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A Stabilizing “Anchor” or a Restrictive “Ball and Chain": Perspectives of Medically Assisted Treatment for Opioid Use Disorder

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by

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Abstract

This study examines participant perspectives of medically assisted treatment (MAT) for opioid use disorder (OUD) in relation to critical factors such as overdose risk, stigma, housing, access, mental health, and criminal behavior. Nineteen participants were recruited from a residential treatment center for SUDs (substance use disorders) and asked about how MAT impacts these factors and their recovery. Findings indicate that MAT has positive impacts on perceptions of the ability to recover, overdose risk, mental health, and criminal behavior. However, there are significant flaws in the current system, including barriers to access and housing opportunities. These issues illustrate the need for changes in the current infrastructure of MAT and SUDs treatment that enable the many benefits of MAT.

Keywords: Medically Assisted Treatment, Opioid Use Disorder, Substance Use Disorders, Residential Treatment, Stigma, Mental Health

TABLE OF CONTENTS

LIST OF TABLES

Introduction

The opioid/opiate crisis in the United States is one of the largest and most pressing public health issues being faced in the 21st century (Volkow & Blanco, 2021). Currently, the gold standard for treatment of OUD is MAT, which typically refers to methadone or buprenorphine medication. MAT is used to combat the withdrawals and cravings associated with abstinence from opioids (Sofuoglu et al., 2019; Spayde-Baker & Patek, 2023). In combination with MAT, residential treatment has shown to be highly effective to help individuals recover from OUD (Gossop et al., 1999; Spayde-Baker & Patek, 2023). This study attempts to further understand perspectives and experiences of MAT from those receiving MAT in residential treatment. Prior research has indicated that the use of MAT is heavily stigmatized and that access to MAT can be challenging considering the situational factors of patients (Damian et al., 2017; Majer et al., 2018; McLaughlin et al., 2021; Scorsone et al., 2020). Additionally, research has shown that MAT is related to housing status, criminal behavior, mental health, and the likelihood of overdose for those living with OUD (Gallardo et al., 2024; Mohammadi et al., 2020; Sun et al., 2015a). This study examines patient perspectives of these factors in relation to MAT, with the intention of broadening the understanding of the interplay of MAT and these factors.

Literature Review

Overdose

Overdoses involving synthetic opioids like fentanyl have skyrocketed since the mid-2010s, becoming one of the main drivers behind the increase of national total overdose fatalities to 107,941 in 2022 (Spencer et al., 2023). MAT has been shown to decrease not only overdose related mortality but all cause related mortality especially when MAT is sustained for a longer period (Ma et al., 2019). Other findings suggest a near 60% reduction in the possibility of a fatal overdose when MAT is being received (Strange et al., 2022). Additionally, initiatives that have introduced MAT to individuals post opioid overdose have shown promising rates of retention in MAT a month after overdose (Kaucher et al., 2020). However, reviews of post opioid overdose protocols within hospitals reveal a lack of prevalence and consistency in referrals to MAT (Melargni & Levy, 2021).

Stigma

Stigma, or the prevalent disapproval of MAT can lead receivers to have issues with self-image and access to social support. While there is a known stigma surrounding all SUDs (substance use disorders), receivers of MAT face a unique stigma that stems from the fact that methadone and buprenorphine act similarly to the same substances that individuals with OUD are in treatment for (Dickson-Gomez et al., 2022; Sofuoglu et al., 2019; Tarn et al., 2023). Others in recovery from SUDs who do not receive MAT report negative perceptions of individuals who receive MAT, questioning their desire for abstinence and recovery (Majer et al., 2018). These stigmatizations of receivers of MAT can lead to shame and social isolation, which contributes to the possibility for relapse for those with OUD (Scorsone et al., 2020). Social

support is one of the pinnacle factors that contribute to recovery from SUDs, therefore marginalizations due to MAT prove to be extremely relevant in the context of recovery from OUD (Chen, 2006). Stigmatization of MAT may be internalized for receivers of MAT considering individuals returning to detoxification treatment for OUD report higher levels of self-stigmatization than those seeking detoxification for the first time (Bozinoff et al., 2018). This stigma extends to providers of SUD services, as they perceive individuals who receive MAT more negatively compared to those who do not (Dickson-Gomez et al., 2022).

Access

MAT can require frequent if not daily attendance to clinics by patients, which complicates the day to day lives of patients and reduces the likelihood of patients continuing treatment (Frank et al., 2021). Frequent attendance requires patients to have transportation, which MAT patients cite as a barrier from receiving and continuing treatment (Beardsley et al., 2003; Boyd et al., 2024; Frank et al., 2021; Pasman et al., 2022; Uebelacker et al., 2016). Additionally, this consistent attendance often interferes with work schedules of patients and contributes to feelings of dehumanization by receivers of MAT (Frank et al., 2021; Pasman et al., 2022). Certain receivers of MAT can receive take-home MAT, which refers to a process that allows for patients to take home doses of MAT for days or weeks at a time. Take-homes remove the need for daily attendance. While take-homes are not granted to everyone, research indicates that providing take-homes do not worsen treatment outcomes and increased self-efficacy within receivers of MAT (Amram et al., 2021; Frank et al., 2021; Levander et al., 2021). In addition to take-homes, XR-buprenorphine (extended-release frequently referred to as Sublocade or “the shot”) which is administered monthly eliminates the need for frequent clinic visits which lessens the perception of transportation barriers associated with receiving MAT (Uebelacker et al.,

2016). Additionally, XR-buprenorphine shows to be practical and have positive treatment outcomes similar to other forms of MAT (Peckham et al., 2021).

