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Recovery Goals and Long-term Treatment Preference in Persons Who Engage in Non-Medical Opioid Use

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Abstract

Background: While most opioid use disorder (OUD) treatment providers consider opioid abstinence to be the preferred outcome, little is known about the treatment preferences of the larger population of individuals who engage in non-medical opioid use and have not yet sought treatment. This study sought to descriptively quantify the proportion of out-of-treatment individuals with non-medical opioid use that have abstinent and non-abstinent recovery goals.

Methods: Participants (N=235) who engage in non-medical opioid use and met self-reported criteria for OUD were recruited online and participated in a cross-sectional survey on recovery goals and treatment perceptions. Participants were dichotomized as having either abstinent (70.6%) or non-abstinent (29.4%) recovery goals. Participants were presented with 13 treatment options and asked which treatment they would “try first” and which treatment they thought would be the best option for long-term recovery.

Results: Persons in the non-abstinent group were more likely to want to continue use of prescription opioids as prescribed by a physician compared to the abstinent group ($\chi^2(1) = 9.71$, $p=0.002$). There were no group differences regarding preference for individual OUD treatments. The most frequently endorsed treatments that participants would “try first” were physician visits (23.4%), one-on-one counseling (18.7%), and 12-step groups (13.2%), while the most frequently endorsed treatments for long-term recovery were one-on-one counseling (17.4%), residential treatment (16.7%), and buprenorphine (15.3%).

Conclusion: Public health initiatives to engage out-of-treatment individuals should take into account recovery goals and treatment preferences to maximize treatment initiation and retention.

Keywords

Prescription opioid misuse; treatment; recovery; recovery goals

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Introduction

According to the National Survey on Drug Use and Health, approximately 11.8 million Americans reported non-medical opioid use in 2016 and an estimated 1.8 million met criteria for opioid use disorder (OUD) (Substance Abuse and Mental Health Services Administration (SAMHSA), 2017a). Non-medical opioid use is defined as taking an opioid pain reliever without a prescription or using an opioid for non-prescribed reasons such as an experience or feeling (e.g. getting high or improving mood). Given that prescription opioids are indicated for treatment of acute and some chronic pain syndromes, it can be difficult for persons to differentiate when opioid use for pain management (regardless of source) transitions from appropriate to non-medical opioid use, or to OUD. Once individuals who engage in non-medical opioid use transition to OUD, they may be confused regarding which treatment avenues to pursue and may have legitimate concerns that treatment settings will require them to work towards abstinence from medications they perceive to be important for their pain management.

Non-medical opioid use can be conceptualized as a critical period for intervention, regardless of whether an individual has been formally diagnosed with OUD. Being able to engage these individuals as early as possible in their OUD trajectory is of the utmost importance. Any perceived barriers to treatment entry could result in that person developing a more severe and recalcitrant disorder before requesting help. The first step in effectively engaging individuals who are actively using opioids for non-medical purposes is to understand the individual differences that exist with regard to potential recovery goals and treatment preferences. This information could improve treatment matching, which is particularly relevant given the numerous options available. In addition, effective treatment matching could help maximize the existing infrastructure for intensive treatments (where resources are scarce), and directly impact the ongoing opioid epidemic. Most current public outreach campaigns are focused on inducting individuals with OUD onto opioid maintenance therapy (OMT). Public health officials advocate for OMT because of studies demonstrating the effectiveness of buprenorphine (Ling et al., 1998) and methadone maintenance (Sees et al., 2000; Johnson, Chutuape and Strain et al., 2000) for managing OUD. Extended-release naltrexone following supervised opioid withdrawal is also effective in preventing relapse (Lee, et al., 2017; Tanum, et al., 2017).

Individuals engaging in non-medical opioid use who meet criteria for OUD may choose not to engage in OMT, instead preferring supervised withdrawal only, or counseling and/or 12-step based mutual support groups for ongoing care. Our group recently reported that 46.2% of individuals engaging in non-medical opioid use had a negative view of OMT and/or naltrexone (Huhn, Tompkins, and Dunn, 2017). Individual motivation for treatment and conceptualization of recovery likely affects where and for how long patients may choose to engage in treatment.

