

CALIFORNIA STATE UNIVERSITY, NORTHRIDGE

Clinical and Demographic Profile Analysis of Patients Receiving Ibogaine Treatment for  
Substance Use Disorders in Mexico

A graduate project submitted in partial fulfillment of the requirements  
for the degree of Master of Social Work

By

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May 2019

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## Acknowledgements

Deep gratitude to Dr. Cole Marta for encouraging me on this path and for being a best boss I have ever had. I would like to thank Dr. Joseph Barsuglia and Dr. Martin Polanco for their persistence and passion in this field of work and not being afraid to push the boundaries. Thank you for creating a space for healing and the expansion of knowledge. And a warm thank you to Brooke Balliett, Erica Siegal, Nick Brüss, Vicki Kraft, and Shannon Carlin for being an amazing team and supporting me professionally and as friends. I would also like to thank the MAPS and MPBC staff for their tireless hard work and to Rick Doblin for his vision. It is an honor to be on a team with you all. I look forward to seeing how we will together impact the world of mental health and beyond.

Gratitude to the plants and animals that support our growth and to God for the blessings of this journey.

## Dedication

This graduate project is dedicated to my partner, Bear. Thank you for taking such good care of me throughout this journey. I promise to take good care of you for the rest of our lives.

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## Abstract

### Clinical and Demographic Profile Analysis of Patients Receiving Ibogaine Treatment for Substance Use Disorders in Mexico

By

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Master of Social Work

As of 2017, drug overdose is now the primary cause of accidental death in the U.S. and there is a dire need for effective opiate and other substance use disorders. Several pilot studies have shown the effectiveness of ibogaine treatment on individuals struggling with opiate abuse, however, little momentum has been made to study its efficacy in FDA clinical trials due the Schedule I status of ibogaine. The present study indicates that people participating in this international medical tourism were predominantly Caucasian people of privilege with the financial means. Polysubstance use and trauma were prominent in this sample of people struggling with substance use disorders, of which ibogaine targets both of these areas. One advantage of increasing substance use by Caucasian Americans maybe be that with more visibility, more funding and research can improve treatment for all people. Social Workers, with a commitment to evidence-based practices and social justice, would be wise to advocate for further research into ibogaine and wider accessibility of this promising treatment for a broad range of addictions and their underlying mental health drivers.

*Keywords:* substance abuse, opiate, opioid, addiction, ibogaine, iboga, psychedelic, trauma

## **Problem Statement and Research Questions**

While ibogaine treatment is currently illegal in the United States, there are many progressive research organizations that are investigating the safe and effective use of ibogaine therapy in numerous international settings including New Zealand and Brazil where it is administered in pilot programs and research settings. The field of social work is progressive and patient-focused service industry that should know about effective options for people with substance use disorders, and the preliminary and international data demonstrate that ibogaine is a promising therapy. Through understanding the current demographic of patients seeking this treatment we can better see where there are barriers to treatment and advocate for the allocation of funds for further drug development and research in order to expand access to a wider demographic and underserved populations with substance use disorders. Social workers can advocate for more effective substance use disorder treatments, reforming drug policy around science, and treating substance use disorders as a health issue rather than a criminal justice issue.

The objective of this retrospective (archival) study was to aggregate and analyze demographic data using validated clinical instruments in patients who sought out ibogaine treatment for substance use disorder (SUD). We aimed to gain insight into the current population of clients seeking ibogaine treatment at facilities in Mexico. Our goal was to aggregate valuable client data for the medical and scientific communities understand how to address where access is limited to a wider demographic and underserved populations with substance use



disorders. Data explored were from a uniquely large sample (>200 patients), which included socioeconomic status, race/ethnicity, mental health, family and trauma history, social support, and addiction severity derived from responses to the Behavioral Health Index (BHI) measure which contains the Addiction Severity Index (ASI).

## Literature Review

Opioid use disorder involving prescription and non-prescription opioids is a growing epidemic in the United States with increasing visibility to the general public. The Centers for Disease Control and Prevention (CDC) reports that on average 130 Americans die each day from opioid overdose (CDC, 2017). Given the negative impact of poor drug policy and harm reduction on this issue, as well as, few effective treatment alternatives, it is clear that additional strategies for detoxification, withdrawal, and underlying mental health issues are desperately needed.

Ibogaine is one of several naturally occurring alkaloids found in the root bark of the African shrub *Tabernanthe iboga*. Iboga bark is used as a medicinal and ceremonial agent in indigenous cultures in West Central Africa to treat fatigue, physical maladies, and as a sacrament in initiation rituals and rites of passage (Alper, 2001). The subjective effects of ibogaine are described with several classifications, as a psychedelic, a dissociative, or as an oneirophrenic, or a substance that invokes a dream state without loss of consciousness (Alper, 2001). Ibogaine was classified as a Schedule I substance in the United States under the Controlled Substances Act of 1970 with other hallucinogens and stimulants (Alper, 2001).

Ibogaine's potential for treating opioid dependence was discovered in 1962 by Howard Lotsof, based on personal experience and anecdotal reports. Ibogaine appears to be able to effectively detoxify participants from opioids while simultaneously reducing withdrawal symptoms and cravings (Alper, 2001).

Ibogaine has a risk of severe adverse events when conducted without proper medical screening and supervision, and has been associated with 15 fatalities from 1990 – 2008. However, a thorough investigation of these deaths did not suggest evidence of neurotoxicity (Alper et al., 2012). It seemed that pre-existing medical comorbidities (mainly cardiovascular) and/or one or more commonly abused substances explained or contributed to 12 of the 14 cases. More recent estimates are at approximately 30 reported deaths with Thomas Kingsley Brown conservatively estimating that about 12,000 to 15,000 people have undergone ibogaine treatment in the West since 1962 (Cohen, 2018).

Ibogaine treatment has shown to be an effective treatment for opiate addictions (Barsuglia et al., 2018; Davis et al., 2017; Malcolm et al., 2018; Noller, Frampton & Yazar-Klosinski, 2018). Additionally, ibogaine has also shown effectiveness in treating methamphetamine, alcohol, and cocaine addictions (Alper, 2001). While the mechanism of action is not fully known, there are distinctive and significant impacts of the physiological detoxification and psycho-spiritual therapeutic effects. While ibogaine carries risks that should not be overlooked, the rates of opioid addiction and overdose in the U.S. warrant novel and effective solutions. More research is needed to explore if ibogaine administered under medical supervision, with conservative screening protocols, is a viable treatment for opiate and other substance use disorders.

In countries where ibogaine is unscheduled or available by prescription, Mexico and Canada being the closest to the U.S., numerous clinics have popped up to meet the demand for treatment. Thomas Kingsley Brown estimates that

there are roughly 80 clinics worldwide currently (Cohen, 2018). Little is known of the population that seeks treatment at these facilities, what conditions motivated individuals to do so, and what means they had available to them to visit a center. Few studies have illuminated this patient population, other than treatment outcomes, to explore the biopsychosocial influences. By knowing more about these individuals as whole people, we may understand better why ibogaine treatment is showing effective and if it could be effective in other addiction populations.

