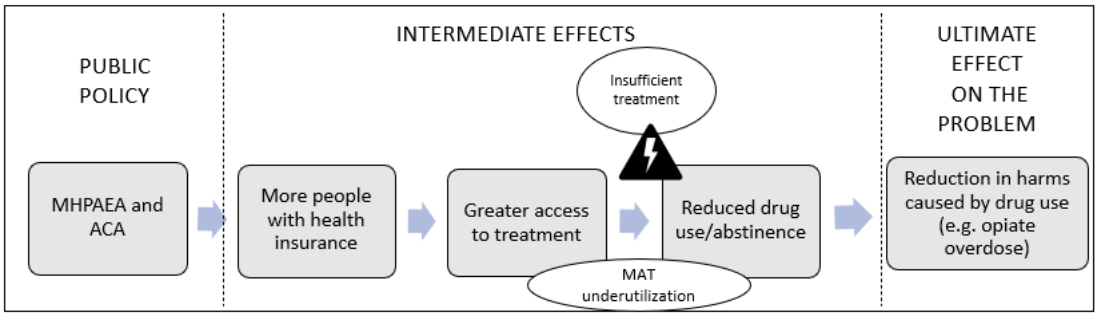


**Figure 1.2: Public policy logic model applied to behavioral health parity and the ACA**

## AIMS AND HYPOTHESES

I wanted to understand the negative impact of SUD treatment on the opioid epidemic and how healthcare policy might have impacted SUD treatment services. In order to accomplish my objectives, I organized the dissertation into three parts, and the specific aims for the dissertation are as follows:

Aim 1: To describe and identify how behavioral parity and the ACA impacted SUD treatment services in Southern California from the perspective of professionals in the field. Specifically, we wanted to understand if healthcare policy changes impacted treatment utilization, treatment quality, and adoption and acceptance of MAT.

Aim 2: Qualitatively investigate how changes in healthcare policy may have negatively impacted substance use treatment services, enabled abuses in the treatment industry, and put PWMO at an increased risk for an opioid overdose from the perspective of professionals and PWMO.

Aim 3: Quantitatively analyze factors associated with non-fatal opioid overdose among a suburban/exurban opioid-using population in Southern California.

Hypothesis 3.1: Lifetime history of non-fatal opioid overdose will be associated with ever receiving non-evidence-based types of SUD treatment, and risk for an overdose will be greatest for PWMO who have attended more than one type of non-evidence based types of SUD treatment. Hypothesis 3.2: Lifetime history of non-fatal opioid overdose will be associated with younger age at first opioid misuse and longer length of opioid misuse. Hypothesis 3.3: Lifetime history of non-fatal opioid overdose will be associated with first using an opioid drug by non-oral methods (e.g. snorting vs. oral administration).

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# CHAPTER 2: THE AFFORDABLE CARE ACT AND SUBSTANCE USE DISORDER TREATMENT IN SOUTHERN CALIFORNIA: A QUALITATIVE POLICY ANALYSIS WITH PROFESSIONALS IN THE FIELD


## ABSTRACT

**Background:** Since the Affordable Care Act (ACA) was enacted in March of 2012, those with a substance use disorder (SUD) have better insurance coverage and therefore more access to substance use treatment. However, the effectiveness of the ACA at addressing problems in other areas of SUD treatment (e.g. quality of treatment) is unknown. Therefore, the current study uses a policy analysis approach (Moresin's Framework for analyzing public policies), to explore if behavioral health parity and the ACA impacted treatment utilization, treatment quality, and adoption and acceptance of MAT.

**Methods:** Convenience, snowball, and theoretical sampling were used for data collection. Semi-structured qualitative interviews with 20 professionals who work in the SUD treatment field (e.g. medical doctors, counselors, treatment staff) were conducted from November 2018 to May 2019. The interviews lasted from 30 to 60 minutes, and the discussions centered around the central thesis.

**Results:** Five overarching themes were revealed from the interviews. The first three themes follow the dimensions in Moresin's Framework for analyzing public policies and can be characterized as follows: effectiveness of the ACA for the treatment of an SUD, unintended effects of the policy, and the effect of the policy on different groups (equity). The last two themes emerged from the data and are medication-assisted treatment and solution to the problem. Participants report access to substance use treatment has increased since the

enactment of the ACA, but that several unintended effects have emerged. For example, some bad actors have surfaced and have taken advantage of people in need of treatment.

**Conclusions:** While the ACA has increased access to substance use treatment, not all substance use treatment facilities provide a "healthy" treatment environment that would lead to positive outcomes (e.g. abstinence, reduced use, decreased risk for an overdose). The ACA was a beginning step to providing coverage to people who have an SUD, especially for people who have an opioid use disorder (OUD), because they are at an increased risk of death due to drug overdose. However, the unethical practices that have emerged in SUD treatment have reduced the effectiveness of behavioral health parity and the ACA at reducing the harms associated with drug use.

## INTRODUCTION

### Background

Substance use disorders (SUD) are costly to the nation, have negative impacts on individuals, families, and communities and can be deadly.[1-3] In 2017 it was estimated that 19.7 million Americans aged 12 or older struggled with an SUD. In 2017 an estimated 2.1 million people had an OUD that includes people who used prescription pain relievers (1.7 million) and heroin (0.7 million).[4] These statistics are noteworthy because more than 50,000 opioid overdose deaths occurred in 2017 – an increase of almost 7,000 opioid overdose deaths from 2016 and a 4.1-fold increase in the total number of deaths from 2002 to 2017.[5,6] While SUDs are costly and harmful, they are also treatable. Treatment for an SUD has also become more accessible since the passage of the Patient Protection and Affordable Care Act (ACA) of 2010.[7]

### Behavioral Health Parity, the ACA, and the Opioid Initiative

Behavioral health parity and the ACA expanded access to drug treatment in an effort to address substance use issues.[7] Specifically, in October of 2008, Congress enacted the Paul Wellstone and Pete Domenici Mental Health Parity and Addictions Equity Act (MHPAEA). MHPAEA prevents group insurers from making substance use and mental health benefits more restrictive than medical and surgical benefits. Specifically, federal legislation requires that the financial requirements and treatment limitations of the healthcare plan be no more restrictive for substance use and mental health than it is for medical or surgical care. MHPAEA does not require the healthcare plan to offer substance use or mental health benefits, but if it does offer these benefits, then it is required to be on par with the coverage that is offered for medical and surgical care.[7]

The ACA was enacted in 2010 and increased healthcare access to millions of Americans, in part, by expanding Medicaid and the individual health insurance market.[7] The ACA went well beyond mental health parity by requiring health insurance plans to provide behavioral health (e.g. mental health and substance use treatment) as an essential medical service.[7] Before the ACA, not all health insurance plans provided coverage for substance use treatment. In addition to legislation that increased access to substance use treatment, several initiatives were launched to specifically address issues related to the opioid overdose epidemic.

The Department of Health and Human Services (HHS) launched an Opioid Initiative in March of 2015 to attend to the opioid overdose epidemic. More specifically, the goal of the HHS Initiative was to improve opioid prescribing practices (e.g. training for safe prescribing), increase access to naloxone, and expand access to medication-assisted treatment (MAT) and psychosocial services.[8] The success of the HHS initiative is strongly driven by increasing access to treatment for people who misuse opioids, making the ACA a fundamental part of addressing the opioid overdose epidemic.[9]

**Medicaid Expansion**

The expansion of Medicaid, under the ACA, increased insurance coverage for millions of low-income Americans.[10] Medicaid expansion increased eligibility by raising the household income level eligibility from 100 percent to 138 percent of the poverty line and by covering single adults without dependent children. A total of 37 states have adopted Medicaid expansion so far, including California.[11] This is important because it has been found that substance use treatment utilization is higher among childless adults than adults with children.[12] Furthermore, the National Survey on Drug use and Health (2010-2013) found that

one-third of respondents reported that the biggest reason they do not enter into a treatment program is a lack of health insurance coverage.[13]

More people have access to MAT since the enactment and implementation of the ACA largely because of the expansion of Medicaid. For instance, states that implemented Medicaid expansion in 2014 saw an increase of 70% in Medicaid-covered buprenorphine prescriptions and a 50% increase in spending on buprenorphine.[14] Since the enactment of the ACA there has been an increase in the number of physicians who can prescribe buprenorphine. For instance, states that expanded Medicaid programs and established a state insurance exchange saw the largest increase in the number of physicians eligible to prescribe buprenorphine.[15] The combination of these policies have reduced barriers to care, improved rates of substance use treatment, and have been a major reason for the increase in insurance coverage among people with opioid use disorders (OUD).[16]

**Substance Use Disorders in California and Drug Medi-Cal**

In the combined years 2015 and 2016, 2.7 million Californians aged 12 and older (8.5% of California's population) had an SUD in the past year, and only one in ten received treatment.[17] To provide greater access to treatment for Medi-Cal beneficiaries, California created and implemented the Drug Medi-Cal Organized Delivery System (DMC-ODS). The DMC-ODS reorganized Medi-Cal SUD treatment by making it more efficient than the standard drug Medi-Cal program.[18] DMC-ODS provides a continuum of care modeled after the American Society of Addiction Medicine criteria for SUD treatment. DMC-ODS also gives local control and accountability over to each county. For instance, counties that opted into the program are contracted with the state and function as managed care. Each county is responsible for Medi-Cal enrollees who want SUD treatment, and SUD treatment is provided

to beneficiaries in the order which they apply.[18] DMC-ODS was implemented with the goal of providing more regulation, improving care, reducing costs, and assuring evidenced-based practices in substance use treatment. The DMC-ODS was the first program in the nation to implement a program of this kind, but 12 other states have been approved to carry out similar programs.[19]

**Current Study**

While it is known that changes in healthcare policy have increased access to SUD treatment and reduced barriers to care,[10,16] it is unknown how effective these changes have been in other areas of SUD treatment (e.g. quality of treatment). It is also unknown how changes in healthcare policy might have changed the overall structure of the addiction treatment industry, and if these changes in healthcare policy have cause unattended effects to arise. It is also unknown if acceptance and adoption of MAT have changed since the enactment of the ACA. MAT acceptance and adoption is a fundamental element in addressing OUD related issues because MAT is the gold standard in care for the treatment of an OUD. Furthermore, treatment with methadone or buprenorphine has shown to be more effective than behavioral treatment alone, and long-term adherence to MAT reduces the risk of an opioid overdose.[20,21] The current study used a policy analysis approach informed by grounded theory to describe and identify how behavioral health parity and the ACA impacted SUD treatment services in Southern California from the perspective of professionals in the field. Specifically, we wanted to understand if the healthcare policy changes resulting from behavioral health parity and the ACA impacted treatment utilization, treatment quality, and adoption and acceptance of MAT.

## METHODS

### Framework

Morestin's framework for analyzing public policies is an analytical framework that integrates concerns of policymakers within a public health perspective and is useful for analyzing public policies that have already been implemented.[22] Additionally, Morestin's framework is useful for evaluating the unintended effects of policy changes that negatively affect policy goals (e.g. unethical practices in treatment), and how changes in policy have had different effects on different groups. Furthermore, the framework takes into consideration how intermediate effects can have an effect on a problem and uses a logic model to help identify possible problems in the identified policy. A logic model is most useful for evaluating how intermediate effects impact the ultimate effect on the problem. For the purpose of this study, a logic model was adapted from Morestin's framework and demonstrated the possible intermediate effects of the behavioral health parity and the ACA on opioid overdoses and drug misuse (Figure 1.2).

Effectiveness, unintended effects, and equity (effect of the policy on different groups) are the three main dimensions used in Morestin's framework. Effectiveness addresses the effect the policy has on the targeted health problem. In effective public policies, we would see the policy achieving its objective. For the purpose of this study, healthcare policy was analyzed to see how it affected substance use treatment quality and access. Unintended effects of the policy are effects that were not intended by the policy but are a direct result of the policy. Finally, equity determines if the policy has different effects on different groups.

**Recruitment and Data Collection of Participants**

A combination of convenience, snowball, and theoretical sampling methods were used for the recruitment of participants. Participants were recruited by personal contacts (n=6), referral from previous participants and colleagues (n=10) and attending professional meetings (n=2), and web searches (n=2). Snowball sampling consisted of asking participants if they knew anyone who might want to participate in the study. In keeping with grounded theory approaches[23,24] preliminary analysis was conducted after a few interviews were conducted to aid in future data collection efforts. Further theoretical sampling was then used to identify evidence, check hunches, fill gaps in understanding, and test interpretations.[24]

Once a potential participant contacted the primary author of the study, a few eligibility questions were asked. Eligibility criteria for the participants were as follows: over the age of 18 or equal to, spoke English, and worked with people with an SUD or had knowledge about how the ACA and other healthcare laws have affected people with an SUD. If the participant was still interested in participating in the study and was eligible, arrangements were made to conduct the interview at a private or semi-private location mutually agreed on by the participant and the interviewer (e.g. place of business, coffee shop). All one-on-one semi-structured interviews were in person and took place in Orange, San Diego, and Los Angeles counties. All interviews lasted between 30 to 60 minutes. Interviews were conducted solely by the primary author of this paper from November 2018 to May 2019. All interviews were audio-recorded with permission from the participant prior to beginning the interview and were transcribed verbatim by the primary author of the paper. No financial incentive was provided to participants for participating in the study. After providing informed consent, the interview began.

## Study Participants

To have sufficient data and to gain an understanding of how healthcare policies have changed substance use treatment, 20 participants were recruited and interviewed following approval from the Institutional Review Board at the University of California, San Diego. Participants worked in a wide range of fields in the addiction industry. For instance, interviews were conducted with medical doctors, directors/owners of treatment programs, supervisors, drug Medi-Cal county providers, sober living managers, and counselors who provided treatment to people with an SUD (Table 2.1).