Matching individuals who engage in non-medical opioid use to effective interventions requires a nuanced approach, as these individuals might meet some or all criteria for OUD but may also rely on prescription opioids for pain relief. One domain that has not yet been well characterized in the opioid treatment field is the contribution that abstinence goals may

have on treatment preference. Historically, any illicit opioid use pertained to heroin and was considered problematic and necessitated abstinence. However, since prescription opioid medications are used for pain management, it is possible for their use to extend along a continuum from licit to illicit use and for patients to identify a range of potential treatment goals that span non-abstinence (controlled use) to abstinence.

Alcohol and nicotine use have historically existed along similar continuums, and those fields have found treatment goals to be associated with patient preference and success in different treatments. For instance, abstinent versus non-abstinent recovery goals have been associated with differential treatment outcomes in persons with alcohol use disorder (DeMartini et al., 2014; Dunn and Strain, 2013), and the nicotine field has long-embraced the transtheoretical model of stages of change that postulates smoking cessation efforts move along a five-stage continuum that includes three non-abstinent and two abstinent stages (DiClemente and Prochaska, 1982). It is possible that reluctance to be forced into abstinence could influence persons engaging in non-medical opioid use not to seek treatment. Allowing these patients to work towards non-abstinent harm reduction goals, such as reductions in use, might be an acceptable way to engage them in treatment and prevent OUD progression (Davis and Rosenberg, 2014), as well as provide an opportunity for a practitioner to transition them to an abstinence-based goal if necessary.

The proportion of out-of-treatment individuals who engage in non-medical opioid use and endorse abstinent versus non-abstinent treatment goals has not yet been examined. Furthermore, no research has evaluated whether recovery goals might be associated with treatment preferences in out-of-treatment individuals that engage in non-medical opioid use. The current study recruited persons who reported non-medical opioid use and endorsed negative consequences that suggested they met criteria for OUD treatment. The overarching goal was to characterize the percent of out-of-treatment individuals currently engaged in non-medical opioid use who endorsed abstinence or non-abstinence recovery goals, and the degree to which treatment goals corresponded to differences in self-reported treatment preferences. We hypothesized individuals who reported abstinent recovery goals would favor detoxification and /or counseling type treatments compared to those who reported non-abstinent recovery goals. We also postulated that fewer individuals reporting abstinent recovery goals would be interested in OMT relative to those reporting non-abstinent recovery goals.

Methods

Participants and Study Design

Participants (N=235) who reported engaging in non-medical opioid use and indicated they would pursue an abstinent or non-abstinent recovery goal if they were to enter treatment were included in the analysis. The participants were a subgroup of a larger, cross-sectional survey that examined the relationship between treatment access and treatment preference in individuals who reported engaging in non-medical opioid use (Huhn, Tompkins and Dunn, 2017). Participants were recruited between November 2016 and January 2017. The Johns Hopkins University School of Medicine Institutional Review Board reviewed this study and

determined that it did not constitute human subjects research because data collection was de-identified and collected through a voluntary online system.

Participants were registered on Amazon Mechanical Turk (AMT) – an Internet crowdsourcing platform that permits individuals to register as “Workers”. Workers are given access to survey assignments through AMT and rated by survey “Requesters” based on task performance e.g. whether they successfully completed surveys and correctly answered distractor questions. Worker ratings are created by AMT to describe the percent of previous surveys that a given worker successfully completed, as confirmed by previous requesters. A worker rating greater than 90% was required to access the study, and participants were informed that completion of the study served as informed consent. Eligibility criteria for these analyses were (1) being aged 18 or older, (2) U.S. residency, (3) misuse of prescription opioids (defined as “using other than prescribed or to get high”) in the last 30 days, (4) self-reported diagnosis of at least mild OUD based on DSM-5 criteria (as a proxy measure of problematic opioid use), and (5) endorsement of an abstinent or non-abstinent recovery goal. The survey was hosted on Qualtrics (Provo, UT). Study eligibility criteria were blinded and participants were presented with questions regarding basic demographics, illicit, and prescription drug use in order to screen out persons that were not currently engaging in non-medical opioid use. In lieu of a formal DSM-5 clinician evaluation, a standard DSM-5 checklist for OUD symptoms was used to assess the likelihood that a participant would meet criteria for mild, moderate, or severe OUD. Individuals who indicated non-medical opioid use without significant negative repercussions (i.e. they take opioids other than prescribed but displayed one or zero OUD symptoms on the DSM-5 checklist) were excluded from these analyses (n=92) in order to focus on persons likely to be treatment seeking in the near future.