Housing

Individuals with OUD often struggle to find stable housing, leading many individuals to contend with OUD and experience homelessness (McLaughlin et al., 2021). Paradoxically, stable housing increases the likelihood of MAT maintenance and reduces the negative consequences associated with opiate/opioid abuse (Appel et al., 2012; Kelleher et al., 2021). The reason for this may be that experiencing homelessness leads to a decrease in MAT maintenance (Damian et al., 2017; McLaughlin et al., 2021). While housing proves to be a crucial component for recovery from OUD, stigma surrounding MAT often prevents those in recovery from access to sober living programs (Gallardo et al., 2024). Housing is crucial towards recovery but seemingly unfeasible considering the stigmatization of MAT for those experiencing homelessness before entry to residential treatment.

Mental Health

There is a high prevalence of mental health disorders that are comorbid with OUD (Jones & McCance-Katz, 2019; Santo et al., 2022). Despite the relationship between mental health disorders and OUD, examinations of current MAT infrastructure reveal that treatment is not comprehensive of mental health and needs improvement for those with dual diagnoses (Jones & McCance-Katz, 2019; Novak et al., 2019; Rosic et al., 2020). Those with comorbid mental health disorders have more trouble accessing and sustaining MAT than others due to factors such as barriers, lack of social support, and inferior mental health and wellbeing (Pasman et al., 2022; Rosic et al., 2020). Findings suggest that the current facilitation of MAT is inadequate for those with comorbid mental health disorders. However, individuals who manage these complications

and go through with MAT maintenance have positive treatment outcomes including lessened depressive symptoms, better social well-being, and the reduction of illicit opioid use (Mohammadi et al., 2020; Sofuoglu et al., 2019; Sun et al., 2015).

Criminal Behavior

Individuals with OUD are at a higher risk of criminal behavior, with heavy opiate/opioid use associated with higher frequencies of criminal behavior (Hammersley et al., 1989; Sim, 2023). MAT maintenance has shown to reduce a plentitude of criminal behaviors and their consequences including incarceration and recidivism provided that MAT services are proficient (Bell et al., 1997; Cates & Brown, 2023; Evans et al., 2019; Linden et al., 2018; Oliver et al., 2010, p. 55; Russolillo et al., 2018; Sun et al., 2015a). Considering this, initiatives to provide incarcerated individuals with MAT have shown to be successful in increasing participation in treatment while reducing illicit opioid use and recidivism (Linden et al., 2018; Moore et al., 2019; Rising et al., 2022; Schwartz et al., 2016). However, initiatives like these are rare, and do not match the need for these services. Only 12% of correctional facilities nationwide offer MAT to incarcerated individuals and even less provide referrals to treatment after incarceration (Linden et al., 2018; Rising et al., 2022).

Present Research

Much of the research on MAT suggests flaws in the current state of MAT, despite the treatment's overall effectiveness. To address current flaws, patient perspectives of MAT in relation to many factors that are interlaced with MAT may help provide needed insights into what steps need to be taken to improve the state of MAT. Considering the efficacy of using MAT to combat the crisis of opioid overdoses, understanding individual experiences with hospitalization and post-overdose referrals to treatment for OUD can provide insight into the

current state of the referral process post-overdose. Additionally, research on perspectives on why MAT reduces criminal behavior is lacking, which could provide insights on MAT in relation to recidivism. Further understanding of how MAT is viewed by those with other mental health disorders may gather insight into what impact MAT has on mental health and why those with comorbid mental health disorders struggle within current treatment structures. Likewise, the uncovering of perspectives and challenges of those seeking sober living after residential treatment is vital in creating effective and sustainable housing initiatives for those with OUD. Similarly, developing a further understanding of patient perceptions of MAT related stigma is crucial with the cognizance of the impact and prevalence of MAT related stigma. In conclusion, patient perspectives are necessary to not only better understand the point of view held by those receiving MAT, but to improve the current systems that are semi-sufficient in their ability to adequately address one of the largest public health crises faced today.

Methods

Purpose

The purpose of this research is to increase the current understanding of perspectives and experiences of MAT from receivers of MAT in relation to the factors that are of extreme relevance to recovery from OUD. This research aims to answer the following questions:

1. What relationship does MAT have with opiate/opioid overdose risk? What mechanisms are in place to reduce risk?
2. What perception do receivers of MAT have about MAT and its stigmatization?
3. What impact does receiving MAT have on housing status?
3. What barriers to access do receivers of MAT face?
4. What impact does MAT have on the mental health of receivers of MAT?
5. What relationship does MAT have with criminal behavior and recidivism?