## Interview Guide

An interview guide was created from Morestin's summary list,[22] reports of misconduct by news organizations,[25] and information this writer gained conducting previous research in the field. Questions were asked that focused on the above-mentioned topics but were open-ended to allow participants to discuss other significant issues if they desired. For instance, the topics were specific when discussing the effectiveness of the ACA, unintended effects of the policy, and effects of the policy on different groups, but participants were also prompted to discuss topics that they felt were important. For instance, MAT emerged as an important topic when conducting the interviews, and the interview guide was updated regularly as the study progressed, to capture these emerging themes.

## Data Analysis

Thematic and descriptive analyses aided by NVivo 12 Plus software was used to analyze the data. First, the primary author became familiar with the data by transcribing the data and reading every transcript. Second, the primary author assigned initial codes of themes based on Morestin's Framework for analyzing public policies and themes that arose during

data collection.[22] Extensive field notes and memos were taken during the process of data collection and were used to identify possible themes for analysis. Themes were then sorted and ordered based on each dimension for analyzing public policies (effectiveness, unintended effects, and equity) along with other relevant themes that were documented in field notes and emerged from the data. For instance, themes that fell under the effectiveness of the ACA were sorted and separated by the first author. Then a comparison of themes for each group (e.g. effectiveness) was conducted. For instance, themes under effectiveness of the ACA (e.g. Medi-Cal, private insurance) were separated and analyzed. What is thematically similar or different was the focus of analysis. Results were reported for every theme, along with descriptions of themes and illustrative quotes. Data analysis continued until saturation of themes were reached.[26] Similar studies have used this approach when conducting semi-structured interviews with professionals.[27]

## RESULTS

### Sample

A total of 14 males and 6 females were interviewed. A majority of the sample identified as White or Caucasian (Table 2.1). Participants reported working in the field from anywhere from 2 years to 20 years. Participants worked in a wide range of positions in the addiction treatment industry (Table 2.1).

### Main Themes

Five overarching themes comprised a majority of the interviews. Three themes were generated and gathered by using Morestin's Framework for analyzing public policies,[22] and two themes emerged from the data. The first three themes follow the three dimensions, as discussed in Moresin's Framework and can be characterized as follows: effectiveness of the

ACA for the treatment of SUDs, unintended effects of the policy, and effect of the policy on different groups (equity). The last two themes emerged from the data and are MAT and solutions to the problem. For all the overarching themes, further subthemes were identified and are reported in Table 2.2.

## Effectiveness of the ACA for the Treatment of SUDs

### Access to SUD treatment

Participants reported an increase in people seeking SUD treatment soon after the ACA was implemented and that a greater percentage of their patient population had insurance coverage.

> I remember thinking to myself, oh wow, this is because everybody signed up for benefits and they all, it was like February, and they had, we started getting just a rush of phone calls of people. Um, and they had real insurance, you know like I mean Blue Cross, commercial insurance, Blue Cross, Blue Shield, United Healthcare.

Participants felt that the ACA increased access to SUD treatment for people who needed it. Participants also explained that the ACA provided people with an opportunity to attend treatment more than once, ultimately increasing their chances for long-term sobriety.

> It was really good. It gave kids a lot of chances. I'll tell you what, you know, there's a lot of kids that came through here that now have, you know, 8, 10 years sobriety. Uh, but you know, they're a lot of kids who came in on the ACA, um, on the Affordable Healthcare Act that are doing amazing right now.

Most participants stated that access to healthcare and SUD treatment is needed long-term because many patients fail treatment in their first attempt.

> The fact that they are able to stay under their parent’s insurance for a longer period of time means that they have a better chance of getting a shot of treatment, you know. At the end of the day, I can't get anyone sober, I can't save anyone's life so to speak, but I can provide them the tools and the opportunities to maybe figure out, you know, what I figured out. And I did not get sober my first time in treatment.

### Commercial insurance

The perceived effectiveness of the ACA at increasing access to SUD treatment varied by insurance type. Some participants believed that having commercial insurance versus public insurance (Medi-Cal) provided better access to substance use treatment, “I think that for people who have private insurance, it's a lot easier to get help.” However, this view was not shared exclusively among participants. Furthermore, many participants believed that behavioral health parity did not exist for all healthcare policies because mental health and SUD treatment services are often managed separately. For instance, some participants discussed that health insurance policies offered through the ACA marketplace fail to provide adequate coverage for SUD treatment because payment and management of SUD treatment services are handled by third-party organizations.

> One of their top policies. If the prefixes of those two policies are XED or XDK okay great for medical or emergency services or whatever but mental health and behavioral health services in addiction treatment services are carved out somewhere else and its dog shit.

Participants also stated that low reimbursement rates from private insurance companies were barriers to care as they were financially unable to provide the needed services with the low payment received. “So a place that's providing three to five hours of care in an intensive program with licensed mental health clinicians, how are they keeping the lights on with that?” The resistance to accept private health insurance because of low reimbursement rates was also reported among MAT providers. As a medical doctor poignantly describes:

> I take every insurance on my anesthesia practice. I take no insurance in my addiction medicine practice. Uh, it's not big enough for me to really go negotiate with insurance companies right now. And so, we started billing as an out-of-network office, and the reimbursements were so low and so all over the place that we just couldn't keep our doors open doing that. So, we stopped

> doing that and just said, you know what, we're just going to take cash and so some, so a large amount of patients that would access us otherwise using their insurance right now can't.

Most participants preferred employer-based insurance policies but reported that the reimbursement rates started to decline in the last few years and that providing care at the current rates were not possible. As one participant noted, "$1,500 a day in their reimbursements to $14 a day, which is just completely ludicrous." Participants also shared that getting authorization from the insurance companies was getting harder in recent years.

> Um, another thing that's happened with commercial insurance is it's, they're, it's become much more difficult to get authorization from an insurance company because they've had to protect themselves by becoming even stricter on, um, and really over the top at times with who they'll approve. Um, there was a time when we use to be able to present clinical information that we would get maybe 20, 24 sessions, maybe 10. It didn't matter. Now you're lucky if you can get 5 at a time.

Some participants stated that commercial insurance companies deny authorization because they do not benefit financially for providing services.

> The problem is, is still, um, the utilization review piece of the, um, insurance companies are really discouraging use of services (...) an insurance company really isn't incentivized to do medium to long term medical offsets as far as costs because that member that you're getting sober now, you're not going to see that cost offset for another five years and then another five years it's your competition's patient.

### Medi-Cal insurance

Participants who worked with the Medi-Cal population and who were most familiar with the structure of the program believed that the ACA was effective because of Medi-Cal expansion.

> The big impact was really the Medi-Cal expansion. Especially in California, where I think something like 38, 40% of our population is now covered by Medi-Cal rather than by commercial insurance.

Furthermore, some participants discussed how California's DMC-ODS reduces barriers to care by reducing waitlists for SUD treatment programs.

> Well, organized delivery system for like the bottom level of residential, it's like a month, and you could maybe get another month approved. Uh, the 3.5, which is more common, uh, you can get two months, uh, approved, and maybe a third month. And I guess in rare cases you could even get a fourth month. So you've got, you've got all these people that used to be on waiting lists, right? Well, now treatment is, uh, is only half or maybe even less than half of the time. So you're able to treat twice as many people with not even increasing the beds.

Participants further discussed that DMC expanded billable services that enabled them to provide more service to their patients, "So, our case management service has really expanded because now case management is a billable service under drug Medi-Cal and where in the past, it wasn't." Furthermore, participants discussed that they were able to bill for aftercare services, which provided long-term care to patients.

> So as people graduate a program, they might need to be still be open to check-in, to get some help with uh linkage to resources or, you know, every once in a while if somebody is feeling a little uncomfortable or just wants to check-in or is worried about relapse, they could come back for services. Now those services are billable.

Many participants believe that the quality of SUD treatment for Medi-Cal beneficiaries has improved because DMC-ODS mandates that evidence-based services are used.

> Yeah, I think, especially under the Medi-Cal, in particular, the quality has vastly improved. The other thing that the organized delivery system for Medi-Cal is required is that evidence-based treatments are being used.

While participants, in general, were supportive of the DMC-ODS, some felt that reimbursement rate for Medi-Cal was too low, "Medi-Cal is so poor paying, and so heavenly bureaucratized, nobody wants to do it." However, other participants believed that the current reimbursement rate were adequate.

> So, the people that normally would be on waiting lists there now getting help and they're paying so much that there's actually people that are finding that they can actually make a profit by opening up a Medi-Cal program, go figure.

## Unintended Effects of the Policy

### Exploitation of substance users seeking treatment

Participants saw an increase in unethical practices post-ACA because the ACA made treating SUD more lucrative. Participants also shared that most of the people who opened up a treatment program post-ACA were in recovery themselves and sometimes would relapse to drug use after making an excessive profit.

> The insurance companies were aware of the epidemic, but most of the general public wasn't, and treatment centers were popping up left and right, and beds were getting filled because everyone needed help and insurance companies hadn't tightened up the money yet. All of a sudden there's a large influx of cash flowing into people.... Most of these treatment centers are run by sober people themselves, and that's kind of cool, but they're still drug addicts. You know, you doing 2 million dollars a month and you're a drug addict, next thing you know, things aren't maybe being run completely above board, and that's when people start to get hurt, you know.

Some participants also saw an increase in business investors post-ACA that has contributed to unethical behavior and exploitation of people with an SUD, “To be honest with you, the biggest was the huge influx of capitalist investors interest in addiction medicine and the huge expansion of crime.” This theme was repeated by several participants, “I saw the Affordable Care Act get poor people some insurance and also gave a bunch of crooks the outlet to make money off of said poor people.” Furthermore, participants discussed that some treatment providers prey on substance users seeking treatment and buy insurance for them so that they can bill the insurance for services.

> You come in off the street, tell me I need treatment. I said, don't worry, we can. We're gonna buy your insurance for you. We have some nonprofit that we

> use that buys your insurance. We max out your insurance benefits. Don't give you any real treatment, and then you're curbed.

## Insurance

Some participants believe that unethical practices in the treatment industry have emerged, in part, because SUD treatment programs can bill exorbitant rates to provide treatment services.

> What it looks like is they don't bother to become contracted with any of the insurance companies. They bill as an out-of-network provider and raise the charges up hundreds of dollars a day over what it should be for this level of care.

A few participants felt that the government was partly responsible for the unintended effects that happened post-ACA because the problems that emerged in the treatment industry were left unmonitored or regulated.

> Paying for referrals, brokering human beings as if they were cattle. Um, bilking insurance companies for absolutely medically unnecessary daily urine analysis verification's at $1,200 a pop for each day that somebody is at a residential treatment program and it was totally unmonitored, and the government has some responsibility in this. Number one, the government still doesn't cover rehab under it's Medicare.

Changes to healthcare policy that allow for young adults to stay on their parent's policy till the age of 26 were seen as another factor that contributed to the financial capitalization of insurance and subsequent unethical conduct in the SUD treatment field.

> No the biggest impact it had with regards to drug and alcohol treatment is it allowed 26 year olds or younger to be on their parents' health insurance, which opened the door for a lot of drug and alcohol treatment programs to capitalize on that and either help them acquire insurance, purchase insurance for them illegally, or utilize the fact that they're on their parents' insurance to, uh, to have it pay for residential drug and alcohol treatment. Um, at very high out-of-network PPO rates.

### Overdose

Participants discussed that the unethical treatment environment created several conditions that increase the likelihood that an opioid misuser will overdose post-treatment. Some participants explained that the wrong treatment environment (e.g. unethical conduct on the part the provider) could elevate the severity of drug use (e.g. smoking to injection), and the combination of these factors and physical abstinence during treatment could lead to an opioid overdose.

> Yeah, I think, I would say yes it has had a negative impact on that because treatment isn't always doing what people think it's doing and so they come. It's kind of like sending a guy to jail, and he becomes a better criminal. You know, a lot of the times, you send someone to the wrong environment, and they just become a better drug addict. They meet new people, they learn new techniques, they just become better drug addicts, and as a result you throw some physical sobriety in there and, you know, people died. That's the... that's the unintended consequence.

## Effect of the Policy on Different Groups

### Age

When participants discussed the effects of the ACA on different groups, a majority of participants stated that they saw an increase in coverage and access for people age 25 or under. Many participants also stated that they saw an increase in young adults seeking treatment. “Now, the biggest impact it had with regards to drug and alcohol treatment is it allowed 26-year-old or younger to be on their parents' health insurance.”

### Diversity in healthcare

Most participants did not discuss policy effects for different groups beyond age. However, a few participants did share they believed the ACA gave people from

disadvantaged backgrounds more opportunity to attend SUD treatment. “I think it was a good self-leveler, you know, uh, it gave opportunities to people that would've never been able to pull it off because the subsidy and all that. It gave them a chance.”

## Medication-Assisted Treatment

### MAT acceptance

Abstinence based treatment and MAT acceptance was a prevailing theme across the interviews. As one participant pointed out, “there's camps, and you're firmly in one camp or another when it comes to that.” As documented in the interviews, some participants did not believe MAT was the best form of treatment. As a director of a program states, “Um, but it just doesn't fit my personal philosophy or our mission as far as, you know, a treatment center.” Many participants stated that some in the treatment industry believe that MAT is drug use in legal form, and treatment is about abstinence, “We thought more of like you come here to get here sober and be abstinent, and we don't want you to be addicted to like taking Suboxone every day, you know.” While a few participants stated they disapproved of the use of MAT, a majority of participants supported its use. Furthermore, many professionals believed that not allowing or discouraging MAT for the treatment of an OUD was harmful.