Measures

Those who were included in the study engaged in non-medical use of opioids for a mean (SD) of 16 (10) days in the previous 30 days (Table 1). These variables have been partially reported as part of a different manuscript (Huhn, Tompkins, and Dunn, 2017) that characterized treatment preferences among the full participant sample.

Participants were asked to indicate what their recovery goals would be if they were to enter treatment (see Table 2). The goals were modeled after previous studies conducted among persons seeking treatment for alcohol use disorder (Dunn and Strain, 2013) and were categorized into abstinent goals (“I want to be totally abstinent from prescription opioids for a period of time, after which I will make a new decision about whether or not I will use opioids again”, “I want to quit opioids once and for all, though I realize I may slip up and use opioids every once in a while”, “I want to quit opioids once and for all, and never use again”, “I want to achieve abstinence from all drugs and self-improvement”, and “I want abstinence from drugs just for today”) and non-abstinent goals (“I want to use opioids in a controlled manner or to be in control of how much I use”, “I don’t want prescription opioids to be a habit anymore, but would occasionally like to use opioids when I really have an urge”, and “I want to use medication as prescribed but not abuse drugs”). Since participants were not actively seeking treatment, they were allowed to endorse multiple potential goals.

Those who endorsed not having “a clear understanding of recovery from addiction”, “no clear goal in mind”, or “none of the above” were excluded from analyses (n=30).

The following standard questionnaires were completed by participants to gauge whether they experienced chronic pain and/or their propensity for prescription opioid misuse: The Brief Pain Inventory (BPI) (Cleeland, 2009) was completed to describe self-reported chronic, current, and past 24-hour pain (Mendoza, Mayne, Rublee, et al, 2006), and the Screener and Opioid Assessment for Patients with Pain-Revised (SOAPP-R) was used to discern the propensity for engaging in non-medical opioid use (Butler, Fernandez, Benoit, et al, 2008). The presence of chronic pain was defined by endorsement of *all* of the following criteria: (a) experience of pain other than everyday kinds of pain, (b) pain lasting at least three months, (c) long-term pain not explained by withdrawal from opioids, (d) reporting at least mild daily pain on average (≥ 2 on a 0–10 visual analogue scale). Participants were also asked the following questions regarding their last 30-day opioid use: whether they used heroin, how many days they misused prescription opioids, and which routes of administration they used when misusing prescription opioids.

Participants were asked the following regarding long-term treatment preference: “If you were abusing or addicted to prescription opioids, which treatment do you think would be *most effective* in helping you stop using opioids for an extended period of time (1 year or longer)?” Participants were also asked “If you were abusing or addicted to prescription opioids, what is the *FIRST* treatment that you would try to help stop abusing opioids?” The following thirteen total treatment options were listed for participants: 12-step based recovery groups (e.g. Narcotics Anonymous, Alcoholics Anonymous), inpatient or residential treatment (28 days or longer), half-way house or sober living environment, inpatient drug detoxification (shorter than 28 days), outpatient drug detoxification, one-on-one counseling, cognitive behavioral therapy, group counseling, intensive outpatient (IOP), seeing a physician, methadone maintenance, oral or XR-naltrexone (Vivitrol®), or buprenorphine (Suboxone®, Subutex®, Zubsolv®).

Statistical Analysis

Participants were dichotomized into two groups based on recovery goals if they were to enter treatment: a group that endorsed only abstinent (n=166) recovery goals and a group that endorsed at least one non-abstinent (n=69) recovery goal (Table 1). Demographic, drug use characteristics, and long-term treatment preference were compared between the groups using chi-squared analyses for discrete variables and independent sample t-tests for continuous variables. The percent of respondents endorsing each of the goals are presented descriptively (Table 2). Alpha levels for significant findings were set at $p < 0.05$ and analyses were conducted using SPSS version 24.0.

Results

Participants in this study were 55% male, 80% Caucasian, and had a mean (SD) age of 33 (9) (Table 1). By comparison, the National Survey on Drug Use and Health (NSDUH) reports that individuals who misused opioids in 2016 were 51% male, 65% Caucasian, and had a median age of 26–34 (SAMSHA, 2016). Of the individuals screened for the current

study, 4.3% were eligible for the survey based on self-reported non-medical opioid use, which is identical to the percentage of persons in the U.S. population aged 18 who misused prescription opioids in the NSDUH.