## **Methods**

### **Program Description.**

Crossroads Treatment Center (Tijuana, Mexico) enrolls patients ages 18 to 60 years old who are struggling with substance abuse. The program consists of three parts: 1) out-patient preparation coaching and medical screening prior to in-patient treatment, 2) a week-long, in-patient ibogaine detoxification treatment in Tijuana, 3) and optional residential aftercare program or weekly out-patient recovery coaching. Ibogaine treatment is administered at in private, inpatient medical clinic during the first four days, and recovery and integration occurs at in a residential setting the final three days.

The program incorporates the Global Ibogaine Therapy Alliance (GITA) consensus clinical treatment guidelines as part of screening criteria and risk management, which include a host of medical and medication considerations for ibogaine treatment (Dickinson et al. 2015). The GITA clinical guidelines are an informational document and that GITA does not accredit or regulate ibogaine treatment centers, nor is it the aim of the document to establish a universal standard of care for ibogaine. Exclusionary criteria for treatment are severe psychiatric conditions, including current or past psychotic spectrum disorders, bipolar I disorder, current eating disorders, or symptoms of impaired reality testing or disorganized thinking. Medical exclusions for treatment include prolonged QTc interval, history of heart disease, pulmonary embolism, deep vein thrombosis, severe respiratory conditions such as emphysema or COPD, obesity, gastrointestinal disorders such as Crohn's disease or IBS, chronic infectious diseases, cerebellar dysfunction, delirium, organic brain disease or history of severe traumatic brain injury, epilepsy,

current pregnancy, abnormal electrolytes, or impaired hepatic or renal function. Patients are also excluded from treatment if they have used alcohol, amphetamines, cocaine, or psychiatric medications in the week prior to treatment, or have used long-acting opioids such as buprenorphine or methadone in the four weeks prior to treatment. Patients taking benzodiazepines are not tapered. Prior to ibogaine treatment, applicants are converted to short-acting opioids.

Upon arriving at the clinic, patients are maintained on immediate-release (IR) morphine following their initial medical evaluation to prevent opioid withdrawal up until approximately four hours before ibogaine administration. The ibogaine treatment consists of oral administration of a total dose of 18–20 mg/kg of ibogaine hydrochloride. A test dose of 100 mg is administered initially, followed by the remainder of the calculated dose within two hours of the test dose. The ibogaine used is derived from *Voacanga africana* and imported from Phytostan Enterprises, Inc., which is certified under Good Manufacturing Practice (GMP) guidelines. The treatment occurs under 24-hour medical supervision, including monitoring of vital signs, telemetry, intravenous saline and electrolytes. The clinic employs board-certified physicians who specialize in emergency medicine.

### **Research Design and Data Collection.**

Participants were administered study measures via an online portal through Inflexxion, Inc. (<https://www.asi-mvconnect.com>) within the first day of arriving at the in-patient clinic. Data was collected from April 2015 to December 2016. Only patients who completed the survey and were 18 years or

older were used in the analysis. For inclusion in the database all identifying health information was removed and no HIPAA or identifying personal health information is included in the database. The resulting dataset consisted of 222 participants' responses.

### **Measures.**

The Addiction Severity Index (ASI), fifth edition (McLellan et al., 1992) was collected at baseline. The ASI is a widely used assessment tool for capturing relevant clinical history in multiple domains relevant to substance use treatment. The domains included on this measure include Drug Severity Score, specific problem substances, past addiction treatment, monetary expenditure on SUD, age of first use, consumption method, and general demographic information (age, race/ethnicity, education, income, etc.). The ASI is included as part of a longer assessment tool, the Behavioral Health Inventory (BHI) which contains mood disorders, personality disorders, trauma history, and social support domains.

Two types of general status measures are calculated through the ASI, a “severity rating” within seven domains (Alcohol, Drug, Employment, Family, Legal, Medical, Psychiatric) that uses a ten-point scale. However, severity ratings are subjective estimates of patient status. Additionally, a “composite score” is computed using an empirical method of combining the items from each problem area which are capable of showing change and which are well related to each other. Composite scores have an alpha score of .70 or higher on each composite,

indicating significant internal consistency (McGahan et al., 1986). These measures are mathematically derived and have shown reliability and validity in several settings.

The ASI severity and composite score are frequently utilized measures for baseline and follow-up assessments in both clinical settings and longitudinal research on addiction. Severity Ratings are calculated from questions, which include “lifetime” data and are used for identifying problem areas and treatment planning. Composite Scores are calculated from questions regarding the past 30 days & are used primarily for research & outcome evaluations. Composite scores were utilized in several longitudinal studies of ibogaine which serve as a comparison for the participants in this study. Both the severity rating and the composite score are presented.



## Data Analysis and Findings

Data analysis was conducted using IBM SPSS Statistics, Version 25.0. Demographic data was analyzed utilizing frequency counts, Chi-square, ANOVA, and t-tests for group comparisons.

### Sample Characteristics.

Most participants (73.9%) identified as male ( $n = 164$ ) and 26.1% as female ( $n = 58$ ), while no one identified as transgender (Table 1). Participants were between the ages of 18 and 59 years old with a mean of  $32.5 \pm 8.8$  years old. Eighty-eight percent of participants identified racially as white ( $n = 197$ ), 18% as 'some other race', and the remaining participants were Asian and American Indian. There were no participants that identified as 'Black or African American,' 'Alaskan Native,' or 'Native Hawaiian or other Pacific Islander.' Ethnicity was not included in the measures.

Overall, participants were highly educated. Most participants, 64% had completed some college ( $n = 143$ ), with 22% completed 2 years of college or an Associate's degree ( $n = 48$ ) and 19% having completed 4 years of college or a Bachelor's degree ( $n = 42$ ). Ten percent had done some graduate work ( $n = 21$ ), while 18% had only completed high school ( $n = 39$ ) and 9% had not completed high school ( $n = 19$ ).

For the previous three years, 50% of participants had been employed full-time ( $n = 110$ ), and 30.2% were part time ( $n = 67$ ; Table 2). Interestingly, close to 8% were students ( $n = 16$ ). While most people were employed full time, participants reported that, in the previous 30 days, they had worked for pay an average of  $11.6 \pm 11.6$  days ( $n = 219$ ) and of those that reported, 41% did not work any days out of last 30 days ( $n = 90$ ).

Of the types of employment asked on the survey, the highest number of participants reported being in being employed in white-collar jobs (executive, other professional, administrative, or clerical/sales; 48%), while 35% were ins some kind of blue-collar labor (skilled manual, semi-manual, or other manual; Table 2). Only 3 people indicated that they were disabled.

While income was collected, the numbers reported had many unbelievably high outliers (See discussion in Limitations section; Table 3). The medians, however, seemed more reliable. The median total income from all sources combined from the previous 30 days was \$3700. Just under half (46%) of the participants reported taking no take-home pay ( $n = 101$ ), and there were 3 people (1.5%) reported  $\geq$  \$50,000. Most participants (58%) reported receiving some income from significant others, family, or friends ( $n = 129$ ). Over a quarter of participants (26%;  $n = 58$ ), indicated that some of their income was from illegal sources such as drug sales, stealing, fencing, gambling, prostitution, etc. with a median of \$1,315.