> They've been told the same thing over and over again, which is that abstinence-based treatment is the only form of treatment and that if you're not in abstinence-based treatment, than you're not really in recovery. And so patients they don't know any better. They believe that. I can't tell you how many patients come to find about us come to our office and said, "I've been struggling with opiates for seven years, I've been to 12 treatment programs, and nobody ever once said there's these medicines.

### Insurance

Many participants stated that people who work in the addiction treatment industry are being forced to accept MAT because it is being required by public and private insurance. For

instance, DMC-ODS does not allow providers to deny SUD treatment services if someone is on a MAT. “Under DMC, you cannot discriminate. You cannot say, we don't take those that need MAT.” For people with private insurance, authorization for care may be denied if MAT is not offered after several treatment attempts.

> You grab someone that will come through his third or fourth treatment program and, you know, they're like what are you gonna do different, and you will escalate to the top, and all of them are like they need to be on MAT, maintenance some sort of maintenance.

Some participants stated that they started to see an overall increase in the number of treatment providers who offered MAT post-ACA because more people had insurance that would pay for it. “So many more now because of the Affordable Care Act, because of parody, there are so many more organizations that are offering medication-assisted treatment.”

### Education

Many participants believe that more education among medical doctors on the use of MAT is needed. As one medical doctor points out, “Buprenorphine, Methadone, and Naltrexone are the three FDA approved medications for opioid use disorder. And if you were to ask 10 doctors, they couldn't tell you that.” For some participants, the lack of education among non-medical treatment staff was also problematic, “These people are not doctors; they don't read the science, and the science is clear this shit works.” Most participants felt that having only 12-step abstinence-based knowledge about addiction contributed to the resistance to use MAT, “There's a phenomenon of people in our industry that are just 12-step, and they don't have a lot of education or science.”

## Solutions for Ethics Problems

### Regulation and oversight

Participants had a diverse range of ideas on what could be done to mitigate the problems found in the field of addiction treatment. Most of the participants stated that more regulation in the field was needed and that regulation would reduce unethical and illegal practices. “More oversight, more government oversight, and then more industry regulation from within.” However, one participant believed oversight and regulation of for-profit treatment centers would be difficult to achieve because they are private and not generally regulated by the state.

> I think that these places need oversight, and the county really can't do any oversight even though I really am pushing it, you know, with the Board of Supervisors because it's private it's a private business, and they have no power or control. Where if it's a county-funded program they can over, you know, have oversight.

### Code of ethics

Some participants felt that some people working in the addiction field lacked the ability to know what was ethical in the industry because the field, in general, does not have a unified code of ethics. For instance, one participant with a history of working on ethical issues in the industry thought that a set of ethical codes should be established and enforced for anyone who works with someone with an SUD. “You should have to subscribe to a common code of ethics, and the reason why you need to subscribe to a common code of ethics is it takes all the wiggle room out.” Another participant believed that more people who worked in the SUD treatment field needed to talk about the problems that were happening.

> I think that's they need more people to speak up about what's is going on, you know. Because obviously a lot of people know about it and just don't talk about it. Because they want to continue doing it. They want to continue to get money, they want to continue to, you know, whatever. But it just needs to come to an end because people are dying.

## DISCUSSION

Behavioral health parity and the ACA increased insurance coverage for people seeking treatment for an SUD.[14,15] However, several unintended effects have been identified that diminish the benefits that were expected. Specifically, bad actors have emerged in the field and have taken advantage of people seeking treatment for an SUD and possibly put people with an OUD at a greater risk for an opioid overdose. Previous literature has documented how changes to healthcare policy affects people seeking treatment for an SUD, but these papers have generally been limited to showing that access for treatment has increased;[14-16] however, no known research until now has documented the unintended effects of the policy by interviewing a wide range of professionals who work in the field of addiction.

Many of the professionals believed that the ACA was effective on some level. Most notably, the ACA provided more people with healthcare insurance coverage for substance use treatment. These findings are consistent with previous quantitative research.[16] Increased access to healthcare insurance among young people between the ages of 18 and 25 were seen as the biggest change to healthcare policy. Allowing young adults to stay on their parent's insurance policy provides access to SUD that in the past was limited. Many of the participants believed the ACA was effective because it got more people into treatment, and treatment resulted in reduced use or abstinence for people with an SUD.

The perceived effectiveness of the ACA at treating substance use-related problems differed based on insurance type (e.g. exchange versus employer-based) and whether or not the insurance was commercial or public (DMC-ODS). Many participants who primarily accepted commercial insurance saw that the policies offered through the exchange were limited and failed to provide adequate coverage and reimbursement for SUD treatment.

Behavioral health parity and the ACA were intended to put substance use benefits on par with medical benefits, but many participants felt that this had not happened in practice. For instance, participants who worked in the medical field reported lower insurance reimbursement rates for treating SUD versus treating a general patient population. While commercial based insurance provides the most compensation to providers, many participants felt that it is not monitored or regulated. The lack of regulation of for-profit SUD treatment has limited the effectiveness of the ACA at addressing SUD issues as a whole because the quality of treatment that is being provided is not adequate. Specially, many participants felt that some providers cared more about making money that providing proper care to their SUD treatment patients. The lack of improper care that is being provided to people with an OUD is especially problematic because of the risk of overdose among this group is high.[28,29]

Many participants felt that the ACA was effective in California because of the expansion of Medi-Cal and the establishment of the DMC-ODS. Many participants believed that the implementation of the DMC-ODS provided more SUD treatment to low-income people. A recent evaluation report conducted by the University of California, Los Angeles (UCLA) supports these findings. UCLA found that access to treatment increased by 7% in counties that were DMC-ODS wavered to provide SUD services in comparison to counties that were not DMC-ODS wavered to provide SUD services.[30] In addition, participants felt that quality of treatment increased in programs that served the Medi-Cal population. These findings are in line with the evaluation report conducted by UCLA. The UCLA data suggests that the DMC-ODS has increased quality of care, in part, by better matching patients to the level of care they need.[30]

Several unintended effects of the policy were discovered during interviews with the participants. Participants discussed that ethical abuses in the treatment industry increased post-ACA, as SUD treatment became more lucrative. Many participants believed that ethical abuses have jeopardized the quality of SUD treatment and have put people with an OUD at a greater risk for overdose and these findings are not that dissimilar to previous qualitative work. For instance, Ashford and colleagues conducted a study that assessed the systemic barriers in SUD treatment, and they found that unethical practices in the SUD field have been a barrier to care for people with an SUD.[31]

Most participants were supporters of the use of MAT, but a few participants were adamantly opposed to its use for personal and philosophical reasons. Previous literature has shown that the adoption of MAT has been limited in the substance use treatment field and that treatment philosophy (e.g. 12 steps model) is associated with reduced use of MAT.[32-34] While our analysis is consistent with these findings, the data also suggest that more professionals are supportive of MAT than before because public (DMC-ODS) and commercial insurance are demanding the change. Interestingly, the data from UCLA shows that people with an OUD were somewhat more likely to received MAT in DMC-ODS wavered counties, but DMC-ODS wavered counties were already trending in that direction. In other words, counties that were wavered and providing services under DMC-ODS were already advanced in terms of MAT use, and some other reasons may exist why MAT adoption and implementation have increased in those counties.[30] Considering our findings and UCLA's findings, it is possible that the SUD treatment field is trending in the direction of being more open to the use of MAT, in part, because private insurance providers won't reimburse SUD treatment services if MAT is not also used.

## Limitations and Strengths

A limitation of the present study is that interviews were limited to Southern California, and a majority of those interviews were conducted in Orange County, California. Furthermore, the ethnic diversity of the sample was limited, and only English speakers were interviewed. Therefore, generalization to other professionals is not possible, and behavioral health parity and the ACA success may be different in other parts of the country. Next, coding and analysis were carried out solely by the first author, and some unintentional biases may exist. Another limitation that should be noted is that regulation and monitoring of treatment centers are being considered and implemented. Law enforcement has conducted raids on treatment programs, and some in the field have been prosecuted for illegal acts. Changes in the substance use treatment sector have been dynamic, and these changes started prior to the current study. These ongoing changes could have rendered some of the findings found from the study out of date.

Notwithstanding these limitations, the current study documented the views of professionals on the success of behavioral health parity and the ACA for the treatment of an SUD and its possible implication on opiate overdoses. Furthermore, we recruited a wide range of professionals in the field of addiction in order to obtain a wide range of views. Finally, the present study is the first to document the unintended effects of the ACA and the negative impact of those effects on those they serve.

## Recommendations for Policymakers

The findings from this study have several implications and subsequent recommendations for policymakers and SUD treatment professionals. Having greater access to SUD treatment and MAT has been the biggest success of behavioral health parity and the

ACA for the treatment of an SUD. However, regulation and monitoring of SUD treatment must be implemented in order to protect people with an SUD who attend treatment. Currently, you can operate an outpatient SUD program and provide housing in a sober living facility without being licensed in the State of California. I recommend for more regulation and oversight among all treatment facilities and licensure for anyone providing any type of SUD treatment services to people with an SUD. Furthermore, in an effort to provide the best care possible, more education should be required for SUD counselors. Currently, in the State of California, you can provide counseling to people with an SUD without a bachelor's degree. I encourage SUD treatment educators to develop and implement a four-year educational program that can be integrated into existing educational systems. Finally, I encourage all SUD treatment professionals to provide naloxone (a drug that reverses the effect of an opioid) to people who have an OUD when they leave treatment. Naloxone has no abuse potential, and brief education is sufficient for proper administration[35] making it a fairly easy intervention for providers to implement at discharge.

**Conclusion**

SUD is costly and taxing on communities.[1,2] Opioid overdoses have taken countless lives[2], and many people have turned to treatment looking for help. Behavioral health parity and the ACA increased access to treatment,[9,10,16] but proper regulation and monitoring of SUD treatment did not follow. Lack of regulation resulted in abuses in the treatment industry and possibly placed people with an OUD at greater risk for an opioid overdose. Proper regulation of SUD treatment is needed so that unethical and abusive practices do not take place. Proper reimbursement for providers is also needed so that access to treatment services are not hindered, and the burden of cost does not deter people from seeking treatment.

Furthermore, the SUD treatment field needs to implement greater ethical standards, and individual providers need to provide training on the effectiveness of MAT. The ACA and healthcare parity is a huge step in the right direction for addressing the United States substance use problem and opiate overdose problem, but more can be done so that a higher standard of care is being provided.

**Table 2.1: Participants Characteristics**

| Characteristics | Value |
|---|---|
| Race/ethnicity | 16 White; 1 Black; 1 Persian; 1 Asian |
| Job type | 5 director/supervisors; 4 medical doctors; 3 counselors; 2 owners; 2 Medi-Cal program managers; 2 sober living managers; 1 nurse, 1 pharmacist |

**Table 2.2: Themes and Sub-themes**

| Priori Themes | Sub-themes |
|---|---|
| 1) Effectiveness of the ACA for the Treatment of SUD | Access to SUD treatment<br>Commercial insurance<br>Medi-Cal insurance |
| 2) Unintended Effects of the Policy | Exploitation of substance users seeking treatment<br>Insurance |
| 3) Effect of the Policy on Different Groups | Age<br>Diversity in healthcare |
| Emergent Themes | Sub-themes |
| 4) Medication-Assisted Treatment | Insurance<br>MAT acceptance<br>Education |
| 5) Solutions for Ethics Problems | Regulation and oversight<br>Code of ethics |

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# CHAPTER 3: PATIENT BROKERING IN SUBSTANCE USE DISORDER TREATMENT: A QUALITATIVE STUDY WITH PEOPLE WHO MISUSE OPIOIDS AND PROFESSIONALS IN THE FIELD


## ABSTRACT

**Background:** Effective treatment for people who misuse opioids (PWMO) is needed as opioid use and opioid overdose deaths are at an all-time high. While recent legislative changes have increased access to substance use disorder (SUD) treatment for many Americans, several cases of abuse have been reported in the treatment industry. That is why the purpose of the current study is to qualitatively investigate how changes in healthcare policy may have negatively impacted drug treatment services, caused abuses in the treatment industry, and put PWMO at an increased risk for an opioid overdose.

**Methods:** One-on-one semi-structured interviews were conducted from November 2018 to May 2019 in Orange, San Diego, and Los Angeles counties with 20 PWMO who have been to treatment and 20 professionals who work in the SUD treatment field. A grounded theory approach was conducted to build a theory about what SUD treatment providers are doing that might be impacting opioid overdoses in Southern California.

**Results:** Four major themes emerged:1) patient brokering, 2) financial enticements, 3) drug use to get into treatment and, 4) opioid overdose risk. Many participants felt that unethical and abusive practices have damaged the industry as a whole and have harmed people seeking treatment. Participants shared stories of abuse by patient brokers and treatment center staff. Overall many of the participants believe that the unethical abuses in SUD treatment have

created a harmful treatment environment (e.g. threatens safety, abusive), resulting in an increase in opioid overdoses in Southern California.

**Conclusions:** Patient brokering and unethical abuses in the treatment industry have caused some PWMO to seek treatment for money and housing instead of seeking treatment to stop opioid use. The harmful treatment environment was seen as a barrier to care and an unwanted obstacle to overcome on the path to recovery. The harmful treatment environment discussed by participants created conditions that were perceived to increase the likelihood of having a relapse and subsequent opioid overdose.