Participants in this study endorsed abstinent (70.6%) or non-abstinent (29.4%) recovery goals (Table 2) if they were to enter treatment. The most frequently endorsed abstinent goal was to quit opioids once and for all and never use again (total abstinence; 41.3% of respondents). The most frequently endorsed non-abstinent goal was to use opioids in a controlled manner (23.8%). Participants also indicated a desire to continue using medication “as prescribed” (38.3%); by definition, this option did not fit into the abstinent or non-abstinent grouping. Over half of participants (57.9%) endorsed having chronic pain. There were no differences in the presence of chronic pain between participants in the abstinent versus non-abstinent groups, however, individuals with abstinent recovery goals were less likely to endorse the desire to use opioid medication “as prescribed” when compared to individuals with non-abstinent recovery goals (31.9% versus 53.6%, respectively; *Odds Ratio*, 0.60, 95% *Confidence Intervals*, 0.44–0.81, $\chi^2(1) = 9.71$, $p=0.002$). There were no differences in demographics between participants with abstinent and non-abstinent recovery goals. In addition, there were no group differences in BPI, SOAPP-R, or route of administration for prescription opioids between the abstinent and non-abstinent groups (Table 1).

When asked what treatment options participants would attempt first if they were to enter treatment for their non-medical opioid use, the top-rated choices for the entire sample were physician visits (23.4%), one-on-one counseling (18.7%), and 12-step groups (13.2%) (Table 3). When asked to endorse which treatment options they believed would be most effective for promoting long-term recovery from non-medical opioid use, the top-rated choices were one-on-one counseling (17.4%), residential treatment (16.4%), and buprenorphine (15.3%) (Table 3). Contrary to our original hypothesis, there were no differences between participants endorsing abstinent and non-abstinent goals regarding individual treatment options for recovery.

Discussion

Understanding the recovery goals of out-of-treatment persons who engage in non-medical opioid use is an important step in long-term treatment planning. Participants in this study were not yet treatment-seeking but used prescription opioids for purposes other than prescribed an average of 16 out of 30 days prior to the study and endorsed negative effects of opioid use. All participants met self-reported criteria for OUD (although they were not formally diagnosed). These individuals were asked to endorse which goals they might have if they decided to seek treatment. Participants were dichotomized into abstinent (70.6%) and non-abstinent (29.4%) groups based on their stated goals. The most frequently endorsed abstinent goal was to quit opioids once and for all, and never use again (total abstinence; 41.3%). The most frequently endorsed non-abstinent goal was to use opioids in a controlled manner (23.8%). The wish to use opioids as prescribed did not fit solely into either group, however, individuals endorsing non-abstinent goals were more likely to choose this option despite the finding that they were not more likely to experience chronic pain. There are

certainly many nuances in defining abstinence from opioids in this population. On one hand, there is a stark difference between taking opioids as prescribed for the treatment of pain and taking opioids to get high or for reasons other than prescribed. On the other hand, the overlap in desire to use opioids recreationally and as a pain treatment is likely to exacerbate disease progression in these individuals. Many individuals who engage in non-medical opioid use suffer from comorbidities (Subramaniam and Stitzer, 2009) such as chronic pain and/or psychiatric disorders (Pade, Cardon, Hoffman, et al. 2012). Understanding how to attract these individuals to treatment is important in preventing disease progression along the opioid misuse - OUD continuum.

The most common treatment options endorsed as a “first try” (i.e. where the individuals would seek treatment first), were a physician visit (23.4%), one-on-one counseling (18.7%), and 12 step groups (13.2%). It is noteworthy that participants were interested in seeing a physician as a point of first contact, but did not identify physician visits (alone) as the most effective long-term treatment. Physicians should be aware that persons who participate in non-medical opioid use are interested in engaging with the medical community and should be prepared to refer patients to counseling and other specialty services in addition to long-term medical care which would ideally include medications, such as methadone, buprenorphine, or extended-release naltrexone (Yarborough et al., 2016; Gryczynski et al., 2013).