### **Personal Life and Family.**

Most participant were single (never married, 67%;  $n = 149$ ), while 20% indicated that they were currently married ( $n = 46$ ; Table 1). Of the people that were married, the average time in the marriage was  $9.9 \pm 6.9$  years and 24% were divorced ( $n = 24$ ) for  $6.81 \pm 4.74$  years. More than half of the participants (53%;  $n = 118$ ) reported being satisfied with their current marital status and 37% were neither satisfied nor dissatisfied. Of the people married, 80% indicated that they were satisfied with their marriage ( $n = 37$ ) and 17% were neither satisfied nor dissatisfied, and only one was dissatisfied.

Nearly all participants reported have a stable living arrangement in the previous 3 years ( $n = 218$ ; Table 4). Twenty-three percent of participants lived with a significant other or spouse and children ( $n = 51$ ), 20% with significant other or spouse alone ( $n = 45$ ), and 19.8% alone ( $n = 44$ ). Nearly 8% for participants indicated that they lived with their families ( $n = 17$ ), a similar percentage as the number of students. Only 2 people reported that they had spent most of the 3 last 3 years in jail, a hospital, an inpatient rehab, or a halfway house. Additionally, only 4% of people were single parents, of the 85 people (38%) that reported having children. Fifty-three percent of participants were satisfied with their current living arrangement ( $n = 119$ ), 28% were ‘neither satisfied or dissatisfied’ ( $n = 64$ ), and 18% were not satisfied ( $n = 40$ ). Most participants did not live with anyone that abused non-prescribed drugs or prescription drugs (90%;  $n = 200$ ) nor alcohol (93%;  $n = 207$ ).

The participants were asked ‘Would you say that during your lifetime you have had a close, long-lasting, personal relationship with your (mother/father/siblings/spouse or significant other/children/friends)?’ and ‘Have there been other periods in your life when you had serious problems getting along with your (mother/father/siblings/spouse or significant other/children/friends)?’ Seventy-seven percent of participants indicated that they had a close, long-lasting, personal relationship with their mothers ( $n = 171$ ; Table 5), but 57% also indicated that they had serious problems getting along with their mothers at times ( $n = 125$ ). Just over half the participants (55%;  $n = 123$ ) reported that they had a close, long-lasting, personal relationship with their father and 50% had reported times they had serious problems getting along with their fathers ( $n = 108$ ). Seventy-eight percent of participants reported positively to having a close, long-lasting,

personal relationship with their spouse/significant other and 60% had had serious problems. At the time of taking the survey, participants reported have  $4.2 \pm 3.5$  close friends ( $Mdn = 3$ ;  $n = 221$ ) and 78% of participants had good relationships with their friends ( $n = 161$ ; Table 5). Thirteen participants (5.9%;  $n = 13$ ) indicated they had no close friends.

More than a quarter of participants (29%;  $n = 65$ ) reported that they spent most of their free time alone, while 24% spent it with their family ( $n = 55$ ), 17% with a live-in significant other, 15% with friends, and 13% with a boyfriend or girlfriend. Fifty-four percent of participants ( $n = 122$ ) recorded that they were satisfied with the way they spend their free time; 24% were 'neither satisfied nor dissatisfied,' and 21% were not satisfied.

### **Trauma History.**

Thirty percent of females reported no forms of abuse (29.7%;  $n = 12$ ) and 39% of males ( $n = 64$ ) in their lifetime (Table 6). For females, most indicated they have experience some form of abuse, emotional abuse (69%;  $n = 40$ ), physical abuse (66%;  $n = 38$ ), and/or sexual abuse (55%;  $n = 32$ ). For males, the rates were lower, emotional abuse (59%;  $n = 96$ ), physical abuse (40%;  $n = 66$ ), and/or sexual abuse (18%;  $n = 29$ ). Rates of abuse in the previous 30-days were still relatively high for emotional abuse at 39% ( $n = 23$ ) for females and 24% ( $n = 40$ ) for males. Additionally, 14% ( $n = 8$ ) and 12% ( $n = 7$ ) of females had suffered physical and sexual abuse in the previous month, respectively. Forty-five percent of females had experienced all three categories of abuse ( $n = 26$ ).

### **Physical Health.**

Fifty-four percent of participants reported having an ongoing or longstanding physical or medical problem that limits or interferes with their activities. Of the physical health problems listed, chronic or persistent pain was the most common ailment (Table 7). Two similar questions resulted in slightly different results regarding physical pain. A multiple choice question, “Are you having problems with any of the following?” resulted in 14% ( $n = 31$ ) choosing ‘chronic or persistent pain’ (Table 7) and another yes/no question, “Do you have a pain problem?” recorded 34% ( $n = 77$ ) with positive answers. Participants reported having a pain problem on average for  $8.0 \pm 6.2$  years. Of those that reported a pain problem, 15% had had the problem for less than a year ( $n = 11$ ).

### **Mental Health.**

Participants were asked, “To your knowledge, have you ever received a diagnosis for an emotional or psychological problem other than drug or alcohol abuse?” Forty percent of participants answer ‘no’ and the highest positive answers were related to anxiety disorders (anxiety or nervous disorder; phobias such as agoraphobia or a social fear; panic disorder; obsessive compulsive disorder [OCD]; eating disorders, such as anorexia and bulimia) with a combined total of 30% ( $n = 67$ ; Table 8). Twelve percent indicated they were diagnosed with Post-traumatic stress disorder (PTSD;  $n = 26$ ). Depression was relatively low (7.6%;  $n = 17$ ). Forty-four percent had been prescribed some kind of psychiatric medication ( $n = 99$ ).

Additional questions asked about subjective mood in a variety of differ domains (Table 9). Contradictory to the low diagnoses rates of diagnosed depression, 74% of females and 53% of males indicated they had felt depressed in their life. Rates of reported feeling of anxiety were similarly high, 74% for females and 52% for males. Forty-eight percent of participants felt both depressed and anxious ( $n = 107$ ). Rates dropped to about half of participants for both anxiety and depression for the previous 30-days. Thirty-one percent of females and 20% of males indicated they has considered a plan to kill themselves at some point during their life and 20% and 13%, respectively, had attempted suicide.

### **Drug Use.**

Poly-drug use was very high (Table 10). The most commonly reported drugs were pain medication at 88% of participants ( $n = 196$ ). Methadone and heroin were less common than sedatives, cocaine/crack, cannabis, and amphetamine. Forty-three percent of participants also abused over-the-counter medication, like cough medicine ( $n = 95$ ). The mean number of substance categories tried in their lifetime was  $9.6 \pm 4.1$  ( $n = 221$ ) of the 18 categories listed (Table 10), with 88% having done 5 or more categories in their lifetime and over half (53%) having tried 10 or more.

The amount of money spent on drugs was also hard to assess for accuracy but seemed realistic, while there were outliers. In the past 30 days, participants on average spent  $\$2,271 \pm \$4,000$  ( $Mdn = \$1,000$ ;  $n = 222$ ) on drugs and spent on average  $\$82 \pm \$265$  on alcohol ( $Mdn = 0$ ;  $n = 222$ ; one outlier removed with a value of  $\$25,000$ ) however, 55.4% spend  $\$0$  on alcohol.