Research Design

This study utilized a structured survey questionnaire to investigate individual perspectives of MAT (Appendix A). The survey included multiple choice and open-ended questions, allowing the collection of both qualitative and quantitative data.

Participants

The sample for this study consisted of nineteen men from Aspire Health Partners Men's Residential Recovery Program for substance use and co-morbid mental health disorders located at 1405 W Michigan Street, Orlando, Fl. This program is partially government funded and serves clientele from a wide variety of socioeconomic backgrounds near downtown Orlando. Requirements for being a participant in this study included being a client at this specific

residential treatment program and currently receiving MAT (methadone, Suboxone, Subutex, or Sublocade) at the time of interview.

The research utilized a convenience sample, as participation was at the discretion of the individual and not obligatory for those receiving MAT at this program. To facilitate recruitment, flyers were posted on the inside of the doors of the living spaces of the program. These flyers provided a brief overview of the scope, requirements, and expectations for participants in this research. Many participants were recruited by others who had previously participated in the research, as word spreads fast in a treatment center with a census of around 50 men. Prospective participants who had learned of the survey were then able to speak to the researcher administering the survey, who is also a staff member at this program. Prospective participants scheduled a time to complete the survey with the researcher. Research began on May 19th, 2024, and ceased on the 17th of June 19, 2024, spanning for a total of 31 days.

Procedure and Data Collection

Participants who were eligible for the study and interested in participating arranged a time to complete the survey with the researcher. Participants were familiar with the researcher since the researcher administering the survey was a staff member of the program. At the time of a scheduled survey, the researcher escorted the participants to a private and well air-conditioned office at the residential treatment program. In this office, the researcher provided participants with a copy of the explanation of the research. Participants were briefly informed of their rights as participants, that participation was voluntary, that they were able to skip over any question they did not want to answer, and that they could end the survey at any time prior to the start of the survey. After a participant confirmed their willingness to participate, the researcher proceeded with the survey.

This survey was researcher administered. The survey featured 6 blocks of multiple-choice questions followed by open ended questions on different certain topics. For multiple choice questions, the researcher would read the question off his iPad and allow the participant to select an answer from the corresponding sheet of paper in front of them. For opened ended questions, the researcher would read the question to participants and then use voice to text dictation to record the text version of the participant's response. All data were recorded into Qualtrics by the researcher. At the conclusion of the survey, the first nine participants were provided with bricks of Café Bustelo coffee and assorted bags of candy as incentives. The use of incentives was suspended due to concerns management of the program had regarding their clients bartering, fighting over, and begging for the incentives used.

This method of administering the survey was chosen due to concerns of excluding participants who did not have the visual ability or reading comprehension skills to understand the syntax and diction of the questions. For these reasons, the survey was administered in this fashion instead of providing participants with the iPad or a paper copy of the survey.

Data Analysis

The data from this survey was recorded and compiled into Qualtrics. Quantitative data from Qualtrics was transferred into IBM SPSS where descriptive statistics were run. Independent sample t-tests that compared data between participants in different groups were also performed. Qualitative data was analyzed using thematic analysis.

Ethics

This research was approved by the University of Central Florida's Institutional Review Board prior to its start. In addition, the research proposal was reviewed by the director of the residential treatment program, who granted approval for the research to take place. To protect

participant confidentiality, no identifiable information was collected. Participants were allowed to skip questions or end the survey at any time for whatever reason. Scheduling of surveys was done so that the survey did not interfere with participants schedules, obligations, or treatment at the program.

Results

Demographics

The demographic profile of the 19 participants in the study is seen below (Table 1). All participants are men, since this is a men's program. Their ages ranged from 22 to 60 (M = 36.7, SD = 8.858); 74% (n = 14) of the participants identified as White, 21% (n = 4) identified as Hispanic, and 5% (n = 1) identified as Black. 74% (n = 14) of the participants were single men and 74% (n = 15) of participants had achieved a High School Diploma or equivalent at the minimum.

Table 1

Demographic Profile of Participants

Sample Characteristics	n	%	Mean	SD
Age	19		36.37	8.858
Race				
1. White	14	73.7%		
2. Hispanic	4	21.1%		
3. Black	1	5.3%		
Education Level				
1. Less than high school	4	21.1%		
2. High school or equivalent	6	36.1%		
3. Some college	7	36.8%		
4. Bachelor's or 4-year degree	1	5.3%		
5. Prefer not to say	1	5.3%		
Marital Status				
1. Single	14	73.7%		
2. Married	1	5.3%		
3. Widowed	1	5.3%		
4. Divorced	1	5.3%		
5. Separated	1	5.3%		
6. Prefer not to say	1	5.3%		

Substance Use History

The substance use history of participants is seen below (Table 2); 79% (n = 15) of participants reported being in substance use treatment for other substances in addition to opioids. 36% (n = 7) of participants reported injection as their preferred method of administration, while 31.6% (n = 6) reported snorting, 21.0% (n = 4) preferred oral, and 10.5% (n = 2) preferred smoking. 79% (n = 15) of participants reported fentanyl use in the last year, and 47.4% (n = 9) reported using MAT illicitly or outside a doctor's order in their lifetimes.