Participants were also asked to indicate which treatments they believed would be the most effective for long-term treatment (1 year or longer), of which the top choices were one-on-one counseling (17.4%), residential treatment (16.7%), and buprenorphine (15.3%). It is likely that individuals engaging in non-medical opioid use view these as core treatments in achieving their long-term goals. Interestingly, there were no significant differences between the abstinent and non-abstinent goal groups regarding any single treatment modality, suggesting that the population sampled might be responsive to several forms of OUD treatment, which could be navigated in conjunction with a physician or addiction treatment specialist. OMT has consistently been demonstrated as an effective treatment option in reducing and/or eliminating illicit opioid use (Ling et al., 1998; Sees et al., 2000), which could be consistent with both abstinence-based and non-abstinence-based recovery paradigms. Efforts to expand access to OMT could attract individuals who would otherwise not engage in treatment, which may be an important harm reduction measure that could lead to long-term stabilization. Indeed, evidence from the Prescription Opioid Addiction Treatment Study (POATS) suggests individuals who were maintained on buprenorphine for an extended period of time relapsed at a lower rate than individuals who underwent outpatient withdrawal (Weiss et al., 2011).

Interestingly, the proportion of abstinent and non-abstinent goals that was observed in these analyses (70.6% and 29.4%, respectively) is similar to what has been previously reported among persons seeking treatment for alcohol use disorder (75% and 25%, respectively; Dunn and Strain, 2013). Evidence suggests that, despite not achieving complete abstinence, individuals with alcohol use disorder who have non-abstinent pretreatment goals were still likely to achieve clinically significant reductions in alcohol consumption as part of a randomized controlled trial, which is a valuable step towards their individual recovery (Dunn

and Strain, 2013). To prevent the onset of OUD, there are many strategies that can be employed to reduce initial non-medical opioid use in acute or chronic pain patients, such as clinical questionnaires, periodic urine drug screens, and patient-clinician agreements (Strassels, 2009). However, given the severity of the current opioid overdose epidemic, attracting people who have non-medical opioid use to treatment, regardless of their readiness to initiate complete abstinence, is a national priority. Although readiness for change is an important feature in long-term and meaningful recovery (Simpson and Broome, 1998), it is equally important that patients be matched to treatment programs in which they feel comfortable. This could help promote patient adherence to treatment, which has been established as an even better predictor of outcomes than initial treatment motivation (McKay et al., 1994).

Non-medical opioid use can be conceptualized as a continuum up to and including OUD. Engaging individuals before they have a clinical diagnosis of OUD could be an incredibly useful way to reduce the morbidity and mortality observed in the current opioid overdose epidemic. It is therefore critical that providers understand and consider the treatment goals of each individual when determining next steps. One study found that patients who are already in successful long-term recovery from heroin or crack cocaine generally endorse abstinence from illicit substances as their primary goal, but also acknowledge self-improvement as an important part of recovery (Laudet, 2007). Thus, abstinent and non-abstinent recovery goals are compatible with several treatment paradigms, and clinicians should be cognizant that persons seeking assistance for problems related to prescription opioids may have abstinent *and/or* non-abstinent recovery goals that should be considered when trying to match patients to treatment options.

The interpretation of this study is limited as the sample was collected through an online survey and therefore relies heavily on self-report (and not a clinical diagnosis) to assess the presence of non-medical opioid use and negative consequences associated with non-medical opioid use. However, participant demographics in this study were similar to other large samples (Stein et al., 2015) and national surveys (SAMSHA, 2016, Wu, Zhu, and Swartz, 2016), although data were skewed towards Caucasians. Also, the fact that only 4.3% of participants who attempted the survey made it through the screening process (the same percent reporting opioid misuse on the NSDUH; SAMSHA, 2016) suggests that the sampling technique was valid. In addition, whereas individual recovery goals might shift as individuals are more proximal to a treatment attempt, it is important to understand the perception of recovery and treatment goals in order to tailor interventions. Indeed, many participants reported multiple recovery goals that could be considered contradictory, which is likely indicative of indecision regarding OUD treatment; delineating recovery goals is an important part of treatment and clinicians should be prepared to discuss goals throughout the treatment process. Finally, this study did not collect information regarding previous treatment for OUD; this should be added to future studies on this topic.

Conclusion

In conclusion, this study is among the first to assess whether persons who engage in non-medical opioid use and are not already in treatment prioritize abstinent or non-abstinent

treatment goals. Consistent with previous research in the alcohol field, approximately 1 in 4 participants sampled would not have pursued a treatment if it emphasized abstinence from opioids. Participants were most interested in initiating treatment with a physician, counselor, or 12-step group, and cited one-on-one counseling, residential treatment, and buprenorphine maintenance as the most effective treatments for long-term recovery. In addition, persons with non-abstinent recovery goals, compared to abstinent goals, endorsed a greater desire to use opioid medications *as prescribed*, despite group differences in the experience of current chronic pain. Ultimately, these data provide evidence that recovery goals are one category by which patients could be matched to treatments, which helps to promote early treatment satisfaction and retention.