The most commonly reported primary drug of abuse was heroin at 51% ( $n = 112$ ) and other opiates or painkillers like Oxycontin, Oxycodone, Vicoin or Percocet at 25% ( $n = 55$ ; Table 10). The next highest reported primary substances of abuse were alcohol, amphetamines, and cocaine/crack. Very few people reported methadone or buprenorphine (Bupe, Suboxone) as their primary (3%) or secondary drug of abuse (5%) though 72% of participant reported have used it in their lifetime ( $n = 158$ ; Table 10). Twenty-one percent of participants reported not having a secondary drug of abuse ( $n = 46$ ).

When asked to estimate the number of years they had been using heroin at least 3 days a week the average was 4.8 years ( $Mdn = 4.0$ ;  $SD = 4.05$ ;  $n = 125$ ; Table 12) and for opioids or pain medications (other than heroin or methadone), the average was 5.5 years ( $Mdn = 4.0$ ;  $SD = 4.41$ ;  $n = 152$ ). Nearly half endorsed heavy alcohol use (>5 drinks in a day for at least 3 days a week) for an average of 6.9 years ( $Mdn = 5.0$ ;  $SD = 6.6$ ;  $n = 100$ ). In the previous 30-days, participants estimated that they had used heroin on average  $24.0 \pm 8.6$  days ( $n = 129$ ; Table 13); opioids or pain medications (other than heroin or methadone) for  $18.8 \pm 11.4$  days ( $n = 130$ ); sedatives for  $14.5 \pm 10.7$  days ( $n = 103$ ); and “more than one substance, including alcohol, in the same day” for  $11.2 \pm 11.3$  days ( $n = 221$ ).

Participants reported first using alcohol on average at age  $13.9 \pm 3.1$  ( $n = 199$ ) and cannabinoid substances at age  $13.8 \pm 4.4$  ( $n = 170$ ; Table 14). No people reported fentanyl use. Of the people that have used heroin, difference between start of heroin use and start of medical opiate use was  $3.8 \pm 4.9$  years ( $n = 131$ ). The age at first using heroin was on average 2.4 years later than using other opioids or pain medications.

Participants were asked, “How many times have you overdosed on drugs seriously enough that you needed someone else's help to recover - not just sleeping it off?” The median number of overdose was 2 times ( $IQR = 1-4$ ;  $n = 76$ ; Table 12). Of the participants who used heroin, they reported that it was mostly intravenously (72%;  $n = 113$ ; Table 12), with the next highest administration method being smoked (20%;  $n = 32$ ); insufflation (7%;  $n = 11$ ) and only one person reported administering by injecting into skin or muscle. A contingency table analysis of gender with administration route revealed no significant relationship between these two variables,  $\chi^2(3, n = 157) = 2.35, p = .503$ .

Thirty-three percent of the participants that reported using opioids or pain medications (other than heroin or methadone) indicated that they administered via swallowing ( $n = 65$ ), 27% via insufflation ( $n = 53$ ), 25% intravenously ( $n = 49$ ), 13% via smoking ( $n = 26$ ), and only one person by injecting into skin or muscle (Table 12). There was no significant difference in administration route between females and males,  $\chi^2(4, n = 194) = 2.60, p = .627$ .

### **Sobriety and Treatment.**

Seventy-four percent of participants reported that they were not clean and sober ( $n = 164$ ), 19% were clean and sober for less than one month ( $n = 43$ ) and 7% for more than one month ( $n = 15$ ). Participants reported being able to stay “clean and sober on their own” for an average of 1.2 years ( $Mdn = 0.5$ ;  $SD = 2.1$ ;  $n = 221$ ) and have been recently using on average for 2.8 years ( $Mdn = 1.0$ ;  $SD = 4.2$ ;  $n = 161$ ). A two-tailed independent samples t-test failed to reveal a statistically reliable difference between the mean time



able to “clean and sober on their own” of heroin users ( $M = 1.07$  years;  $SD = 1.69$  years) and opioids or pain medications (other than heroin or methadone) users ( $M = .90$ ;  $SD = 1.33$ ),  $t(164) = .681$ ,  $p = .530$ ,  $\alpha = .05$ . When asked about the number of times the participant had seeking out support with alcohol abuse, 25% of participants reported having entered treatment for alcohol assistance before for a median of 3 times ( $IQR = 1-5$ ;  $n = 55$ ) and 8% has done detox for alcohol a median of 3 times before ( $IQR = 2-5.5$ ;  $n = 17$ ). When asked about support for drug abuse, 67% had entered drug assistance a median of 3 times ( $IQR = 1-6$ ;  $n = 149$ ), and 43% entered drug detox a median of 1.5 times before ( $IQR = 1-4$ ;  $n = 96$ ). There were two participants whose estimates were outliers, one participant (age 22) reported entering into drug treatment assistance 30 times, when the next highest participant reported 21 times. Another participant (age 51) reported entering alcohol detox 28 times (next highest was 8 times), and drug detox 31 times (next highest was 15 times). These participants also indicated that they had experience all three types of abuse (emotional, physical, and sexual).

### **ASI Scores.**

All participants scored high on the Drug Severity Score ( $M = 7.2$  out of 9;  $n = 221$ ; Table 15), which incorporates lifetime use. All other domains were mild, with Family Severity and Psychiatric Severity at moderate levels, mean score of 3.1 and 3.3, respectively. The Drug Composite score, summarizing drug use in the previous month, was much lower, 0.21 out of 1.0. There were no significant differences between genders across any of the ASI composite score domains. A one-way ANOVA was conducted to compare composite scores between races, resulting in only two significant difference in

the family domain,  $F(7,213) = 2.584, p = .014$ , and psychiatric composite score,  $F(7,212) = 2.49, p = .018$ .

## Discussion

The current sample is the largest demographic study on individuals seeking ibogaine treatment for substance abuse to date. As one might expect of this medical subculture seeking international, alternative medical treatments, the population was predominantly people of privilege (Caucasian, highly educated, and higher in socioeconomic status), which is consistent with other studies on similar samples (Brown & Alper, 2018). Participants were mostly single (never married) and nearly all had a moderate level of social support and stable living arrangements.

Ibogaine treatment is primarily a detox modality but given the psychotherapeutic therapeutic effects of its psychedelic nature, it also can be considered a drug assistance program and the cost of treatment can be compared to different types of standard opioid treatment programs. For the sake of brevity, the costs of opioid treatments are discussed and compared, but ibogaine can be used to treat many forms of additions. The cost of a 7-day inpatient treatment at Crossroads Treatment Center, was approximately \$7000 (not including airfare or aftercare counseling), which is on par with a year of opioid maintenance treatments, methadone treatment, including medication and integrated psychosocial and medical support services (assumes daily visits), is \$126.00 per week or \$6,552.00 per year, and buprenorphine for a stable patient provided in a certified opioid treatment program [OTP], including medication and twice-weekly visits is \$115.00 per week or \$5,980.00 per year. Ibogaine treatment is substantially less than naltrexone provided in an OTP, including drug, drug administration, and related services: \$1,176.50 per month or \$14,112.00 per year (National Institute on Drug Abuse, 2018). When compared to inpatient treatment programs that can be between 30-90 days, costs vary

between \$14,000 to \$27,000 for a 30-day program, and outpatient treatment can range from free to \$500 per session, which may or may not be covered by insurance.