## INTRODUCTION

Effective treatment for people who misuse opioids (PWMO) is needed as opioid use and opioid overdose deaths are at an all-time high.[1] In 2016 over 2 million people had an opioid prescription substance use disorder, and 625,000 people had a heroin use disorder in the United States.[2] Furthermore, PWMO tend to be a hard to treat population because they are likely to stop treatment and resume opioid use after periods of abstinence. For instance, a recent review showed retention rates as low as 20% in medicated-assisted treatment (MAT) programs.[3] This information is noteworthy because opioid overdose mortality risk is lower during active MAT treatment but becomes elevated soon after leaving treatment.[4] What further puts PWMO at risk is that they are more likely to overdose after having periods of abstinence such as recently being released from jail or inpatient treatment.[5-7] Historically, access to substance use disorder (SUD) treatment was limited to those who could pay for treatment or had an insurance policy with treatment as a benefit. However, recent legislative changes have changed the way SUD treatment is funded and has increased access to treatment for many Americans.

In 2008, Congress passed the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act (MHPAEA), and in 2010 Congress passed the Patient Protection and Affordable Care Act (ACA).[8] The combination of these two legislative changes fundamentally changed the way SUD treatment was funded. Before the enactment of the MHPAEA and ACA, not all insurance plans paid for SUD treatment and access to treatment was limited. For instance, prior to the ACA, uninsured rates for young adults was close to 30%, in comparison to uninsured rates of less than 10% post-ACA, for people under the age

of 18.[9] Because the ACA allows young adults (18-25) to be on their parents' insurance policy until they turn 26, this segment of the population has seen an increase in insurance coverage and subsequent access to SUD treatment.[10] In general, the goals of the MHPAEA and ACA have been met with regard to decreasing the number of uninsured persons with an opioid use disorder in need of SUD treatment, decreasing costs as a reason for not attending SUD treatment, and having a greater amount of out-of-pocket costs for SUD treatment paid for by insurance.[11,12] These changes in healthcare policy have increased access to treatment for people, but similarly to other healthcare sectors, abuses have been reported.

Fraud and abuses in the healthcare industry are not new. It has been estimated that losses associated with healthcare fraud, abuses, and waste are as high as $700 billion annually.[13] Furthermore, estimates have put healthcare fraud at anywhere between 3% to 10% of total expenditures for the industry.[14,15] In 2018, the Department of Justice convicted 497 people of health care fraud or related charges, and about $2.3 billion was recovered and returned. These cases were in a wide range of healthcare fields (e.g. ambulance and transportation services, drug companies, hospice, hospitals, pharmacies, physicians), and crimes included overbilling, billing for unnecessary procedures, and violating anti-kickback laws (e.g. patient brokering).[16] Patient brokering can be defined as unlawful payment to an individual or business for the referral of a patient. Crimes related to violating anti-kickback laws have been prosecuted in fields such as home healthcare, pharmacy, and physical therapy.[17,18] For instance, in September 2018, the owner and co-conspirators of a home health agency were prosecuted for paying inducements to doctors and patient brokers for patient referrals and billing Medicare for services that were deemed unnecessary.[16]

Patient brokering and fraud in the SUD treatment sector has been prevalent in recent years, in part, because of increased funding for treatment, lack of oversight, and inconsistent or nonexistent laws governing patient brokering.[19,20] More people have insurance and insurance is required to pay more for SUD treatment post-ACA.[8] That in combination with the rise of drug use has led to an increase in capitalist investors into the SUD treatment sector. Furthermore, referrals and call centers have emerged that direct clients to specific for-profit treatment centers and unethical and illegal practices have increased.[21,22] Congress and several states have passed some legislation to address these issues,[23-25] but very little is known on how these unethical practices have affected the treatment industry.

Ashford, Brown, and Curtis published a qualitative study in 2018 that was designed to understand the barriers and concerns in the SUD treatment sector. They interviewed United States substance use treatment professionals and found several obstacles that made providing treatment difficult (e.g. lack of collaboration between co-workers, lack of recovery support services), including the rise in unethical practices in the field such as patient brokering.[26] While previous research has identified unethical practices as a barrier to providing services no known study has studied patient brokering in depth from the perspective of patients and professionals. Furthermore, there has been no known research that has assessed how abuses have affected PWMO and how these abuses might be impacting the opioid overdose epidemic. Therefore, we use qualitative methods with PWMO and professionals in the SUD field to investigate how changes in healthcare policy may have negatively impacted drug treatment services, caused abuses in the treatment industry, and put PWMO at an increased risk for an opioid overdose.

## METHODS

### Recruitment

Two types of participants were recruited: PWMO and professionals within the treatment field. A combination of convenience, snowball, and theoretical sampling were used to recruit all participants. To recruit PWMO, flyers with contact information were distributed to treatment centers, sobriety clubs, and other relevant places where PWMO frequent. These participants were also recruited directly by attending locations where PWMO frequent (e.g. homeless camps) and asking them directly if they wanted to take part in a research study.

Professional participants were identified and recruited by personal contacts (n=6), a referral from personal contacts or other participants (n=10), attending professional meetings (n=2), and google searches (n=2). Snowball sampling methods, for both types of participants, consisted of asking participants to give study contact information to peers who might be interested in participating in the study. Once a potential participant contacted the primary author of the study, a few eligibility questions were asked, and if eligible participants were interested in moving forward with the study, arrangements were made to conduct the interview at the location of the participants choosing (e.g. coffee shop). Additionally, for all participants, theoretical sampling[27] was used to check the data and fill hunches that emerged from initial interviews.

### Data Collection

One-on-one semi-structured interviews were conducted from November 2018 to May 2019 in Orange, San Diego, and Los Angeles counties. All interviews were conducted at a private location (e.g. library, coffee shop, park, office) of the participant's choosing. Conducting interviews in the field is an acceptable practice and has been successfully

deployed without jeopardizing the quality of the interviews.[28,29] All interviews lasted between 16 to 53 minutes and were audio-recorded. The primary author of this study conducted all interviews. All parts of the study were approved by the Institutional Review Board at the University of California, San Diego, before the beginning of the study. After providing informed consent, the interviews were conducted.

**Participants**

A total of 40 participants (20 PWMO and 20 professionals) participated in the present study. Furthermore, 10 of the PWMO were Southern California residents before attending SUD treatment, and 10 PWMO were out-of-state residents before attending treatment in Southern California. Out-of-state residents came to Southern California to go to treatment and in most cases, decided to live in Southern California. A combination of in-state and out-of-state residents were interviewed because a large percent of the SUD treatment population in Southern California came to treatment from out of the state.

PWMO were eligible to participate in the current study if they had previously been in drug treatment at least once in Southern California after March of 2012. The ACA was enacted in March of 2010, and the time delay takes into consideration implementation delays after the policy was adopted. Further eligibility criteria for PWMO is as follows: over the age of 18 at the time of the interview, self-reported primary opioid misuse at time of interview or prior to stopping (e.g. Heroin, OxyContin), self-reported misuse of opioids within the past 3 years, having health insurance at time of treatment in Southern California and speaks English. Opioid misuse within the past 3 years was chosen to capture more recent use. Eligibility criteria for professionals were as follows: over the age of 18, work in the SUD treatment field, and speak English. Participants who had misused opioids received $5 for participating in the

current study, and no financial incentive was provided to professionals for participating in the study.

**Interview Guide**

An interview guide was created from fieldwork, academic literature, and news reports of unethical practices in the substance use sector. The interview guide for PWMO and professionals differed (see Appendix A), but the themes that emerged that focused on the unintended effects (e.g. patient broking) of healthcare legislation highly corresponded. Furthermore, the interview guide was updated regularly to capture themes as they emerged from the data.

**Data Analysis**

A grounded theory approach to data analysis was conducted in order to build a theory about what drug treatment providers were doing that might impact opioid overdoses in Southern California, according to patients and professionals. Grounded theory is a research method that allows for qualitative data to be systematically collected and analyzed for theory generation.[30] For every transcript, coding was conducted in three stages and aided by NVivo 12 Plus software. The first step of the analysis involved closely reading each transcript line by line and conducting initial/open coding to identify important words, groups of words, and sentences that were later labeled into categories. Secondly, axial coding was conducted and involved conceptual linkage and descriptive linking of categories from the initial/open coding. The goal of axial coding was to compare and refine categories and discard categories that did not fit. Lastly, selective coding was conducted and involved identifying relationships between categories to develop hypotheses around the phenomena.

## RESULTS

### Sample Characteristics

The mean age of the sample (PWMO) was 32.65 and ranged from 25 to 49 years old. Most of the PWMO in the sample identified as male (*n* = 14), with the remaining identifying as female (*n* = 5) or non-binary (*n* = 1). A majority of the sample identified as white only, with the remaining identifying as white and Hispanic (*n* = 2) or white and mixed-race (*n* = 1). A total of 12 participants reported that they were homeless, 5 reported they were living in a sober living or treatment center, and the remaining 3 stated they lived in an apartment. A total of 17 participants reported that they had had at least one opioid overdose in their lifetime, and 18 participants reported witnessing an opioid overdose at least once. Participants reported that they had overdosed a medium of 3 times and witnessed a median of 4 overdoses. Participants had been to treatment multiple times, with a median of 6 treatment episodes reported. On average, participants reported using opioids for 13.68 years, with a range from 5 to 31 years. Most of the sample reported heroin (*n* =19) as their primary opioid drug of use, with 1 participant reporting that they primarily used prescription pills. A total of 8 participants stated that they were not using drugs at the time of the interview. Most of the sample reported that they had injected drugs at least once in their lifetime (*n* = 16).

Among the professionals that were interviewed, 14 identified as male and 6 identified as female. A majority of the professionals identified as white (*n* = 16) with the remaining identifying as Asian (*n* = 2), Persian (*n* = 1), and black (*n* = 1). Professionals reported working in the field from 2 to 20 years and worked in all different aspects of SUD treatment. For instance, interviews were conducted with medical doctors, directors of programs, counselors, and drug treatment regulators.

## Main Themes

Several relevant themes and subthemes emerged when conducting interviews with PWMO and professionals who worked in the field that suggest ethical abuses in the SUD treatment sector are rampant. The themes that emerged are in line with the objective of the study, were discussed among most participants, and are as follows: Patient brokering, financial enticements, drug use to get into treatment, and opioid overdose risk (see Table 1).

## Patient Brokering

Patient brokering or body brokering can be defined as payment to an individual or business for the referral of a patient. Most of the participants had either heard about patient brokering, brokered others, or had been brokered by someone else. Some participants used the term body broker, while other participants used the term referral when talking about the patient broker. However, a distinction is made between referring and patient brokering as in the reported cases, the person who referred the participant likely received financial incentives to get them into treatment. While patient brokers often target individuals seeking treatment, they also target family members who want help for their loved ones. One participant shared that her family member followed a link on Facebook because the family member wanted to get the participant into SUD treatment and made contact with a patient broker who arranged to get the participant health insurance:

> She did everything, and my aunt paid her and then one day I just opened the mail in September, and I had an insurance card there, and I called. I thought Brandon, my daughter's dad, had done it. And he's like, "No, Aunt Rachel did it." So I called Aunt Rachel, and she's like, "Well, honey, you know I know you've been sick," cause I had like abscesses and hepatitis C and a lot of medical things going on. (P9, PWMO)

Patient brokers use a variety of tactics to get people into treatment. Most of the participants who attended treatment in Southern California who originally lived outside the state were given fully paid for transportation by plane to Southern California for treatment. One participant who had a flight paid for and booked one day after contacting a patient broker shared his feelings about the process in the following quotation: “You got to be making a grip of money to fly a guy out here the next day and spend $730 on his ticket. Without knowing him or knowing if he's going to stay or anything, you know.” (P6, PWMO)

Patient brokers receiving financial incentives for others to attend treatment were repeated several times in different interviews, and some participants reported that patient brokers would try to get them to recruit others. One participant who was very familiar with patient brokering and the financial incentives that were being provided shares his insight in the following quote:

> You know, I know people saying, Hey, we'll buy your plane ticket, you know, do, do you have any friends that are in other states that want treatment? You know, we'll help pay for all this, you know, cause what they'll do is they'll just go buy you an insurance policy. They'll put $500 down; they'll pay for your insurance. Even if it's three months, they'll pay 1,500 bucks, buy you a plane ticket. Let's say that's 500 bucks. It cost them two grand. But when they're going to make $30,000 profit off you staying there for that time, so that person's going to get 10 grand or whatever. So he's gonna put his two grand up, no problem. (P20, PWMO)

PWMO were not the only participants who discussed the issue of patient brokering. Professional stories often parallel the stories discussed by PWMO. As one professional participant reported her experience with patient brokering at her place of employment: “I have a huge problem with the treatment industry as of late because all the insurance fraud, the body brokering. They treat these kids like mules, you know. I've literally watch staff. Like obviously, they aren't staff members anymore at Sober Place for that reason, but I have

literally watched a staff member body broker a client in front of my eyes, you know." (P32, Professional)

**Financial Enticements**

Many of the participants reported that they received money or were offered money from patient brokers or treatment centers to go to SUD treatment. One participant reported getting 4 thousand dollars for attending treatment. "So yeah, I called one of them, and he said I will give you 4 grand to go in for 20 days or whatever." (P14, PWMO) Financial enticements to attend treatment was also reported for medical SUD treatment. One participant reported getting paid several times for getting a naltrexone pellet implanted into his arm that he knew was not effective because it was easy to surgically remove after the procedure: "You'd go in, they'd put the pellets in you, and then you'd walk out. It would take like all of 15 minutes. So, I walked in, I got the pellets put in me, I had a buddy take them out, and I would go back in and get them put back in. I'd get paid by like 3 different people." (P18, PWMO)