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Table 1.

Demographics

Participant Characteristics	Entire Sample (N=235)	Abstinence-Only Recovery Goal (n=166)	Non-Abstinent Recovery Goal (n=69)	χ^2/t -value (p-value)
Male (%)	55.3	59.6	53.6	0.11 (0.74)
Age [Mean yrs, (SD)]	33.2 (8.8)	33.6 (9.0)	32.5 (8.2)	0.88 (0.38)
White/Caucasian (%)	80.4	83.1	73.9	2.63 (0.11)
Income (Median)	\$52,500	\$52,500	\$52,500	0.94 (0.35)
Days misusing prescription opioids in last 30 [Mean (SD)]	15.6 (10.4)	16.0 (10.8)	14.6 (9.5)	0.94 (0.35)
Used any heroin in the past 30 days (%)	6.4	6.0	7.2	0.12 (0.72)
Self-reported OUD (%)				2.50 (0.28)
Mild	16.2	15.1	18.8	
Moderate	17.0	15.1	21.7	
Severe	66.8	69.8	59.4	
Route of Administration for Prescription Opioids				
Oral (%)	93.2	95.2	88.4	3.52 (0.06)
Nasal (%)	20.0	19.3	21.7	0.19 (0.67)
Intravenous (IV) (%)	7.2	6.0	10.1	1.23 (0.27)
Subcutaneously (%)	1.7	1.2	2.9	0.84 (0.36)
Transdermal (%)	3.0	3.0	3.0	0.00 (0.96)
Smoke (%)	3.0	1.8	5.6	2.69 (0.10)
Chronic Pain (%)	57.9			
BPI Mean Severity	3.5 (1.0)	3.5 (2.0)	3.4 (2.0)	0.41 (0.68)
BPI Interference	4.4 (2.4)	4.4 (2.5)	4.9 (2.5)	0.19 (0.85)
SOAPP-R Total Score [Mean (SD)]	41.0 (14.3)	42.4 (13.7)	37.3 (15.6)	1.39 (0.17)

Demographics and history of drug use. Opioid use disorder (OUD) severity based upon self-reported responses to DSM-5 checklist. Brief Pain Inventory (BPI); intravenous (IV); standard deviation (SD); Screener and Opioid Assessment for Patients with Pain-Revised (SOAPP-R).

Table 2.

Perceptions of Recovery

Recovery Categories	Recovery Goals	% Endorsed
Abstinence Only Goals 70.60%	1. I want to be totally abstinent from prescription opioids for a period of time, after which I will make a new decision about whether or not I will use opioids again.	33.6
	2. I want to quit opioids once and for all, even though I realize I may slip up and use opioids every once in a while.	26.8
	3. I want to quit opioids once and for all, and never use again (total abstinence).	41.3
	4. Abstinence from all drugs and self-improvement.	27.2
	5. I want abstinence from drugs <i>just for today</i> .	
Non-abstinent Goals 29.40%	1. I want to use opioids in a controlled manner - to be in control of how much I use.	23.8
	2. I don't want prescription opioids to be a habit anymore, but would occasionally like to use opioids when I really have an urge.	8.9

Participants (N=235) were asked to endorse their potential recovery goals in the event that they were entering treatment. Participants were able to endorse multiple goals. Groups were categorized as those who endorsed *only* abstinent goals and those who endorsed at least one non-abstinent goal respectively.

Table 3.

Treatment Preferences

Treatment Modalities	Try First for Recovery (%)	Most Effective Long-term Treatment (%)
One-on-One Counseling	18.7	17.4
Residential Treatment	5.1	16.7
Buprenorphine	10.2	15.3
12 Step Group	13.2	10.6
Cognitive Behavioral Therapy	4.3	7.7
Group Counseling	3.4	6.0
Methadone	5.1	5.5
Physician Visit	23.4	4.7
Sober Living Environment	1.3	4.7
Detox - Inpatient	6.0	4.3
Intensive Outpatient	0.9	3.0
Detox - Outpatient	6.0	2.6
Oral/XR Naltrexone	0.4	0.4
None of the above	2.1	1.1

Participants were asked to choose the one treatment modality that they would try first for recovery from opioid use disorder, and the one treatment modality that would best help them maintain recovery for an extended period of time (more than 1 year). XR= Extended Release.