Detoxification programs can cost between \$600 to \$1,000 a day (Miller, 2019).

Individuals may prefer a short intervention treatment like ibogaine (7 days) than longer inpatient programs or indefinite maintenance therapy for comparable costs, however, the cost does not have ability to be subsidized by health insurance or medical loans, reducing the financial accessibility.

Participants were predominantly Caucasians in their 20's and 30's, which is reflective of a national demographic shift in heroin users entering treatment. Over the last 50 years, heroin use has changed from an inner-city, minority-centered issue to one that has a more widespread geographical distribution, involving primarily white men and women in their late 20s living outside of large urban areas (Cicero et al., 2014). This increase in heroin use and shift to a new class of users appears coincidental to the increase in the abuse of prescription opioids over the last 20 years, and arguably accelerated by the release of OxyContin in the mid-1990s (Cicero et al., 2014).

Just under half (46%) of participants reported no long standing health conditions, however, between 14-34% of participants (numbers vary depending on the phrasing of the question) indicated they struggled with a pain problem. The difference of age at first drug use between heroin and opioids or pain medications indicated that participants were on average starting heroin  $3.8 \pm 4.9$  years later, indicating that participants either were prescribed or had access to prescription medication before switching to heroin. This could have been due to prescriptions running out or being rescinded, or to the lower cost of heroin (Mars et al., 2014). The category of drug that was used by the most participants

was prescription pain medication (88%), even higher than so-called “gateway” drugs like cannabis (83%). Prescription opioids have been postulated to be a gateway to heroin use, as 79.5% of new heroin users had prior exposure to prescription opioids (Muhuri et al., 2013).

Due to ibogaine's effectiveness for many types of substance use disorders, the current sample indicated that participants were primarily seeking opiate use treatment, but nearly 7% sought it for alcohol, 5% for stimulants, 4% for cocaine/crack, and a few participants for various other substances. Polysubstance use was almost ubiquitous, with 54% of participants reporting using ten or more categories of substances in their lifetimes (Table 10), consistent with reports on national heroin users (Jones et al., 2015) and other samples of people seeking ibogaine treatment (Brown & Alper, 2018). Nearly half of participants used alcohol heavily, and had done so for many years. These findings point to the distribution of information about the effectiveness of ibogaine treatment on a broad range of addiction issues.

Nearly three quarters of participants had participated in other types of drug assistance programs in the past and relapsed leading to the researching of alternative detox program options. Approximately 71% of participants reported using methadone or buprenorphine (Bupe, Suboxone). This study reveals a specific demographic of individuals that failed standard opiate replacement maintenance therapy. In a Suboxone study, only 7% of participants were able to maintain abstinence after an 8-week treatment course (Weis et al., 2011). Subjective reports by participants of the Crossroad Treatment Center, 85% said that looking back they would have made the same decision to take ibogaine again and 71% indicated that ibogaine was “much better” compared to other

treatments they had tried (Davis et al., 2017). Objective ibogaine outcomes have also shown considerably better results than mainstream approaches to addressing addiction. Davis et al. (2017) reported that 50% of participants had reduced opioid cravings, and 25% reporting a reduction in craving lasting at least 3 months. Thirty percent of participants reported never using opioids again following ibogaine treatment and over one half of these abstainers had been abstinent for at least 1 year, with 31% abstinent for at least 2 years. At the time of survey, 41% of all participants reported sustained abstinence (>6 months). Although 70% of the total sample reported a relapse following treatment, 48% reported decreased use from pretreatment levels and an additional 11% eventually achieved abstinence. Compared to other treatments for opioid withdrawal use non-opioid supportive therapies or by tapering opioids, however success rates are low, with 91% of patients relapsing with this strategy due to continued craving despite successful detoxification (Smyth et al. 2010)

The ASI composite scores are a useful tool to compare this sample to other studies. Composite Scores are calculated from questions regarding the past 30 days & are used primarily for research & outcome evaluations. ASIC score with a value in the range of 0 to 1.0 with higher scores indicate greater problem severity. The current sample showed no significant difference in scores across sex or race. When compared to other studies on ibogaine treatment participants, the current sample had a lower drug composite score ( $M = 0.21 \pm 0.08$ ) compared to Brown and Alper (2018;  $M = 0.40 \pm 0.08$ ) but a higher alcohol score,  $M = 0.14 \pm 0.21$  compared to  $M = 0.08 \pm 0.18$ . The Medical composite score was higher in the current sample,  $M = 0.28 \pm 0.29$  compared to  $M = 0.19 \pm 0.31$ . Composite scores in the domains of family, employment, and psychiatric were

similar. The employment score in this study was likely influenced by the likely exaggerated income scores, and may actually be lower, however the Brown and Alper (2018) study may have experienced similar accuracy problems. ASI Severity Scores were perhaps more interesting given that they are calculated from questions, which include “lifetime” data and subjective ratings of the client’s need for treatment. The current sample scored high in the drug Severity Score and low in other domains including alcohol. Unfortunately, other studies on the same population only reported composite scores and not severity scores in their manuscripts.

Participants were underdiagnosed for mood disorders like depression and anxiety compared to subjective reports, which may suggest that participants had not sought out therapy or psychiatric support for their mental health problems or did not meet full criteria for those diagnoses. Anxiety was the most frequently reported diagnosis even though lifetime depressed and anxious mood were approximately equally reported by three quarters of females and half of males. Anxiety has been linked to opiate addiction and relapse rates (Liebmann et al., 1998; Powell et al., 1993), due to the anxiolytic properties of opiates. A paper by Davis et al. (2017) on the same patient population from Crossroads Treatment Center, reported that participants that responded to treatment (never returned to using or their use had decreased), had the lowest rates of depressive and anxious symptoms after treatment, the highest levels of subjective well-being, and “rated their ibogaine treatment as more spiritually meaningful compared with treatment non-responders.”

The rates of trauma were particularly notable. Eleven percent of participants had reported being diagnosed with Post Traumatic Stress Disorder (PTSD) and rates of sexual

abuse were much higher than national rates for both males and females. In the U.S., one in three women and one in six men experienced some form of contact sexual violence in their lifetime (Smith et al., 2017) compared to 55% of females and 12% of males in the current sample. The link between trauma and drug use has been well documented (Ouimette & Brown, 2003) and there is a growing body of literature suggesting that psychedelics, used in controlled environments, can support the alleviation, and in some cases remission, of trauma symptoms (Maté, 2014; Mithoefer et al., 2018). The effectiveness of ibogaine on substance abuse could be both physiological and psychological, supporting the individual with not only detoxification but addressing underlying mood and trauma-related disorders. Barsuglia et al. (2018) theorize that improved functioning of the cerebellum through ibogaine treatment may be linked to improved PTSD symptoms due to its role in emotional processing and processing of fear memory traces. An additional hypothesis could be that the psycho-spiritual impacts of the psychedelic effect of ibogaine could contribute to treating the underlying trauma that fuels addiction (Barsuglia et al., 2018; Davis et al., 2017). Brown, Noller, and Denenberg (2019) reported that “Ibogaine’s strong oneiric action promoted cyclic visions leading to confronting realizations involving remorse and regret for participants’ actions towards others, but also release from feelings of guilt and worthlessness. Many participants reported feeling a sense of spiritual transformation.”