Reports of PWMO receiving financial enticements for medical SUD treatment was a theme shared by professional participants as well. Many professional participants believed that the industry was full of people willing to take advantage of PWMO for financial gain and that the practice was unethical and harmful. One nurse who works at a MAT clinic described her thoughts on the matter: "Then you've got the other thing that comes up, is you have the implants, the naltrexone implants. Total body brokering type of thing. Patients getting paid to do it, you know. Pellets not being good, pellets probably not being even a pellet, you know." (S23, Professional)

Some of the participants also reported receiving more money from patient brokers or treatment centers, the longer they stayed in treatment. Many of the participants, but not all, felt that being offered money to attend treatment was unethical, and some participants felt that their choice was limited because of their situation. Participants often stated that they were homeless, broke, and struggling with their addiction, and being offered money to attend treatment was an easy choice: "Yeah. I mean, I was, I was broke doing drugs, and someone offers you a couple thousand dollars and a place to live, it's like, no, you know, of course. You know, so, I was in a bad spot and, you know, and when I was in these places, it was, it seemed like 90% of the people were getting paid." (P11, PWMO)

Some participants reported not receiving the money that was promised to them for attending treatment half of the time. Others reported not getting paid at all: "I was told I was gonna get paid by different ones, but I never did." (P15, PWMO) A few participants reported hearing about being able to get money for attending treatment, or were asked if they wanted to attend treatment for money and turned the offers down because they wanted to stop using drugs and wanted to take the process of recovery seriously:

> I mean, I've been offered to go get paid like a thousand bucks to go get the shot and that was when, you know, I just got out of residential, I wasn't working, and I didn't have a job. You know, no money. So, that was like really tempting. But I didn't fuckin do it because I didn't want. I just felt like I was in the mindset that everything I do is a potential risk or potential threat so like my life like was that serious. (P12, PWMO)

A few participants stated that paying people to attend treatment jeopardizes the recovery process and adds another layer of temptation in addition to the temptation to use opioids. One participant who was not using drugs at the time of the interview describes the added

temptation that she experienced knowing she could get paid to relapsed and then go into treatment:

> It terrifies me because I know that with my disease like at any point in time it's just waiting for me to have a thought of, like, I could get paid to do what I love to do which is use drugs, and that terrifies me because I know I don't want to but like if that's an option. It's always gonna be an option. You know, I mean. It fuckin terrifies me. So I know I've got to do what I do today to make sure that that stays where it stays. But it does scare me that that's an option today. And it's scary. It's going to kill a lot of people. (P5, PWMO)

Another participant who reported attending more than 10 treatment programs, who had been paid to attend treatment several times, felt that treatment was no longer meaningful and that it was all about getting paid: “Once I started getting paid, I stopped caring about the positive things. I was already using. Once I started getting paid, I was already using, and it was more purposely to try to get paid.” (S6, PWMO)

**Drug Use to get into Treatment**

Some of the participants discussed that they were required to use drugs before they could get into treatment. Both PWMO and professionals explained that insurance companies require certain conditions to be met so that the patient meets medical necessity and treatment will be paid for by the insurance company. Providing a positive urinalysis was one way to meet the insurance companies' requirements. This happened most often when participants were seeking detox or inpatient treatment. A participant who had paid others to attend treatment and who had been paid to attend treatment describes the process:

> It does not necessarily mean you have to get loaded when you go into treatment, but there's only certain substances you put in your body that would qualify you for a medical detox. So, if you don't at least piss dirty for one of those things, then no, they won't take you. But the fact that you have to go into the program like high is not true because benzos stay in your system for up to two weeks. So, you can take one-five days later and be completely sober, but benzos are still a requirement for medical detox. (P19, PWMO)

Some participants shared that if they were abstinent and wanted to get into treatment, they would be urged by patient brokers or treatment staff to use drugs. One participant who was administratively discharged from an inpatient treatment center for verbal misconduct discussed how he and another client who was also discharged used drugs before attending a different treatment center. The participant reported that his referral arranged the motel stay and the location of the treatment center he would be attending and that she suggested he use drugs prior to admission: “Yeah, then came to the hotel. We had to start over again for the program that I was going to, so we had to fail a drug test somehow. So, we just drank and smoked some weed and then I went to Big Bear.” (P1, PWMO)

Professional participants who were aware of the practice were particularly distraught by the unethical conduct that was happening in the industry. Professional participants believed that PWMO were being bought and sold for profit: “I know a lot of people who take clients and like put them in hotels and get them all fucked up on heroin and then sell them to treatment centers.” (P32, Professional) Some professional participants also believed that the practice was incentivizing relapse: “They have developed this very strong habit, if not addiction to relapse because it's being incentivized with money. And now they have a head, uh, uh, uh roof over their head and it's like a vacation. But you have to relapse continually to keep a roof over your head.” (P24, Professional)

**Overdose Risk**

Many of the participants believed that patient brokering and the unethical and harmful treatment environment has contributed to opioid overdose deaths in Southern California. Some participants believed being given drugs before attending treatment or between treatment

episodes contributed to opioid overdoses as drugs were provided to opioid users after periods of abstinence: “Yeah, I mean, I almost died the first time I ever shot heroin, like, you know. And if, especially if you've been clean for a while and somebody offers you like right now like I have a hundred and fifteen days, and if somebody offered heroin, you know for me like there's a great chance that I would overdose and die.” (P5, PWMO)

Some professional participants saw the harmful treatment environment as the cause of some opioid overdose deaths: “So I think that there is, I believe that in, in some ways addiction treatment professionals are complicit in the death of young people that didn't need to die.” (P22, Professional) Other professional participants believed that opioid overdoses were a direct result of unethical conduct and stated instances of counselors giving patients drugs: “People are dying from not getting real quality treatment. People are literally dying from being taken out and getting high. I've heard of counselors having drug doors.” (P21, Professional)

Most of the participants who discussed overdose risk in the context of unethical treatment believed patient brokering was the leading cause. A few of the participants discussed instances where patient brokers would infiltrate treatment centers in an attempt to recruit more people to go to a different treatment program for profit. Because the broker takes the recruit to a motel after leaving treatment to get high he becomes vulnerable to an overdose: “They take them out of treatment centers, and they put them in motels and get them high, you know. So, I mean, I know personally that there have been a few clients that have overdosed in rooms with body brokers.” (P32. Professional)

Participants also believed that getting large amounts of money after leaving treatment has caused at least some deaths: “They get all this money, and they OD and die.” (P15,

PWMO) However, most often participants describe the whole treatment environment as being corrupt and contributing to a loss of hope in the recovery process. One participant who had not personally been involved with patient brokering describes seeing the damage being done in the community. He shared that he recently witnessed an overdose in a motel of a person who just left treatment and describes his thoughts on what is going on in the treatment industry: “It still sits sour with me, you know, just on the principle of it. And you know you’re doing like scumbag shit anyhow. A lot of bodies have been put on that little game, you know. A lot of people, kids, kids have died ‘cause of that. (P15, PWMO)

A few professional participants felt that the revolving nature of addiction treatment and the increased access to treatment as a result of insurance coverage created an environment where clients no longer prioritized recovery. One participant who has worked for many years as a director of a program reported seeing an increase in overdose deaths after healthcare policy changes: “Well, that's the problem, uh, because essentially, since these kids are now in a revolving door, eventually they're going to take a hotshot and die. We have had more deaths in the last two or three years than I've seen in 15 previous years.” (S33, Professional)

Interviews revealed a belief among participants that the harmful treatment environment was responsible for the death of opioids users. Some participants were more directly in contact with people that died than others, but almost all of the participants, both PWMO and professional, held a belief that the unethical behavior on the part of at least a few in the industry could lead to opioid-related deaths. One participant who was abstinent for almost three years at the time of the interview describes in detail what she has seen in the recovery community over the past three years:

> I'm friends with a lot of people down there on social media and every week it's, you know RIP this person, RIP that person and, and it's not anybody I know but it's people like I've seen around the meetings and it's all these young 20-something-year-old kids, and none of them are even from Southern California. I haven't seen one kid yet and literally I just seen it 2 days ago, every week somebody's dying down there, and none of these people are from California. And then I always think about you know 'cause I've lost a child. Like god damn like their mom or dad have to come to California and retrieve the body like where are they even being buried at? And what about these people that don't have money and burned all their bridges before they come out here? What do they do? Just have a John Doe grave? (P9, PWMO)

## DISCUSSION

The current qualitative study is the first known study to identify how healthcare policy changes may have negatively impacted SUD treatment and put PWMO at an increased risk for an opioid overdose. While the ACA and other policy changes increased access to SUD treatment for many PWMO in need of treatment,[11,12,31] lack of oversight and regulation has caused unethical abuses in the SUD treatment sector. Interviews with PWMO who attended SUD treatment, and professionals who work in SUD treatment yielded several themes that demonstrate ethical abuses in the SUD treatment sector are harmful to PWMO.

According to interviews, patient brokering has caused some PWMO to seek treatment for reasons other than getting help for their drug use. For instance, PWMO reported seeking treatment for financial gain rather than to address their drug use. Many PWMO perceived that the harmful treatment environment has made getting real help for their drug use harder and that by adding financial incentives to attend treatment, the integrity of the treatment process is compromised. Other participants, who were tempted by offers of money to attend treatment, refused, stating that they wanted to take the process of recovery seriously and that their life was on the line. A few participants that did not go to treatment for money felt that the

temptation caused by patient brokers made it harder to stay away from drug use because the temptation to use for profit was on option.

Our result show patient brokering and unethical abuses in SUD treatment have been harmful to PWMO and a barrier to care and is in line with previous research with professionals.[26] For instance, many of the participants believe that patient brokering, financial enticements, and encouraging drug use before attending treatment are responsible for fatal and non-fatal opioid overdoses in the treatment community. While some participants believed the unethical abuses in the treatment industry have directly caused opioid overdoses, others believe that the harmful treatment environment has created conditions where an opioid overdose is more likely. Many professional participants believe real treatment is not being provided by the unethical programs and, as a result, PWMO die. Many of the PWMO perceived that the risk of overdose was greater after attending unethical treatment, in part, because of the money that was given after attending treatment. Specifically, some participants believed that the money given elicited a desire to use opioids and provided a financial opportunity to purchase large amounts of drugs. Past research has shown having too much money can elicit a desire to use,[32] and opioid overdoses are more likely after having periods of abstinence,[5,7] making these unethical practices a deadly combination for PWMO. Furthermore, PWMO have high rates of treatment noncompliance and tend to return to opioid use soon after treatment,[3] further complicating the issue and making it even harder for PWMO who are seeking real treatment.

**Strengths and Limitations**

We are the first to scientifically document how unethical abuses in the SUD treatment sector may have negatively impacted PWMO seeking treatment from the perspective of

patients and professionals. We recruited a diverse sample of PWMO and professional participants that shared their experiences and insight on an important topic. However, the current study was qualitative and thus results could not be used to estimate the prevalence of abuses. Only English speakers were recruited into the present study, so generalization to other groups is not possible. It is unknown the degree to which the participants were representative of all PWMO who have attended SUD treatment. Furthermore, coding of narratives were conducted by only one person and therefore, unintentional biases may exist. Finally, no explicit determination can be made to the cause and effect of opioid overdoses as a result of unethical treatment, given the nature of the study.

**Implications and Recommendations**

This research suggests that unethical SUD treatment may put some PWMO at a greater risk for an opioid overdose. Furthermore, confidence in the quality of SUD treatment may be compromised because of unethical conduct. To minimize unethical conduct and give consumers more information about treatment providers, several regulatory and structural changes need to be made. Firstly, federal and state laws need to be further established and enforced that regulate SUD treatment. Next, regulatory agencies need to be established that specifically focus on ethics violations in SUD treatment. Finally, a federal and state-level database needs to be created that provides consumers with information on ethical violations and licensure status of private and public treatment programs (e.g. sober living facilities, detox facilities, outpatient treatment, inpatient treatment). We believe these recommendations will protect consumers seeking SUD treatment and reduce opioid overdoses.

**Table 3.1: Themes and Sub-themes**

| Themes | Sub-themes |
|---|---|
| 1. Patient brokering | Family members seeking help from patient brokers<br>Patient brokers getting paid to get people into treatment |
| 2. Financial enticements | Getting paid to go to treatment<br>Getting paid to get a naltrexone implant<br>Financial coercion<br>Jeopardizing the recovery process<br>Treatment no longer meaningful |
| 3. Drug use to get into treatment | Positive urinalysis needed so that treatment will be paid by insurance<br>Using drugs in motels prior to going to treatment |
| 4. Opioid Overdose | Using after periods of abstinence<br>Unethical treatment environment<br>Overdosing with patient brokers |

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# CHAPTER 4: CORRELATES OF NON-FATAL OPIOID OVERDOSE AMONG A SUBURBAN/EXURBAN OPIOID-USING POPULATION


## ABSTRACT

**Introduction:** Drug overdoses are the leading cause of injury death in the United States with over 47,000 opioid overdose deaths occurring in 2017–an increase of almost 5,000 opioid overdose deaths from 2016 and a 5.9-fold increase in the total number of deaths from 1999 to 2017. Given that people who misuse opioids (PWMO) are at an increased risk of death, it is crucial to assess risk factors associated with opioid overdose to improve targeted intervention. The objective of this study was to analyze factors associated with non-fatal opioid overdose among a suburban/exurban opioid-using population in Southern California.