Table 2

Substance Use History

Characteristic	n	%
In treatment for other substances besides opioids/opiates		
1. Yes	15	79.0%
2. No	4	21.0%
Preferred method of opioid opiate administration		
1. Oral	4	21.0%
2. Snorting	6	31.6%
3. Injection	7	36.8%
4. Smoking	2	10.5%
Reported fentanyl use in last year		
1. Yes	15	79.0%
2. No	4	21.0%
Reported use of MAT on street		
1. Yes	9	47.4%
2. No	10	52.6%

Treatment History and Future

The treatment status and history of participants is displayed below (Table 3); 79% (n = 15) of participants had been in residential treatment before, with 57.3% (n = 9) of participants reporting that they were recipients of MAT in residential treatment before. Of the sample, 89.5% (n = 17) of participants were receiving methadone, while 5.3% (n = 1) were receiving Subutex, and 5.3% (n = 1) were receiving Sublocade. Of the sample, 36.8% (n = 7) of participants were receiving a dosage of methadone from 30 to 59 milligrams, with 26.3% (n = 5) receiving 90 to 120 milligrams, and 21.1% (n = 4) receiving 120 or more milligrams, and 5.3% (n = 1) receiving 60 to 89 milligrams. 47.4% (n = 9) desired to decrease their dosage in the next month, 36.8% (n = 7) desired to increase their dosage, and 10.5% (n = 2) wanted to remain at their current dosage.

Table 3

Treatment History and Future

Characteristic	n	%
Previous treatment at residential facility		
1. Yes	15	79.0%
2. No	4	21.0%
Use of MAT in residential treatment previously		
1. Yes	11	57.9%
2. No	4	21.1%
Form of MAT currently receiving		
1. methadone	17	89.5%
2. Subutex (buprenorphine)	1	5.3%
3. Sublocade (XR-buprenorphine injection)	1	5.3%
Current dosage of methadone		
1. 30-59mg	7	36.8%
2. 60-89mg	1	5.3%
3. 90-120mg	5	26.3%
4. <120mg	4	21.1%
Desire to change dose		
1. Intent to increase	7	36.8%
2. Intent to decrease	9	47.4%
3. Intent to stay unchanged	2	10.5%
4. Prefer not to say	1	5.3%

Overdose and Subsequent Hospitalization

The participants' history and experience with opioid/opiate overdose and subsequent hospitalization is displayed below (Table 4). Of the sample, 52.6% (n = 10) of participants had been hospitalized for an overdose before, with 26.3% (n = 5) reporting being hospitalized more than five times and with 26.3% (n = 5) reporting being hospitalized five times or less. 26.3% (n = 5) of participants were never referred to MAT by the hospital, 16.8% (n = 3) received referrals to MAT sometimes, and 10.5% (n = 2) received always referrals to MAT. 31.6% (n = 6) of participants sometimes received referrals to detoxification or residential treatment by the hospital, 10.5% (n = 2) never received these referrals, and 10.5% (n = 2) always received these referrals. 42.1% (n = 8) of participants were never receiving MAT at the time of an overdose, and 10.5% (n = 2) were receiving MAT some of the times they overdosed. Only 20% (n = 2) of participants who reported being hospitalized for an overdose reported always being referred to MAT services detoxification/residential treatment.

Table 4

Overdose and Subsequent Hospitalization

Characteristic	n	%
Has been hospitalized for an opioid/opiate overdose		
1. Yes	10	52.6%
2. No	9	47.4%
Number of hospitalizations for overdose		
1. >5 hospitalizations	5	26.3%
2. <5 hospitalizations	5	26.3%
Reported referral to MAT during hospitalization		
1. Yes, always	2	10.5%
2. Yes, sometimes	3	16.8%
3. No, never	5	26.3%
Reported referral to detoxification, residential, or inpatient treatment after hospitalization		
1. Yes, always	2	10.5%
2. Yes, sometimes	6	31.6%
3. No, never	2	10.5%
Reported receiving MAT prior to overdose		
4. Yes, sometimes	2	10.5%
5. No, never	8	42.1%

Stigma and Beliefs

Participants were asked to rate statements related to stigma using a Likert scale from 1 to 5, where 1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, and 5 = strongly agree. Mean scores for the statement "People who are using MAT are sober" were 3.63 (M = 3.63, SD =1.499). The statements "Methadone is good for recovery", "Suboxone is good for recovery", and "XR-Buprenorphine/Sublocade is good for recovery" had mean scores of 4.06 (M = 4.06, SD = 1.211), 4.21 (M = 4.21, SD = 1.182), and 4.60 (M = 4.60, SD = 0.737) respectively. The statements "My family and friends view me receiving MAT negatively", "Other people in recovery view me receiving MAT negatively", "Treatment providers view me receiving MAT negatively", and "I view myself negatively for receiving MAT negatively" had mean scores of 2.95 (M = 2.95, SD = 1.508), 2.74 (M = 2.74, SD = 1.485), 1.63 (M = 1.63, SD = 1.065), and 1.73 (M = 1.73, SD = 0.684), respectively. The statement "MAT is necessary for recovery from opiate/opioid addiction" had a mean score of 3.58 (M = 3.58, SD = 1.216). The mean (M) and standard deviation (SD) of scores for nine different statements are displayed below (Table 5).