The most prominent themes within the current sample shed light on the complexities of substance abuse. We see the interplay between prescription opioid and heroin use, supporting a gateway hypothesis, from physical pain to prescription use to illicit use. Other important findings were the high rates of polysubstance use and trauma



in the current sample. Social Work has increasingly argued for a “whole-person” approach of addiction recovery and ibogaine seems to be uniquely positioned to address the physiological, psychological, and spiritual underpinnings of addiction in a way that no other single treatment model does.

## **Implications**

Drug overdose is now the primary cause of accidental death in the U.S., with approximately 130 Americans dying every day from an opioid overdose (Center for Disease Control and Prevention, 2017). There is a dire need for effective opiate and other substance use disorders. Several pilot studies have shown the effectiveness of ibogaine treatment on individuals struggling with opiate abuse (Barsuglia et al., 2018; Davis et al., 2017; Malcolm et al., 2018; Noller, Frampton & Yazar-Klosinski, 2018), however, little momentum has been made to study its efficacy in FDA clinical trials due the Schedule I status of ibogaine. This window into the demographics of this patient population could lend vital information to policy makers. Several states (New York, Vermont and Maryland) had initiatives supporting research into ibogaine treatments, however they either failed to pass or are still in consideration (H.741, 2016).

The prevalence of polysubstance use and trauma in the current study sample argue for a broader approach to addiction treatment. A whole-person approach would likely lead to improved outcomes, rather than programs that cater to specifically opiate or alcohol addictions. Ibogaine, is unique in its ability to work both through a physiological and psychological capacity, combining what we typically seek out separately through pharmaceuticals and therapy. The psycho-spiritual component of its effectiveness should not be understated, as we have seen through organizations like Alcoholics Anonymous and LSD trials on alcoholism (Krebs & Johansen, 2012), a spiritual approach to addiction treatment is effective.

Social Workers in the field of substance use disorders could be vocal advocates both for researching progressive treatment options like ibogaine, but also for increased

accessibility to treatments for underserved populations. While opiate use has become a national issue because it is increasingly affecting White America, as Social Workers, committed to Social Justice, we must highlight how history repeats itself looking back at the beginnings of modern drug policy starting with the anti-opium law of 1875 where the concern for opiate use only grew to public attention when Whites increasingly patronized these establishments (Fisher, 2014). Similarly, Social Workers must reflect on the inherent racial underpinnings of the “war on drugs” by the Nixon administration. Nixon’s domestic-policy advisor, John Ehrlichman sheds light on the policy through his chilling quote:

The Nixon campaign in 1968, and the Nixon White House after that, had two enemies: the antiwar left and black people. You understand what I’m saying? We knew we couldn’t make it illegal to be either against the war or black, but by getting the public to associate the hippies with marijuana and blacks with heroin, and then criminalizing both heavily, we could disrupt those communities. We could arrest their leaders, raid their homes, break up their meetings, and vilify them night after night on the evening news. Did we know we were lying about the drugs? Of course we did. (Baum, 2016).

Social Workers are positioned to lobby for socially just, rational, and research-backed drug policy and treatment, ibogaine treatment is one of such areas to be aware of.

## **Limitations**

The data on drug use in the previous month was heavily affected by the admittance criteria for the ibogaine program. Participants could only use short acting opiates for safety reasons, even though 72% of participants had used methadone or buprenorphine (Bupe, Suboxone) in their lifetime. The complexity of addiction could not be fully captured by questionnaire as it was designed for addiction treatment by clinicians and not for demographic purposes.

While some accuracy of self-reports may have been mitigated by a computerized data collection process due to reduced shame triggers, the estimates of income and money spend on drugs seemed to be exaggerated, supporting the substance abuse literature on addiction and the accuracy of self-reports (McCusker, 2001). The data were not corroborated by clinician interviews for validity. Additionally, the effect of being in opiate withdrawal may also contribute to the quality of the data collected. Malcolm et al., (2018) documented that a subsample of participants used in this study, reported having moderate to severe ( $M = 20.51$ ,  $n = 48$ ) Subjective Opiate Withdrawal Scale (SOWS) scores at the time of measure administration.

This subsample has limits to generalizing to the larger population of the international ibogaine treatment seekers. The sample was taken from a single treatment center in Mexico that was in a higher cost bracket at \$7,000 compared to other centers, costing between \$3,000 to \$10,000 and was more medicalized (J. Barsuglia, personal communication, Apr 17, 2019).

## **Conclusion**

Current drug laws are criminalizing individuals with mental health issues, as we can see from the high trauma rates in the present study, and at the same time inhibiting the research of promising alternatives like ibogaine. Ibogaine has a few characteristics that may make it more promising for social acceptance over other psychoactive Schedule 1 substances being that it has little to no history of recreational use or stigma, is non-addictive, has multiple potential medical uses, and is primarily sought for treating addiction or for spiritual/ceremonial purposes. The present study indicates that polysubstance use and trauma are key elements of substance use disorders, of which ibogaine targets both. One advantage of increasing substance use by White Americans maybe be that with more visibility, more funding and research can improve treatment for all people. Social Workers, with a commitment to evidence-based practices and social justice, would be wise to advocate for further research into ibogaine and wider accessibility of this promising treatment for a broad range of addictions and their underlying mental health drivers.

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## Appendix A: Tables

**Table 1. Demographics**

Table 1

*Demographics*

Variables	<i>n</i>	%	<i>M</i>	<i>SD</i>
<u>Gender</u>				
Female	58	26.1		
Male	164	73.9		
<u>Age</u>				
	222		32.5	8.9
18 - 19	4	1.8		
20 - 29	96	43.2		
30 - 39	72	32.4		
40 - 49	37	16.7		
50+	13	5.9		
<u>Ethnicity</u>				
White	197	88.7		
Black or African American	0	-		
American Indian	1	0.5		
Alaskan Native	0	-		
Asian	6	2.7		
Native Hawaiian or other Pacific Islander	0	-		
Some other Race	18	8.1		
<u>Time in current marital status (years)</u>				
Married	46	20.7	9.9	6.9
Remarried	1	0.5	3.5	-
Legally Separated	2	0.9	3.3	1.9
Divorced	24	10.8	6.8	4.7
Single (Never Married)	149	67.1	11.3	6.9
<u>Highest level of education completed</u>				
Did not finish high school	19	8.6		
Graduated high school or received a G.E.D.	39	17.6		
Some college (1-4 years)	143	64.4		
Some graduate school	21	9.5		