**Methods:** A total of 355 interviews were conducted from November 2017 to August 2018 in Southern California. We investigated factors associated with having a history of a non-fatal opioid overdose, focusing specifically on measures of non-evidence-based (e.g. lacks strong evidence to support its use) types of drug treatment history (methadone detox, buprenorphine detox, Vivitrol, and 12-step program attendance).

**Results:** A total of 198 (56%) of participants reported at least one overdose in their lifetime. When controlling for other factors, first using an opioid drug by non-oral methods (e.g., inject, smoke) (AOR 2.82, 95% CI 1.52-5.22), methadone detox, (AOR 2.23, 95% CI 1.27-3.91), buprenorphine detox (AOR 1.77, 95% CI 1.02-3.07), and 12 step attendance (AOR 1.89, 95% CI 1.12-3.20) was found to be positively associated with lifetime non-fatal opioid overdose.

**Conclusions:** Our study found a strong association between using an opioid drug by non-oral methods at first opioid use and three different types of non-evidence based substance use treatments with having a non-fatal opioid overdose. Given these results, we believe more focused intervention needs to take place in all types of drug treatment programs. For example, treatment providers need to establish follow up protocols for individuals who leave treatment against medical advice to reduce the likelihood that they will overdose. For instance, providers could provide education at discharge on how to properly respond to an opioid overdose and provide naloxone supplies to PWMO leaving treatment as these methods have been found to reduce overdose-related mortality. Finally, prospective studies need to be conducted to establish the causal pathways between different types of treatment and overdose.

## INTRODUCTION

Drug overdoses are the leading cause of injury deaths in the United States.[1] Over 47,000 opioid overdose deaths occurred in 2017–an increase of almost 5,000 opioid overdose deaths from 2016 and a 5.9-fold increase in the total number of deaths from 1999 to 2017.[2,3] Opioid overdose death rates are increasing at an alarming rate, and those most at risk are people who misuse opioids (PWMO). In 2017, an estimated 1.7 million Americans had a prescription opioid substance use disorder (SUD), and 652,000 had a heroin use disorder (not mutually exclusive).[4]

Given that there is an increased risk of death from an opioid overdose among PWMO, it is imperative that we assess risk factors associated with an opioid overdose to improve targeted intervention. Previous research has shown an increased risk for an overdose is associated with being white, educated, and homeless.[5-10] Furthermore, males tend to be at a greater risk for an overdose[7,11,12], but the research in this area is conflicting.[5,9] For instance, females recently released from jail may be at an elevated risk for an opioid overdose in comparison to males.[9] In addition, the drug used (e.g. prescription drug vs other) might affect the differential risk of overdose among males and females.[5] How opioids are self-administered also have been shown to impact overdose risk. Specifically, opioid misusers who inject drugs are at a greater risk of experiencing an overdose.[6,13] Furthermore, witnessing others overdose have been strongly linked to having an overdose.[8,9]

Some groups tend to have higher rates of overdose, such as people who were recently released from jail[9] or substance use treatment.[12] Tolerance diminishes rapidly after an opioid is stopped,[14] and opioid users who use after periods of abstinence may not reduce their consumption of opioids to a 'safe dose.' These changes are likely responsible for the

increased risk of overdose following discharge from abstinence-based treatment or jail.[15,16] Furthermore, a recent meta-analysis showed having an substance use disorder is one of the strongest predictors of having a fatal drug overdose,[17] making it important to look at drug treatment variables as risk factors for having an opioid overdose. One of the strongest risk factors for having an overdose is having had a previous overdose[12,18-20] making it vital to address associated risk factors with an opioid overdose so that future and potentially fatal overdoses can be avoided.

There has been some research that has looked at drug treatment variables as possible risk factors for an opioid overdose, but the research is limited.[8,10] Schiavon and colleagues, assessed factors associated with having a non-fatal opioid overdose with a high-risk sample. They found that having more buprenorphine treatment episodes was associated with increased odds of having an opioid overdose, and having more methadone treatment episodes was associated with decreased odds of having an opioid overdose. This research is noteworthy because research suggests that medication-assisted treatment (MAT) adherence on buprenorphine or methadone reduces the risk of overdose.[21] However, when these medications are stopped overdose risk goes back to baseline.[22] Additionally, one study found bivariate associations between residential drug treatment attendance and past-year drug overdose on any drug with a sample of young people,[10] but they did not specifically focus on opioid overdoses. Furthermore, research conducted in Southern California has not been well represented in the literature.[11,23] This is important because rates of overdose in California have increased in recent years, and some counties have rates of overdose twice the state average.[24] Therefore, we seek to add to the existing research in the area and fill gaps in knowledge by explicitly focusing on non-evidence based forms of drug treatment and other important factors

associated with non-fatal opioid overdose in counties in Southern California that have higher rates of opioid-related overdose mortality (compared to the California state average).

The objectives of this study were to analyze factors associated with non-fatal opioid overdose among a suburban/exurban opioid-using population in Southern California. Specifically, we will be assessing non-evidence based types of drug treatment (methadone detox, buprenorphine detox, Vivitrol, and 12-step program attendance), age of first opioid use, length of opioid use, and method of administration of first opioid use (oral vs. other) and the associations with having a history of a non-fatal opioid overdose. We hypothesize that lifetime history of non-fatal opioid overdose will be associated with ever receiving non-evidence-based substance use treatment and that risk for an overdose will be greatest for opioid users who have attended more than one type of non-evidence-based drug treatment. Furthermore, we hypothesize that lifetime history of non-fatal opioid overdose will be associated with younger age at first opioid misuse, longer length of time using opioids, and first using an opioid drug by non-oral methods (e.g., inject, smoke).

## METHODS

### Recruitment

Participants in the present study represent a convenience sample. They were recruited by referral from community organizations that provide services and training to PWMO, through snowball sampling,[25] and by attending areas where PWMO frequent (e.g. methadone clinics). Flyers were displayed and distributed by community organizations, methadone clinics, and sobriety clubs. The flyer displayed contact information so that potential participants could contact the study staff. Potential participants were asked a few screening questions, and if eligible and still interested, arrangements were made to conduct a one-on-

one face-to-face interview at a time and place of the participant's choosing. Participants were given a consent form to read, and once verbal consent was given the survey was conducted. All study procedures were approved by the Institutional Review Board at the University of California, San Diego. All participants were given a $40 cash incentive for time and travel. Once the interview was complete, participants were asked if they knew other people who used opioids and asked if they would be willing to refer them to the study. Participants who stated that they did and were willing to refer potential participants were given the study flyer or contact information to pass on to other potential participants.

**Data Collection**

The interviewer-administered questionnaire was conducted at a location of the participants' choosing and measured self-reported behaviors. The questionnaire lasted 30 minutes to an hour, and information in multiple domains were asked: Sociodemographic characteristics (e.g. age, gender, education); substance use history (e.g. first use); drug treatment (e.g. methadone, 12-step); and opioid overdose. Opioid use was asked about in a timeline format (e.g. first use to the present) and type of opioid used, and how they were using it (e.g. smoke) were assessed. Data collection was conducted on tablet computers or cellphones connected to the internet and uploaded to a secure web server. All interviewers were either seasoned quantitative interviewers or were trained by senior staff. Three experienced interviewers conducted 95% of the interviews, and interviews were mostly conducted at coffee shops and outside dining establishments in semi-private locations (e.g. tables outside of Starbucks).

## Participants

Data for the current study was acquired between November 2017 and August 2018 in three different counties in Southern California: San Diego, Orange County, and Ventura. A total of 365 participants took part in the study, but 10 were excluded because they were missing data across the opioid timeline ($n$ = 3), they never misused prescription opioids and never used heroin ($n$ = 3), or the interviewer had no confidence in their responses ($n$ = 4).

Participants were eligible for the current study, if they were 14 years of age or older, were either current or former heroin users, or current or former pharmaceutical opioid misusers (e.g. used opioids for reasons other than what they were prescribed for, or used opioids that were not prescribed to them). Of the 355 participants that were recruited, 167 were recruited in Orange County, 114 were recruited in San Diego County, and 74 were recruited in Ventura County.

## Measures

The primary outcome of interest was lifetime non-fatal opioid overdose, where overdose was defined by the following question: "The next questions are about overdosing on heroin or other opioids. Different people have different ideas about what an overdose is. For these questions, we mean only those times when someone loses consciousness, and something had to be done if they were going to come back." The overdose question prompt was designed to provide participants with a clear understanding of what we considered an overdose to be. Lifetime overdose was based on the following question, "Using this definition, have you ever overdosed on opioids in your life?" and the response options were yes or no.

Age, gender, education level, and race/ethnicity were obtained by self-report. Questions regarding gender were open-ended, and three categories were obtained. Education

was collapsed into 3 categories (less than high school, high school, and more than a high school). Race/ethnicity categories included Asian, African American, Hawaiian/other Pacific Islander, Hispanic/Latino, Native American/American Indian/Alaska Native, white, and other and were not mutually exclusive. Race/ethnicity was collapsed into two categories (white versus other) for analysis because past research has shown that being white is a risk factor for having an opioid overdose.[8]

Opioid misuse was defined by using prescription opioids without a doctor's prescription, using prescription opioids for any reason other than pain, and/or using heroin. Using an opioid drug by non-oral methods was constructed by the questions, "The first time you took opioids, how did you take them?" The main independent variables of interest were drug treatment history and were obtained by self-report. Participants were asked, "Have you ever been in any kind of treatment or counseling for drug or alcohol use?" and if they answered yes on this question, they were asked about the type of drug treatment they have attended. Drug treatment categories included methadone detox, buprenorphine detox, Vivitrol, and Narcotic Anonymous, Alcoholics Anonymous, or other 12-step attendance (e.g. Cocaine Anonymous) and were not mutually exclusive. Finally, to assess associated overdose risk with number of treatment types attended, we constructed a count variable that included all four different treatment types. The count variable ranges from 0 to 3. Participants who stated that they had attended all of the different treatment types and participants who stated that they attended three out of four treatment types were combined because only 10 participants reported having attended all four types of treatments.

## Data Analytic Approach

All analyses were performed using SAS version 9.4. Initial descriptive analyses were conducted on all variables of interest. Next, between-group comparisons were conducted using a chi-square test for categorical data and *t*-tests for continuous data at the alpha 0.05 level. Next, a chi-square test was conducted on the number of treatment types attended by lifetime non-fatal opioid overdose. Finally, a multivariate logistic regression model was performed, and sociodemographic factors and other factors significant at the alpha .10 level in the bivariate tests were included in the model as covariates. Prior to all analyses, assumptions for performing logistic regression were performed. Hosmer and Lemeshow goodness of fit test was used to assess model fit.[26]

# RESULTS

## Overall Characteristics of the Sample

As shown in column 1 of Table 1, participants on average were 34.3 years old (*SD* = 10.53) ages ranged from 19 to 76 years old. A total of 229 participants identified as male (65%), 124 identified as female (35%), and 2 identified as non-binary or gender fluid (<1%). A majority of the sample identified as white only (61%) followed by Latino/Hispanic only (19%), Black/African-American only (4%), Asian/Asian-American only (<1%), and Native American or American Indian or Alaska Native only (2%). The remaining identified as multiracial (12.5%). A total of 46.8% of the sample reported having more than a high school education, 32.7% reported obtaining a high school degree or GED, and 20.6% reported having less than a high-school education.

A total of 198 (55.8%) of participants reported at least one overdose in their lifetime (Table 1). The average age of first opioid misuse was 20.3 years old and ranged from 7 to 72

years. On average, participants misused opioids for 14 years, and years of misuse ranged from less than a year to 49 years.

**Sociodemographic, Treatment, and Opioid Use Variables by Lifetime Overdose**

Table 1 presents a comparison between those who had a non-fatal opioid overdose and those who did not on sociodemographic, treatment, and opioid use variables. No sociodemographic variables tested were found to be associated with non-fatal overdose. Initial bivariate analyses showed that three out of the four treatment variables were significantly related to having had an opioid overdose. Participants who had an opioid overdose in their lifetime were more likely than participants who had not had an opioid overdose in their lifetime to have had a history of methadone detox (32.3% vs. 15.29%, $p < .01$), buprenorphine detox (33.8% vs. 20.4%, $p < .01$), and a history of attending 12 step programs (79.3% vs. 63.7, $p < .01$). Having taken Vivitrol was not found to be associated with lifetime opioid overdose in this sample. Using an opioid drug by non-oral methods at first opioid use (e.g. inhalation versus swallowing) was also significantly associated with having a non-fatal opioid overdose (27.8% vs. 10.83%, $p < .01$). Younger age at first opioid misuse (19.2 years vs. 21.8 years) was also found to be associated with lifetime opioid overdose (Table 1).

**Opioid Overdose by Number of Different Treatment Types Attended**

Among the 355 participants 76 (21.4%) reported that they have never attended any of the four questioned treatments, 128 (36.1)% reported that they have been to one type, 95 (26.8%) reported that they have been to two types, and the remaining 56 (15.8%) reported that they had been to three or four different types of drug treatments. A significant chi-square test showed an association between the number of types of treatment attended and opioid

overdose, $X^2$ (3) = 17.8, $p < .001$. As shown in Figure 1, the associated risk for an opioid overdose increases as the number of types of treatment increases.

**Full Model with all Variables**

The full multivariate logistic regression model is presented in Table 2. When controlling for demographic factors, non-oral opioid administration at first opioid use (AOR 2.82, 95% CI 1.52-5.22), methadone detox, (AOR 2.23, 95% CI 1.27-3.91), buprenorphine detox (AOR 1.77, 95% CI 1.02-3.07), and 12-step attendance (AOR 1.89, 95% CI 1.12-3.20) were found to be independently and positively associated with lifetime opioid overdose.