Table 5

Ratings of Stigmatization and Beliefs about MAT

Statement	n	M	SD
People who are using medically assisted treatment are sober	19	3.63	1.499
Methadone is good for recovery	18	4.06	1.211
Suboxone is good for recovery	19	4.21	1.182
XR-Buprenorphine (aka Sublocade or "the shot") is good for recovery	15	4.60	0.737
My family and friends view me receiving medically assisted treatment negatively	19	2.95	1.508
Other people in recovery view me receiving medically assisted treatment negatively	19	2.74	1.485
Treatment providers view me receiving medically assisted treatment negatively	19	1.63	1.065
I view myself negatively for receiving medically assisted treatment	19	1.37	.684
Medically assisted treatment is necessary for recovery from opiate/opioid addiction	19	3.58	1.216

Prior and Desired Housing Status

Participant reports of previous housing status before treatment and desire to go to sober living after treatment are displayed below (Table 6). 63.2% (n = 12) of participants were experiencing homelessness prior to residential treatment. 94.7% (n = 18) of participants were interested in transitioning to sober living after residential treatment.

Table 6

Prior and Desired Housing Status

Characteristic	n	%
Experiencing homelessness prior to residential treatment		
1. Yes	12	63.2%
2. No	7	36.8%
Interested in sober living after residential treatment		
1. Yes	18	94.7%
2. No	1	5.3%

MAT's Impact on Housing

Participants were asked answer questions related to housing and MAT using a Likert scale from 1 to 5 where 1 = definitely not, 2 = probably not, 3 = might or might not, and 4 = probably yes, 5 = definitely yes. The questions "Does your housing status impact your ability to recover from OUD?" and "Does your housing status impact your ability to continue receiving MAT" had mean scores of 4.42 (M = 4.42, SD = 1.305) and 3.00 (M = 3.00, SD = 1.491) respectively. The questions "Are you interested in sober living after residential treatment?" and "If a sober living program asked you to decrease your dose, would you still want to live there?" had mean scores of 3.22 (M = 3.22, SD = 1.437) and 3.44 (M = 3.44, SD = 1.504). The mean and standard deviation of scores for four questions are displayed below (Table 7).

Table 7

MAT's Impact on Housing

Question	n	Mean	SD
Does your housing status impact your ability to recover from opioid use disorder?	19	4.42	1.305
Does your housing status impact your ability to continue receiving medically assisted treatment?	19	3.00	1.491
Are you interested in sober living after residential treatment?	18	3.22	1.437
If a sober living program asked you to decrease your dose, would you still want to live there?	18	3.44	1.504

Prior Housing Status MAT's Impact on Housing

Participants were asked answer questions related to housing and MAT using a Likert scale where 1 = definitely not, 2 = probably not, 3 = might or might not, and 4 = probably yes, 5 = definitely yes. To further understand the relationship between housing and MAT, participants were grouped based on whether they reported experiencing homelessness prior to residential treatment. An independent samples *t*-test was conducted to compare the scores for the two groups. Participants who reported experiencing homelessness had higher mean scores for every question than those who reported not experiencing homelessness. There was a significant difference in the ratings of the question "Does your housing status impact your ability to recover from opioid use disorder?", with participants who reported experiencing homelessness before residential treatment giving higher ratings (M = 5.00, SD = .000) than those who reported not experiencing homelessness before residential treatment (M = 3.43, SD = 1.813), $t(6) = 3.068$, p = >.001. Additionally, there was a significant difference in the ratings of the question "Do you believe receiving medically assisted treatment affects the likelihood of being accepted to a sober living program?", with participants who reported experiencing homelessness before residential treatment giving higher ratings (M = 3.5, SD = 1.446) than those who reported not experiencing homelessness before residential treatment (M = 2.67, SD = 1.366), $t(10.650) = 1.196$, p = >.023. The mean (M) and standard deviation (SD) for each question separated by group is below (Table 8).

Table 8

Comparison of Housing Scores Grouped by Housing Status

Question	Participants Experiencing Homelessness Prior to Residential Treatment			Participants Not Experiencing Homelessness Prior to Residential Treatment			*t*	*df*	*p*
	n	M	SD	n	M	SD			
Does your housing status impact your ability to recover from opioid use disorder?	12	5.00	.000	7	3.43	1.813	3.068	6	<.001*
Does your housing status impact your ability to continue receiving medically assisted treatment?	12	3.33	1.435	7	2.43	1.512	1.300	17	.964
Do you believe receiving medically assisted treatment affects the likelihood of being accepted to a sober living program?	12	3.50	1.446	6	2.67	1.366	1.196	10.650	.023*
If a sober living program asked you to	12	3.50	1.508	6	3.33	1.633	.215	16	1.000

decrease
your dose,
would you
still want to
live there?