**Table 2. Employment**

Table 2

*Employment*

Variables	<i>n</i>	%
<u>For the past three years, in what capacity have you worked?</u>		
Full-time	110	49.5
Part-time	25	11.3
Part-time (irregular hours)	42	18.9
Student	16	7.2
Retired	8	3.6
Unemployed	21	9.5
<u>Which one best describes your occupation or job during the past 3 years?</u>		
Executive	26	11.7
Other professional	18	8.1
Administrative	48	21.6
Clerical/sales	15	6.8
Skilled manual	49	22.1
Semi-manual	19	8.6
Other manual	10	4.5
Homemaker	5	2.3
Student	17	7.7
Disabled	3	1.4
None	9	4.1
Didn't work for pay in the past three years	3	1.4

**Table 3. Income**

Table 3

*Income sources and totals in the last 30 days*

Variables	<i>n</i>	%	<i>M</i>	<i>Mdn</i>	<i>SD</i>
Take-home pay	119		\$6,267	\$3,000	\$14,735
Unemployment compensation	10		\$17,927	\$2,250	\$46,565
Public assistance, welfare, or food stamps	16		\$1,564	\$348	\$4,918
Pension, disability, worker's compensation, social security, or Veteran's benefit	9		\$796	\$997	\$550
Significant other, family, or friends	129		\$6,075	\$2,000	\$14,970
Illegal sources such as drug sales, stealing, fencing, gambling, prostitution, etc.	58	26	\$7,515	\$1,315	\$28,025
Other sources	38		\$10,595	\$2,100	\$26,243

*Note:* Reported amounts from 'Significant other, family, or friends was often identical to 'Other sources'

**Table 4. Housing**

Table 4

*Living arrangements and conditions during the previous 3 years*

Variables	<i>n</i>	%
With significant other or spouse and children	51	23.0
With significant other or spouse alone	45	20.3
With children alone	9	4.1
With parents	30	13.5
With family	17	7.7
With friends	20	9.0
Alone	44	19.8
Jail, hospital, inpatient rehab, or halfway house	2	0.9
Have no stable living arrangement	4	1.8

## Table 5. Family Relationships

Table 5

*Family Relationships*

Variables	Close		Problems	
	<i>n</i>	% <sup>a</sup>	<i>n</i>	% <sup>a</sup>
Mother	171	77.0	125	57.0
Father	123	55.4	108	50.5
Siblings	123	65.8	91	48.7
Spouse/Significant Other	129	78.2	99	60.0
Children <sup>b</sup>	73	87.1 <sup>a</sup>	12	14.1
Friends	176	79.6	87	40.1

*Note:* Family relationships were measured by two questions: Would you say that during your lifetime you have had a close, long-lasting, personal relationship with your \_\_\_\_\_? Have there been other periods in your life when you had serious problems getting along with your \_\_\_\_\_? Only positive answers are presented.

<sup>a</sup> Percents reported are of those that answered the question

<sup>b</sup> Eighty-five participants had children, 61% did not have children

**Table 6. Trauma History**

Table 6

*Trauma history*

Variables	Females		Males	
	<i>n</i>	%	<i>n</i>	%
<u>Lifetime</u>				
Emotionally abused	40	69.0	96	58.5
Physically abused	38	65.5	66	40.2
Sexually abused	32	55.2	29	17.7
<u>Previous 30 days</u>				
Emotionally abused	23	39.7	40	24.4
Physically abused	8	13.8	10	6.1
Sexually abused	7	12.1	1	0.6
<u>Abuse Severity</u>				
No abuse	12	29.7	64	39.0
One category of abuse	8	13.8	34	20.7
Two category of abuse	12	20.7	41	25.0
Three category of abuse	26	44.8	25	15.2

*Note:* Only positive answers are presented.



**Table 7. Physical Health**

Table 7

*Current physical health*

Condition	<i>n</i>	%
None	102	45.9
Frequent headaches or migranes	11	5.0
Epilepsy or seizure disorder	4	1.8
Asthma or other breathing problems	9	4.1
High blood pressure	4	1.8
Liver disease (Cirrhosis or Hepatitis -A , B, or C)	9	4.1
Bleeding when you throw up or go to the bathroom	1	0.5
Ulcers, Gastritis, or other stomach problems	6	2.7
Arthritis or joint pain	12	5.4
Neuropathy, weakness, numbness, pain in hands, feet	3	1.4
Cancer	1	0.5
Chronic or persistant pain	31	14.0
Others, not listed	12	5.4

**Table 8. Mental Health Diagnoses**

Table 8

*Lifetime mental health conditions*

Variables	<i>n</i>	%
<u>Diagnoses</u>		
None	92	40.9
Depression or mood disorder	17	7.6
Manic depression or bi-polar illness	3	1.3
Anxiety or nervous disorder	44	19.6
Phobias such as agoraphobia or a social fear	2	0.9
Panic disorder	7	3.1
Obsessive compulsive disorder (OCD)	7	3.1
Eating disorders such as anorexia and bulimia	7	3.1
Post-traumatic stress disorder (PTSD)	26	11.6
Personality disorders	4	1.8
Dissociative disorder	2	0.9
Unsure	8	3.6
<u>Mental Health Treatment</u>		
Prescribed psychiatric medication	99	44

*Note:* Mental health assessed by the question: To your knowledge, have you ever received a diagnosis for an emotional or psychological problem other than drug or alcohol abuse?

**Table 9. Subjective Mental Health**

Table 9

*Subjective mental health reports*

Condition	Females				Males			
	Lifetime		Last 30-days		Lifetime		Last 30-days	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Depressed	43	74.1	31	53.4	87	53	60	36.6
Anxiety	43	74.1	29	50.0	86	52.4	74	45.1
Heard voices	1	1.7	2	3.4	7	4.3	5	3.0
Trouble concentrating	32	55.2	24	41.4	71	43.3	63	37.8
Trouble controlling your temper	21	36.2	6	10.3	51	31.1	19	11.6
Considered a plan for killing yourself	18	31.0			33	20.1		
Attempted suicide	12	20.7			21	12.8		

**Table 10. Lifetime Drug Use**

Table 10

*Lifetime drug use*

Drug	<i>n</i>	%
Heroin	157	70.7
Methadone or buprenorphine (Bupe, Suboxone)	158	71.5
Other opioids or pain medications like OxyContin, oxycodone, Vicodin, or Percocet	196	88.3
Barbiturates like Phenobarbital, Seconal, and Fiorinal (barbs, reds, downers)	67	30.2
Sedatives, tranquilizers, or sleeping pills like Valium, benzos, Xanax, Klonopin, Lunesta, or Ambien	190	85.6
Cocaine or crack	188	84.7
Amphetamines, methamphetamines, uppers, or other stimulants like Ritalin or Adderall	161	72.5
Marijuana or hashish or a prescription cannabinoid product (like Marinol®, Cesamet®)	184	82.9
Hallucinogens like LSD or acid, PCP, mushrooms, or angel dust	153	68.9
Inhalants like glue, paint, gasoline, or nitrous oxide	82	36.9
Ecstasy (E, X, XTC, MDMA, Molly, Mandy)	177	79.7
GHB (G, Liquid G, Liquid X, Fantasy)	66	29.7
Ketamine (K, Special K, Vitamin K)	103	46.4
K2 (spice, synthetic cannabis)	66	29.7
Rohypnol (Roche, Rope, Roofies)	18	8.1
Bath salts (ivory wave, bliss)	19	8.6
Over-the-counter medication, like cough medicine, taken not as directed	95	42.8
Other (or unknown)	38	17.1