## DISCUSSION

This study shows the associations of non-evidence-based types of drug treatment and opioid administration at first use with lifetime opioid overdose. While some studies have documented the associations between methadone, buprenorphine, and SUD treatment with opioid overdose[6,8,10] the association has not been well studied. Thus, our study makes an important contribution to the literature by specifically focusing on substance use treatment approaches that do not have a strong evidence base. Furthermore, Ventura, San Diego, and Orange County have higher rates of opioid-related overdose mortality than the state's average, making the location of the research vital to local policymakers.[24]

Among a suburban/exurban opioid-using population in Southern California, over half reported having had at least one opioid overdose in their lifetime. The high number of reported overdoses in our sample is consistent with the literature[8,15] and highlights the health risks of opioid use. Our study also found an association between younger age of first opioid misuse and opioid overdose. Most research reports on the age at the time of the interview and

the associations with opioid overdose.[7,11] For instance, Chang, et al. found that having a non-fatal opioid overdose in 2016 was associated with younger age (36.53 vs 39.17). Nevertheless, our study shows that younger age at first opioid misuse is associated with having an opioid overdose, further highlighting the need for targeted intervention for younger people who use opioids. Furthermore, how opioids are used (e.g. smoking opioids vs. taking opioids by mouth) is an important factor in predicting overdose risk. For instance, we found using an opioid drug by non-oral methods at first opioid use (e.g. inhalation vs. swallowing) was a reliable predictor of having a later opioid overdose. Using an opioid for the first time by any other method except oral administration placed opioid misusers at almost 3 times the risk of experiencing an opioid overdose in their lifetime. These findings seem reasonable given that injection drug use is a reliable predictor of having an opioid overdose in other studies.[6,27]

Methadone detox, buprenorphine detox, and 12-step attendance were shown to be independently associated with lifetime opioid overdose. On average, opioid users who attended any of the three treatments were almost twice as likely to have had at least one opioid overdose in their lifetime. These results are not that dissimilar to other studies.[8,28] For instance, a study conducted in the United Kingdom found that people who inject drugs who recently stopped taking a detox or a maintenance treatment (as opposed to currently taking or never taking a detox/maintenance treatment) were more likely to have had an overdose in the past year.[28] Furthermore, we found that attending more than one type of treatment was associated with ever having had an opioid overdose and that the associated risk was greatest among participants who have attended three or four different treatment types. These results support similar studies that have documented an association between more times in buprenorphine treatment and lifetime opioid overdose. For instance, Schiavon and colleagues

found that the number of times in buprenorphine treatment was positively associated with opioid overdose. Interestingly, they also found that the number of times in methadone maintenance was negatively associated with lifetime opioid overdose. It may be that more treatment attempts in methadone maintenance or being on methadone long-term versus ever attending methadone detox or treatment are responsible for the difference in our results and theirs. This makes sense given that being in active treatment with an opioid-substitution generally reduces risk for an overdose,[21,22,29,30] but once treatment is discontinued, mortality risk becomes elevated.[30]

Given that our results are cross-sectional, it is hard to identify the order of the relationship between substance use treatment and opioid overdose. However, we speculate that the relationship is bidirectional. For instance, having attended multiple types of treatment or attending treatment, in general, may represent severity of opioid misuse and subsequent increase in opioid overdose risk. Research has shown that severity of opioid misuse is associated with non-fatal overdoses[7,31] and may explain some directionality. For instance, PWMO who have greater severity of opioid misuse may seek out treatment more so than PWMO, who have less severity of opioid misuse. Treatment attendance, therefore, represents the severity of drug use and may further explain why we found an association between attending multiple treatment types and opioid overdose.

The association between attendance to a 12-step program and lifetime opioid overdose may be explained by diminished tolerance after being abstinent from opioids.[14,15] Thus, opioid users who use after being in a 12-step abstinence-based program are at a greater risk for having an opioid overdose. Research has shown that post-prison release is a high-risk time for overdose[16,23,32] and supports these conclusions. For instance, Ranapurwala and colleagues

found that inmates recently released from prison (two weeks post-release) in North Carolina were 40 times more likely to die from an opioid overdose than the general population. They also found that former inmates who had participated in substance abuse and mental health treatment in prison were at a higher risk of death from an opioid overdose post-release than inmates who did not participate in such treatments.[23] Similarly, stopping MAT treatment prematurely may put PWMO at an increased risk for an opioid overdose. MAT treatment is most effective with longer durations,[33] and risk for opioid overdose is less when buprenorphine is taken for a longer time.[11] These results along with the literature in this area, show how important it is to educate PWMO about their risk for an opioid overdose after leaving substance use treatment.

**Study Limitations**

Our study has a few limitations that need to be addressed. Our study used self-reported information, and this could result in recall bias and motivation to present themselves in a more positive light. For instance, we asked participants to report on the first time they misused an opioid, and for some participants this could have happened 20 years ago. However, drug use was asked in a timeline format to limit recall bias, and all interviewers were trained in an attempt to reduce socially desirable responses. Secondly, our study was cross-sectional, and we are unable to determine when an opioid overdose occurred in relation to substance use treatment attendance. Furthermore, the convenience sample and potential lack of representation of all opioid users limit our ability to generalize these findings. Finally, the low number of participants who reported having had Vivitrol treatment may not have provided the statistical power to detect differences in opioid overdose risk for that group.

## Conclusions

The current study furthers our understanding of the risk factors for a non-fatal opioid overdose among a suburban/exurban population in Southern California. Our study found a strong association between using an opioid drug by non-oral methods at first opioid use and three different types of substance use treatments with having a non-fatal opioid overdose. Given these results, we believe more focused intervention needs to take place in all types of drug treatment programs. For example, treatment providers need to establish follow up protocols for individuals who leave treatment against medical advice to reduce the likelihood that they will overdose. For instance, providers could provide education at discharge on how to properly respond to an opioid overdose and provide naloxone supplies to opioid users leaving treatment as these methods have been found to reduce opioid overdose-related mortality.[34,35] Finally, prospective studies need to be conducted to establish the causal pathways between different types of treatment and overdose.

**Table 4.1: Characteristics of participants and associations with experiencing a non-fatal opioid overdose**

| | Total n = 355 n (%) | Nonfatal Overdose n = 198 (55.8%) n (%) | No Nonfatal Overdose n = 157 (44.2%) n (%) | $X^2$/t | p-value |
|---|---|---|---|---|---|
| Age, M (SD) | 34.29 (10.53) | 34.07 (10.15) | 34.58 (11.03) | 0.46 | .65 |
| Female | 124 (35.1) | 72 (36.6) | 52 (33.3) | 0.39 | .53 |
| White | 218 (61.4) | 120 (60.6) | 98 (62.4) | 0.12 | .73 |
| Education | | | | | |
| Less than high school | 73 (20.6) | 45 (22.7) | 28 (17.8) | | |
| High school or GED | 116 (32.7) | 71 (35.9) | 45 (28.7) | | |
| More than high school | 166 (46.8) | 82 (41.4) | 84 (53.5) | 5.14 | .07 |
| Non-oral opioid administration at first opioid use | 72 (20.28) | 55 (27.8) | 17 (10.83) | 15.56 | **<.01** |
| Age at first opioid misuse, M (SD) | 20.3 (8.63) | 19.2 (7.32) | 21.8 (9.87) | 2.86 | **<.01** |
| Years of opioid misuse, M (SD) | 13.95 (10.11) | 14.87 (10.77) | 12.8 (9.12) | 1.94 | .05 |
| Methadone detox | 88 (24.8) | 64 (32.3) | 24 (15.3) | 13.63 | **<.01** |
| Buprenorphine detox | 99 (27.9) | 67 (33.8) | 32 (20.4) | 7.88 | **<.01** |
| Vivitrol | 48 (13.5) | 26 (13.1) | 22 (14.0) | .06 | .81 |
| 12-step | 257 (72.4) | 157 (79.3) | 100 (63.7) | 10.66 | **<.01** |

Significant values p<0.05 bolded.

**Table 4.2: Multivariate logistic regression model for ever having had an opioid overdose (n = 355)**

| | OR (95% CI) | AOR (95% CI) |
|---|---|---|
| Education (Reference high school) | | |
| Less than high school | 1.02 (0.56-1.86) | 1.16 (0.61-2.21) |
| More than high school | **0.62 (0.38-1.00)** | 0.62 (0.37-1.03) |
| Age at first opioid misuse | **0.96 (0.94-0.99)** | **0.97 (0.94-1.00)** |
| Non-oral opioid administration at first opioid use | **3.17 (1.75-5.72)** | **2.82 (1.52-5.22)** |
| Methadone detox | **2.65 (1.56-4.48)** | **2.23 (1.27-3.91)** |
| Buprenorphine detox | **2.00 (1.23-3.25)** | **1.77 (1.02-3.07)** |
| Vivitrol | 0.93 (0.50-1.71) | 0.73 (0.36-1.45) |
| 12-step | **2.18 (1.36-3.50)** | **1.89 (1.12-3.20)** |

Significant values $p<0.05$ bolded.

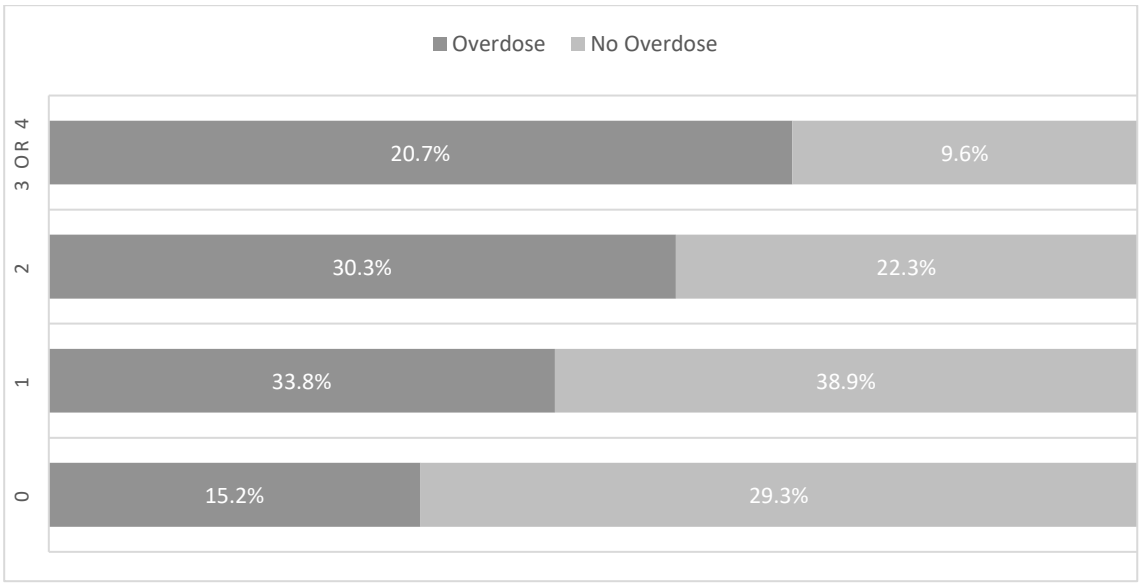


**Figure 4.1: Opioid Overdose by number of different treatment types attended**

Note: Types of treatments include methadone detox, buprenorphine detox, Vivitrol, and 12-step attendance.

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# CHAPTER 5: DISCUSSION

## OVERVIEW

The dissertation used multiple approaches to better understand how healthcare laws and SUD treatment affects health outcomes for people who misuse opioids (PWMO) in Southern California. Firstly, we described and identified how healthcare policy changes impacted substance use disorder (SUD) treatment services (e.g. treatment utilization, treatment quality, and adoption and acceptance of MAT) from the perspective of professionals who work in the SUD treatment field (Aim 1). Secondly, we investigated how changes in healthcare policy negatively impacted substance use treatment services and caused abuses in the treatment industry from the perspective of professionals and PWMO (Aim 2). Finally, we assessed how non-evidence-based types of SUD treatment, affect non-fatal opioid overdose risk in a suburban/exurban opioid-using population (Aim 3). The dissertation fills gaps in the literature, adds to existing knowledge, and provides useful information to policymakers.

In Chapter 2, Moresin's framework[1] was used to analyze the impact of policy changes (behavioral health parity and the ACA) on the harms caused by drug use (e.g. opioid overdose,) by focusing on the intermediate effects of the policy (e.g. treatment utilization, treatment quality, and adoption and acceptance of MAT). Three overarching themes were revealed from the interviews that follow Moresin's framework and are as follows: 1) effectiveness of the ACA for the treatment of SUDs, 2) unintended effects of the policy, 3) effect of the policy on different groups. The last two themes emerged from the data and are 4) medication-assisted treatment, and 5) solution to the problem. Specifically, we found that healthcare policy changes increased treatment utilization for beneficiaries of private and public insurance. Most professional participants reported that insurance coverage for their

patients increased post-Affordable Care Act (ACA). These qualitative findings also revealed that unethical practices in the field increased post-ACA. Participants often linked the unethical conduct to healthcare policy changes and were concerned about the abuses happening in the industry. Furthermore, age differences in treatment utilization were reported with beneficiaries 25 or younger having increased access to SUD treatment services post-ACA. Interestingly, many participants shared that both private and public insurance plans were requiring the use of medically assisted treatment (MAT), and the changes by the insurance company have increased the adoption and acceptance of MAT. Finally, many participants felt that the SUD treatment industry needed more regulation and oversight.