***** Indicates that $p < .05$

Take Homes and XR Buprenorphine

Questions about desires to receive take homes and knowledge of the existence of XR-buprenorphine were asked. 78.8% (n = 15) of participants wanted to receive home take-home doses of MAT after residential treatment. Only 36.8% (n = 7) of participants were familiar with XR-buprenorphine. Results are displayed below (Table 9).

Table 9

Take Homes and XR-buprenorphine

Question	n	%
Do you want to receive take-homes after residential treatment		
1. Yes	15	78.8%
2. No	3	15.8%
3. Prefer not to say	1	5.3%
Are you familiar with XR-buprenorphine (aka Sublocade or "the shot")		
1. Yes	12	63.2%
2. No	7	36.8%

Access to MAT

Participants were asked to answer questions related to access to MAT on Likert scale where 1 = definitely no, 2 = probably no, 3 = might or might not, and 4 = probably yes, 5 = definitely yes. The mean scores for the questions "After residential treatment, would frequent attendance at a clinic for MAT interfere with other obligations?" and "After residential treatment, would frequent attendance at a clinic for MAT lead you to stop receiving MAT" are 3.21(M = 3.21, SD = 1.619) and 2.95 (M = 2.95, SD 1.619) respectively. The mean score for the question "Will access to transportation make receiving MAT difficult after residential treatment?" was 3.84 (M = 3.84, SD = 1.463). The mean scores for the questions "Would you abuse or sell the medication as a result of receiving take homes?" and "Would it be easier to recover from OUD if you could receive take homes?" are 1.00 (M = 1.00, SD = .000) and 4.71 (M = 4.71, SD = 0.686). The mean score for the question "Would receiving XR-Buprenorphine (aka Sublocade or "the shot") make it easier to continue medically assisted treatment compared to oral MAT?" is 3.82 (M = 3.82, SD = 1.662)**.** Would it be to easier recover from opiate use disorder if you could receive take home doses? The mean and standard deviation of scores for the six questions is displayed below (Table 10).

Table 10

Access to MAT

Question	n	Mean	SD
After residential treatment, would frequent attendance at a clinic for MAT interfere with other obligations?	19	3.21	1.619
After residential treatment, would frequent attendance at a clinic for MAT lead you to stop receiving medically assisted treatment?	19	2.95	1.580
Will access to transportation make receiving medically assisted treatment difficult after residential treatment?	19	3.84	1.463
Would you abuse or sell the medication as a result of receiving take homes?	15	1.00	.000
Would it be to easier recover from opiate use disorder if you could receive take home doses?	17	4.71	.686
Would receiving XR-Buprenorphine (aka Sublocade or "the shot") make it easier to continue medically assisted treatment	11	3.82	1.662

compared to oral
MAT?

Mental Health Diagnoses

Participants were asked about their mental health diagnoses. 73.7% (n = 14) of participants report being diagnosed with a mental health disorder. 68.4% (n = 13) of participants had axiety and 68.4% (n = 13) of participants had depression. The participants report of them having a diagnosis for having a mental health disorder and what mental health disorder/s they have been diagnosed with is displayed below (Table 11).

Table 11

Mental Health Diagnoses

Question	n	%
Have you been diagnosed with a mental health disorder?		
1. Yes	14	73.7%
2. No	5	26.3%
What mental health disorder/s have you been diagnosed with?		
1. Depression/Depressive Disorder	13	68.4%
2. Anxiety/Panic Disorder	13	68.4%
3. Bipolar Disorder	7	36.8%
4. PTSD	4	21.1%
5. ADHD	2	10.5%
6. Schizophrenia	1	5.3%

Perception of MAT's Effect on Mental Health

Participants were asked rate statements concerning MAT and their mental health using a Likert scale where 1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, and 5 = strongly agree. All of the mean scores in this block were high, with the only exception being the mean score of the statement "My mental health makes it hard for me to continue treatment" which was 1.68 (M = 1.68, SD = 1.250). The mean score for the very general statement "Medically assisted treatment has a positive impact on my mental health" is 4.74 (M = 4.74, SD = 0.562). The mean scores for the statements that discussed specific aspects of mental health like "Medically assisted treatment allows me to be more self-sufficient", "Medically assisted treatment reduces stress for me", "Medically assisted treatment reduces depressive symptoms for me", "I feel more stable mentally because of medically assisted treatment", and "Medically assisted treatment allows me to use my social supports" are 4.47 (M = 4.47, SD = 1.172), 4.26 (M = 4.26, SD = 1.284), 4.11 (M = 4.11, SD = 1.370), 4.21 (M = 4.21, SD = 1.398), and (M = 4.21, SD = 1.228) respectively. The mean and standard deviation of scores for the seven statements is displayed below (Table 12).