**Table 11. Substances of Abuse**

Table 11

*Primary and secondary substance of abuse*

Substance	Primary		Secondary	
	<i>n</i>	%	<i>n</i>	%
Alcohol	15	6.8	28	12.6
Heroin	112	50.5	11	5.0
Methadone or buprenorphine (Bupe, Suboxone)	7	3.2	10	4.5
Other opiates or painkillers like Oxycontin, Oxycodone, Vicoin or Percocet	55	24.8	37	16.7
Sedatives, tranquilizers or sleeping pills like Valium, benzos, Xanax, Klonopin, Lunesta or Ambien	3	1.4	18	8.1
Cocaine or Crack	9	4.1	27	12.2
Amphetamines, methamphetamines, uppers or other stimulants like Ritalin or Adderall	11	5.0	26	11.7
Marijuana or hashish	1	0.5	10	4.5
Inhalants like glue, paint, gasoline or nitrous oxide	2	0.9	1	0.5
Ecstasy (E, X, XTC, MDMA, Molly, Mandy)			2	0.9
Ketamine (K, Special K, Vitamin K)	1	0.5	2	0.9
Over the counter, like cough medicine, taken not as directed			1	0.5
Other (or Unknown)	1	0.5	3	1.4
None	3	1.4	46	20.7

*Note:* Problem drug use was measured using two questions: Of the substances you reported using, which one is the primary or most serious problem for you? Of the substances you reported using, which one is the secondary or second most serious problem for you?

**Table 12. Drug Use Severity**

Table 12

*Drug use severity*

Variables	<i>n</i>	%	<i>M</i>	<i>Mdn</i>	<i>SD</i>
Number of overdoses <sup>a</sup>	76	34	4.58	2	10.189
<u>Heroin administration</u>					
Snorted/sniffed	11	5.0			
Smoked	32	14.4			
Injected in skin or muscle	1	0.5			
Injected in vein	113	50.9			
<u>Opioid or pain medication (other than heroin or methadone)</u>					
Swallowed	65	29.3			
Snorted/sniffed	53	23.9			
Smoked	26	11.7			
Injected in skin or muscle	1	0.5			
Injected in vein	49	22.1			
<u>Number of years consuming at least 3 times a week</u>					
Alcohol such as beer, wine or liquor	143		8.50	6	7.75
Alcohol (least 5 drinks a day)	100		6.87	5	6.62
Heroin	125	63.7 <sup>b</sup>	4.89	4	4.05
Opioids or pain medications (other than heroin and methadone)	152	77.6 <sup>b</sup>	5.49	4	4.41
More than one substance, including alcohol	153		7.80	6	6.70

<sup>a</sup> Question asked to assess overdoses: How many times have you overdosed on drugs seriously enough that you needed someone else's help to recover - not just sleeping it off?"

<sup>b</sup> Percent calculated using the number of participants that reported using substance

**Table 13. Substance Use in Previous Month**

Table 13

*Number of days using substances in previous month*

Substance	<i>n</i>	%	<i>M</i>	<i>Mdn</i>	<i>SD</i>
Alcohol	119	53.6	8.6	5.0	8.4
Alcohol (>5 drinks)	68	30.6	7.6	4.5	8.1
Heroin	129	58.1	24.0	30.0	8.6
Methadone or buprenorphine	40	18.0	5.3	3.5	5.3
Opioids or pain medications (other than heroin or methadone)	130	58.6	18.8	21.0	11.4
Barbiturates	5	2.3	10.2	5.0	11.5
Tranquilizers, sedatives or sleeping pills	103	46.4	14.5	12.0	10.7
Cocaine or crack	61	27.5	6.6	5.0	5.7
Amphetamines, methamphetamines, uppers, or other stimulants	57	25.7	12.9	10.0	9.1
Marijuana, hashish, or a prescription cannabinoid product (like Marinol®, Cesamet®)	117	52.7	15.6	15.0	11.0
Hallucinogens	20	9.0	3.2	2.0	3.4
Inhalants	6	2.7	7.5	7.5	4.8
More than one substance, including alcohol, in the same day	221	99.5	11.2	7.0	11.3

**Table 14. Age at First Substance Use**

Table 14

*Age when participant first used substance (years) and sum of 'unsure' responses*

Substance	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i> (unsure)
Alcohol	199	13.9	3.1	23
Heroin	151	22.5	6.8	5
Methadone or buprenorphine	142	25.5	8.3	16
Other opioids or pain medications	177	20.1	7.2	19
Barbiturates	42	19.9	6.1	24
Sedatives, tranquilizers or sleeping pills	140	21.2	8.5	50
Cocaine or crack	174	19.6	5.7	14
Amphetamines methamphetamines, uppers, or other stimulants	128	19.2	8.3	33
Marijuana or hashish or a prescription cannabinoid product (like Marinol®, Cesamet®)	170	13.8	4.4	12
Hallucinogens like LSD or acid, PCP, mushrooms, or angel dust	129	17.6	4.451	24
Inhalants like glue, paint, gasoline, or nitrous oxide	57	16.2	5.9	25
Ecstasy (E, X, XTC, MDMA, Molly, Mandy)	159	19.6	6.0	18
GHB (G, Liquid G, Liquid X, Fantasy)	56	23.8	7.7	10
Ketamine (K, Special K, Vitamin K)	85	22.0	6.0	18
K2 (spice, synthetic cannabis)	42	21.2	8.5	23
Rohypnol (Roche, Rope, Roofies)	12	20.9	5.1	6
Bath salts (ivory wave, bliss)	13	21.4	3.8	6
Over-the-counter medication, like cough medicine, taken not as directed	68	17.8	7.0	26
Other Medication	22	16.7	8.8	16



**Table 15. ASI Scores**

Table 15

*ASI Scores (n=222)*

Domain	<i>n</i>	<i>M</i>	<i>SD</i>
<u>Severity Rating*</u>			
Alcohol	221	1.9	2.2
Drug	215	7.2	1.8
Employment	218	2.6	1.8
Family	218	3.1	2.4
Legal	221	1.1	1.3
Medical	220	2.6	2.1
Psychiatric	219	3.3	2.3
<u>ASI Composite Score**</u>			
Alcohol	222	0.14	0.21
Drug	217	0.21	0.08
Employment	218	0.37	0.29
Family	221	0.24	0.20
Legal	218	0.11	0.18
Medical	220	0.28	0.29
Psychiatric	220	0.25	0.22

\* Severity Ratings are calculated from questions, which include “lifetime” data and are used for identifying problem areas and treatment planning.

\*\* Composite Scores are calculated from questions regarding the past 30 days & are used primarily for research & outcome evaluations.