Chapter 3 shows an increase in unethical practices in the SUD treatment industry post-ACA. Specifically, 4 themes emerged from the interviews: 1) patient brokering, 2) financial enticements, 3) drug use to get into treatment, and 4) opioid overdose risk. Many participants shared stories of abuse that happened to them or others when discussing recruitment practices. For instance, participants shared that they were required or encouraged to use drugs prior to returning to treatment. Some participants also shared that they were paid to attend SUD treatment and that treatment was no longer about getting help for their addiction but was about making money. Furthermore, participants believed that the unethical practices in SUD treatment have damaged the integrity of the industry as a whole and harmed people with an SUD. The most alarming finding in our qualitative study was reports of overdose in the context of unethical conduct. Specifically, many perceived that patient brokering, and other abusive practices have created an environment that have increased opioid overdose risk for PWMO.

In Chapter 4, A total of 198 (56%) of participants reported at least one opioid overdose in their lifetime. Furthermore, we found a relationship between lifetime non-fatal opioid overdose and non-evidence based forms of SUD treatment. Specifically, in our multiple logistic regression model, we found that first using an opioid drug by non-oral methods (e.g. used an opioid for the first time by inhalation, injection) (AOR 2.82, 95% CI 1.52-5.22), younger age at first opioid misuse (AOR 0.97, 95% CI 0.94-1.00), methadone detox (AOR 2.23, 95% CI 1.27-3.91), buprenorphine detox (AOR 1.77, 95% CI 1.02-3.07), and 12-step attendance (AOR 1.89, 95% CI 1.12-3.20) were associated with lifetime opioid overdose. Additionally, we found a positive association between the number of treatment types attended and lifetime non-fatal opioid overdose. Opioid overdose risk was greatest for participants who had experienced 3 or 4 different types of non-evidence based forms of treatment (20.7% vs. 9.6%).

**CONCEPTUAL FRAMEWORK**

As stated above, Moresin's framework and logic model were paramount in understanding and assessing how healthcare policy changes (behavioral health parity and the ACA) impacted treatment utilization, treatment quality, and adoption and acceptance of MAT (e.g. intermediate effects). Most notably, the logic model used from Moresin's framework helped identify problems in SUD treatment that need to be mitigated (e.g. unintended effects). In addition to Moresin's framework, the social-ecological model (SEM) was used to guide the research questions in the dissertation and understanding of the results.[2]

As stated in Chapter 1, the SEM is useful for explaining complex problems that result from multiple and interacting factors, and the SEM was helpful in conceptualizing how these multiple interrelated factors interact with each other to increase opioid risk. For instance, we

found an increase in unethical practices in the SUD treatment industry post-ACA in Chapter 2 and 3, that show the interrelated nature of public policy level determinates (e.g. ACA) on organization level determinates (e.g. SUD treatment culture) that interact with interpersonal level determinates (e.g. patient brokering) that may increase opioid overdose risk for PWMO. Specifically, the changes in healthcare policy influenced the emergence of a harmful treatment environment in the SUD treatment sector, which ultimately put PWMO at a greater risk for an opioid overdose.

The treatment careers perspective is a longitudinal approach to understand the factors that impact drug dependence and the course of its treatment among persons who have an SUD.[3] As put forth by the treatment careers perspective, motivation to attend treatment may vary depending on the experiences or success of previous treatment episodes and was demonstrated in Chapter 3. Many of the participants in Chapter 3 shared that their motivations for attending treatment changed after attending treatment programs that endorsed unethical conduct and felt SUD treatment was no longer about getting help for their problem but was about making money.

## IMPLICATIONS AND RECOMMENDATIONS

The findings from the dissertation have several implications and subsequent recommendations for policymakers and treatment professionals. For instance, the data from Chapter 2 and 3 suggest that unethical conduct in SUD treatment is widespread post-ACA, and more regulation and oversight of treatment centers and sober living facilities are needed. While several bills were passed in 2018 that address some of the problems that were discussed in this dissertation,[4-6] more still needs to be done. Specifically, unlicensed facilities and sober living facilities need to be regulated. Treatment centers intending to treat PWMO should not

be allowed to provide treatment without being licensed, and I call on legislators to pass a bill that is currently making its way through the California legislation system that would partly address this issue. Assembly Bill 920 would prohibit outpatient SUD treatment programs from providing services without a license,[7] and I encourage legislators to pass the bill in its current form. Requiring all SUD treatment providers to be licensed along with legislation that has already been passed, that require licensed treatment providers to adhere to the American Society of Addiction Medicine treatment criteria, will partly address the ethical abuses shown in this dissertation in Chapter 2, and 3.

I would further encourage legislators at the federal level to amend the American with Disabilities Act and Fair Housing Act so that state and federal legislators can regulate and monitor sober living facilities. Currently, people who are in a sober living facility are classified as disabled and are protected under the American with Disabilities Act and Fair Housing Act, and these protections make it difficult for legislators to properly regulate sober living facilities.[8] Currently, a sober living facility can operate without a license as long as they are not providing specialty care. Furthermore, sober living facilities do not have to have someone on duty who is credentialed to provide SUD services. However, as my data suggests, these conditions can create abusive situations. An unlicensed outpatient program can team up with an unlicensed sober living facility and provide treatment in a manner very similar to an inpatient SUD treatment program without being monitored or regulated. These practices need to stop, and sober living facilities should be required to register their status with the state and meet basic standards of care in order to function.

Opioid overdoses are at an all-time high,[9] and more people are seeking treatment since the implementation of the ACA. However, identifying qualified treatment providers is a

difficult task for many Americans who are seeking treatment as the data from Chapter 2 and 3 suggest. A database that provides comprehensive information on SUD providers and ethics violations of these providers does not exist and leaves many seeking treatment open to exploitation. A federal database that offers comprehensive information on SUD treatment providers that includes a list of licensed and unlicensed providers and ethics violations needs to be established so that consumers can make more informed decisions about their treatment options. Furthermore, all licensed facilities should be required to provide a detailed list of any violations that have occurred at their place of business and provide that information to the federal database in order to maintain their license.

Most for-profit SUD treatment programs have full control over the type of treatment that they provide. Sometimes, substandard care is provided because providers allow their own beliefs to dictate the type of service they provide, as shown in Chapter 2, and 3. This most often happens among treatment providers who have a 12-step abstinence-based background, and because of their personal beliefs, they deny their patients access to MAT, an evidence-based treatment. State legislation in California has been established that requires a higher standard of care for SUD treatment providers but will likely have little impact if providers do not have the education and training to carry out evidence-based practices. Currently, in the state of California, you can become a certified SUD counselor with less than a bachelor's degree education. However, other qualified individuals that provide services in the mental health field are required to have a master's or doctoral level of education to provide services to individuals with depression. In an effort to increase the quality of care for people with an SUD, counselors should be required to have at least a Bachelor's Degree in addition to specialty training in the area of evidence-based SUD treatment.

The data from this dissertation in Chapter 3 and 4 and previous literature suggest risk of overdose is high when PWMO leave SUD treatment.[10,11] Given this concern, SUD treatment providers should routinely provide naloxone (a drug that reverses the effect of an opioid) to people who have an OUD when they leave treatment. Furthermore, naloxone has no abuse potential, and brief education is sufficient for proper administration,[12] making it a fairly easy intervention for providers to implement at discharge.

## LIMITATIONS

### Generalizability

Given the qualitative nature of Aim 1 and 2 and the location and type of participants recruited, generalizability to other groups is not possible. Professional participants (Aim 1 and 2) were mostly from Orange County, and the ACA and healthcare parity perceived success might differ in other parts of the country. Furthermore, English speakers were only recruited (Aim 1 and 2), and it is possible that differences may exist for other groups. Next, a majority of the sample recruited for Aim 3 initiate opioid use with prescription drugs, limiting our ability to generalize those findings to PWMO, who initiated opioid use through other routes of administration.

### Biases

Coding and analysis were carried out by one person, and some unintentional biases may exist (Aim 1 and 2). However, several precautions were undertaken to reduce these biases. Firstly, detailed field notes were taken, and thoughts on the subject matter, insight gained from the interviews, and personal subjectivity were recorded. Secondly, memos were used regularly during data collection and data analysis to aid in the understanding of the

personal subjective influence on the process of data collection and analysis. Finally, the author of the dissertation consulted with the chair of the dissertation to help check on additional biases throughout the data collection and analysis phase of the project.

The data for the dissertation used self-reported information, and this could result in recall bias. For instance, participants were asked to report on the first time they misused an opioid (Aim 3), and for some participants, this could have happened 20 years ago. However, drug use was asked in a timeline format to limit recall bias. Next, participants may have provided answers to questions that are considered 'socially acceptable' in an attempt to present themselves in a more positive light. Similarly, participants may have been hesitant to report on drug-using behaviors. However, participants were assured of confidentiality, and participants were excluded from analysis (Aim 3) when the validity of their answers were in question ($n$ = 4).

**Inferential Cautions**

The dissertation used cross-sectional analyses, and therefore no temporal relationship could be determined. Specifically, we were unable to determine when an opioid overdose occurred in relation to substance use treatment attendance in Chapter 4. Additionally, the low number of participants who reported having a history of Vivitrol treatment may not have provided the statistical power to detect differences in opioid overdose risk for that group in Chapter 4**.**

**Recent Legislation Changes**

Several changes in legislation occurred around the time of data collection, and monitoring of SUD treatment centers are being implemented.[13] For instance, law enforcement

officials have conducted raids on some treatment programs and prosecuted individuals for illegal acts.[14] The changes that have taken place in the SUD treatment sector over the last few years have been dynamic, and these ongoing changes could render some of the findings from the study out of date.

## FUTURE RESEARCH

The results from this dissertation are the beginning steps to understanding the complex relationship between SUD treatment, healthcare, and opioid overdoses. Future studies should build from the knowledge gained in this dissertation. Specifically, a future study should collect quantitative data to assess the causal relationship between unethical practices in SUD treatment and opioid overdoses. Additionally, studies could be conducted that assess the relationship between MAT use in inpatient treatment and overdose. For instance, one could assess the difference in overdose rates among participants who attend SUD inpatient treatment programs that offers MAT versus SUD inpatient treatment programs that do not offer MAT.

Future mixed methods studies should be conducted that focus on the effectiveness of the Drug Medi-Cal Organized Delivery System (DMC-ODS) in comparison to private for-profit SUD treatment. Specifically, focusing on aspects of the programs that may be different. For instance, regulation and oversight within public programs tend to be more stringent, and differences of the two types of systems on that variable should be assessed.

## CONCLUSIONS

Findings from this dissertation provide an understanding of the effectiveness of the ACA at reducing drug-related harms, provide in-depth insight on the pervasive unethical

practices in the SUD treatment field, and contribute to our understanding of factors associated with an opioid overdose. While access to SUD treatment has become easier since the enactment and implementation of the ACA and healthcare parity,[15] unethical conduct in the treatment industry has limited the positive impact of these policies. Furthermore, the link between drug treatment and opioid overdose risk found in the dissertation highlight the need for harm reduction approaches to be utilized. Abstinence-based treatment programs should provide access to MAT and training and distribution of naloxone at discharge.

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## APPENDIX A. Final qualitative interview guide for professionals

Participant Type: Experts

(Effectiveness)

1. What are the effects of MHPAEA and ACA on opioid overdoses?
2. How effective is MHPAEA and ACA on intermediate effects (i.e. more people going to treatment)?
3. Is the intervention logic of this policy plausible?
4. How does the implementation context influence this policy's effectiveness?
5. How much time is needed before effects can be observed? Do the effects persist over time? When do you notice changes in the system post-ACA?

(Unintended effects)

6. Does the policy under study produce unintended effects, whether positive or negative (e.g. have treatment centers been unethical as a result of more funds for treatment)
7. How can the negative unintended effects be mitigated?

(Equity)

8. What are the effects (intended or unintended) of the policy under study on different groups (e.g. access to healthcare might be different for different ethical groups)?
9. Does this policy create reinforce or correct social inequalities in health?

(Emerging themes)

10. Can you tell me about the use of Narcan in the industry?
11. Can you tell me about MAT in the industry?
12. Stigma with MAT?

13. Can you tell me about the education level in the field?
14. What type of evidence-based approaches are used in the field?
15. What can we do to address the problems you discussed today? What are the solutions

## APPENDIX B. Final qualitative interview guide for PWMO

Participant Type: People who use opioids

1. What is your age?
2. What gender do you identify with?
3. What is your race/ethnicity?
4. What is your living situation like?
5. How long have you been using?
6. Tell me about the last time you went to inpatient drug treatment?
7. Have you attended other types of drug treatment (e.g. outpatient or sober living)
8. Tell me why you went into drug treatment?
9. How did you pay for drug treatment?
10. Did you ever experience body brokering (e.g. someone else getting paid for you to attend drug treatment) or other types of unethical behavior while you were in drug treatment?
11. Did you ever get paid to attend drug treatment or detox?
12. Tell me about the positive experiences you had while you were in treatment.
13. Tell me about the negative experiences you had while you were in treatment.
14. Tell me about your experiences with opioid overdoses? Have you witnessed an overdose?
15. Have you had an opioid overdose?
16. Have you ever received naloxone (trade name Narcan) the drug given to someone when they are overdosing? Tell me about that?

17. Have you ever received education or training about had to respond to an opioid overdose in drug treatment?
18. Have you ever received Narcan after leaving drug treatment?
19. Have you or otherers you know been treated differently, put down, or felt judged by people you know because you were either thinking about or enrolled in drug treatment?
20. Do you think different types of drug treatment are stigmatized differently, for example NA vs methadone or MAT?
21. If you wanted to go back into treatment what might prevent you?
22. What can we do about some of the problems you discussed? What are the solutions?