Table 12

Perception of MAT's Effect on Mental Health

Statement	n	Mean	SD
Medically assisted treatment has a positive impact on my mental health	19	4.74	.562
Medically assisted treatment allows me to be more self-sufficient	19	4.47	1.172
My mental health makes it hard for me to continue treatment	19	1.68	1.250
Medically assisted treatment reduces stress for me	19	4.26	1.284
Medically assisted treatment reduces depressive symptoms for me	19	4.11	1.370
I feel more stable mentally because of medically assisted treatment	19	4.21	1.398
Medically assisted treatment allows me to use my social supports	19	4.21	1.228

Mental Health Status and Perception of MAT's effect on Mental Health

Participants were asked rate statements concerning MAT and their mental health using a Likert scale where 1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, and 5 = strongly agree. To further understand the relationship between mental health and MAT, participants were grouped based on whether they reported having a mental health diagnosis. An independent samples *t*-test was preformed to compare the ratings of MAT's effect on participants mental health for the two groups. There was a significant difference in the ratings of the statement "Medically assisted treatment allows me to be more self-sufficient", with participants who reported no mental health diagnosis having higher ratings (M = 5.00, SD = .000) than those who reported having a mental health diagnosis (M = 4.29, SD = 1.362), $t(13) = -2.016$, p = >.012. Additionally, there was a significant difference in the ratings of the statement "My mental health makes it hard for me to continue treatment", with participants who reported having a mental health diagnosis having higher ratings (M = 1.93, SD = 1.385) than those who reported no mental health diagnoses (M = 1.00, SD = .000), $t(13) = 2.509$, p = >.001. Additionally, there was a significant difference in the ratings of the statement "Medically assisted treatment allows me to be more self-sufficient", with participants who reported no mental health diagnosis having higher ratings (M = 5.00, SD = .000) than those who reported having a mental health diagnosis (M = 4.00, SD = 1.414), $t(13) = -2.646$, p = .005. The mean (M) and standard deviation (SD) for each statement separated by group and the results are displayed below (Table 13).

Table 13

Comparison of Perception Grouped by Mental Health Diagnosis

	Mental Health Disorder (N=14)		No Mental Health Disorder (N=5)		*t*	*df*	*p*
	M	SD	M	SD			
Medically assisted treatment has a positive impact on my mental health	4.71	.611	4.80	.447	-.285	17	.512
Medically assisted treatment allows me to be more self-sufficient	4.29	1.326	5.00	.000	-2.016	13	.012*
My mental health makes it hard for me to continue treatment	1.93	1.385	1.00	.000	2.509	13	<.001*
Medically assisted treatment reduces stress for me	4.00	1.414	5.00	.000	-2.646	13	.005*
Medically assisted treatment reduces depressive symptoms for me	4.21	1.251	3.80	1.789	.569	17	.223

I feel more stable mentally because of medically assisted treatment	4.29	1.326	4.00	1.732	.383	17	.699
Medically assisted treatment allows me to use my social supports	4.29	1.069	4.00	1.732	.436	17	.358

***** Indicates that $p < .05$

Criminal History and MAT

Participants were asked about their criminal history and 84.2% (n = 16) of participants reported being arrested and 62.5% (n = 10) of them stated that they were always in active addiction prior to their arrest/s. Seventy-five percent (n = 12) reported incarceration (time in prison as opposed to brief time in jail) and 56.3% (n = 9) of the 16 participants who had been arrested reported MAT being unavailable during their time in the system. Data on the criminal history and the reports of MAT availability is displayed below (Table 14).

Table 14

Criminal History and MAT

Characteristic	n	%
Has been arrested before		
1. Yes	16	84.2%
2. No	2	10.5%
3. Prefer not to say	1	5.3%
Has been incarcerated before		
1. Yes	12	63.1%
2. No	4	21.1%
Number of arrests		
1. 1	1	5.3%
2. 2	1	5.3%
3. 3	2	10.5%
4. 5	1	5.3%
5. <5	11	57.9%
Receiving MAT prior to arrest/s		
1. Yes	3	15.8%
2. No	13	
Was in active addiction prior to arrest/s		
1. Always	10	68.4%
2. Sometimes	3	15.8%
3. Never	3	15.8%
Arrests were drug related		
1. Always	6	31.6%
2. Sometimes	7	36.8%
3. Never	2	10.5%
4. Prefer not to say	1	5.3%
Reported MAT being available in prison/during incarceration		
1. Always	2	10.5%
2. Sometimes	2	10.5%

3. Never	9	47.4%
4. Prefer not to say/Unsure	3	15.8%

Qualitative Data

Researchers used Thematic Analysis to identify reoccurring themes present in the perspectives and experiences of participants. This allowed researchers to identify consistent themes shared in multiple participant responses. This method enabled researchers to paint a detailed picture of the variety perspectives and experiences that receivers of MAT have.

In the process of Thematic Analysis, researchers continuously reviewed responses identifying consistent themes between responses. Once researchers identified a multitude of themes that accurately represented the data presented to them, responses which best captured the essence of the feelings expressed by the participants were selected as examples of these themes. After, researchers recorded the frequency of these themes within the responses and displayed them in a chart.

MAT's Impact on Recovery

Participants were asked the question "How does medically assisted treatment affect your ability to recover from Opioid Use Disorder?" to better understand how participants feel MAT helps them. The three major themes of how MAT helps were reductions in cravings, assistance with withdrawals, and help in transitioning to a sober lifestyle.

Reductions in cravings for opioids/opiates was the theme that appeared most frequently, being seen in 57.9% (n = 11) of the responses. Many participants cited this as the major impact that MAT has on their recovery. A reduction in cravings was also a reason for why some respondents feel they are better able to transition into sobriety and achieve a greater quality of life. A participant receiving methadone for the first time in his life said this about how MAT helps him:

> It helps me throughout the day. It takes my cravings away from any opiate. It helps with any withdrawals that I had when I first got to this program so I don't have any withdrawals and I don't crave or think about using or any type of opioid substance.

While many participants cited that MAT helps with cravings, others connected the dots further. Some participants described how MAT reduced their desire to go and actively seek drugs, with a receiver of methadone who reported receiving MAT for times prior citing that "my brain actually tells me that I don't need to go and use other drugs, like I'm halfway satisfied with doing it [methadone] and it kind of deters me from wanting to go and use." A reduction in mental cravings lead 21.1% (n = 9) to report that MAT not only reduces mental cravings for opiates/opioids, but actually deters them from engaging in drug seeking behavior.

In addition to a reduction in cravings, help with withdrawals was another theme that emerged amongst the responses. MAT enabled participants to cope with withdrawals, something participants understandably feared. Additionally, MAT provided participants with confidence in their detoxification from opioids/opiates, an extremely tenuous part of the recovery process. A man receiving methadone who has used MAT in treatment once before said this about how MAT helps him:

> I honestly think they are like miracle drugs because like when you're trying to recover without that assistance, you're more likely to relapse and its torture. I don't think I can, you know, do it for a week with vomiting, diarrhea, and such. They are miracle drugs; I wouldn't be able to do it [recover from OUD] without them."

As seen above, MAT gave participants confidence in their ability to fight cravings and withdrawals and pursue their recovery journey. Enabling a recovery journey was also seen in responses, with 26.3% of responses indicating the MAT helps them transition into a sober life

with a sober lifestyle. MAT was seen as a transitional crutch or tool that brings them closer to sobriety, and in turn a better quality of life. A man receiving methadone who has used MAT more than five times in recovery said, “Methadone gives me a leg to stand on to help me stay focused and on a path I need to be on until I can get to a point [where I am] stable enough to get off of it.” This theme also had undertones of stability, with participants viewing MAT as source of stability in their recovery process. Without this stability, transitioning into a sober life becomes more difficult.

While most participants discussed the positive impacts of MAT, 15.8% (n = 3) of participants had some mixed views on MAT. These participants voiced the fact that despite MAT being helpful in some ways, they felt frustrated with the fact they had to use a substance to get off a substance. A man receiving methadone who has received MAT in treatment twice before said this regarding MAT:

> So in the past me, taking methadone has brought down my cravings as far as wanting to get high there were points in my recovery where I felt like I wanted to get high, but you know once I took my methadone like the actual cravings [disappeared]. I don’t like methadone for one reason and that, when you try to decrease or if you stop methadone you get sick if not worse your symptoms and the reason why I get off of it is because I think I don’t like being dependent on a.... I don’t like feeling like I need a drug.

These participants acknowledged that MAT was helpful but indicated frustration with still needing that help. A man receiving methadone, who reported receiving methadone once before in treatment, frustratingly exclaimed that “I guess it makes me function and makes me live on my life without doing any drugs you know but I’m still taking something and that gets to me.” These two responses indicated some level of self-abasement for having to receive MAT, which is

fascinating considering when directed asked, both participants said that they strongly disagreed with the statement “I view myself negatively for receiving MAT” just a couple minutes later.

Despite the mixed opinions of a few, the overwhelming majority cited that MAT had a positive impact on their recovery because of things like the reduction of cravings, mitigation of withdrawals, and the needed assistance in the transition to sobriety. The frequency of these themes are seen below (Table 15).

Table 15

Themes Identified in Relation to Overall Recovery

Theme Subtheme	n	%
Reduction in Mental Cravings	11	57.9%
Reduction in desire to engage in drug seeking behavior	4	21.1%
Fighting Withdrawals	8	42.1%
Support during detoxification process	2	10.5%
Support with physical withdrawal symptoms	5	26.3%
Support with mental withdrawal symptoms	4	21.1%
Transition into sober life	5	26.3%
A supportive crutch into sobriety	3	15.8%
Promotion in quality of life	3	15.8%
Mixed views	3	15.8%
"I don't like feeling like I need a drug"	2	10.5%

Impact on Overdose Risk

Participants were asked the question "What impact does medically assisted treatment have on the possibility of a future overdose?" All of the participants indicated that they believed MAT reduced the likelihood of a future overdose for them. Confidence in abstinence from illicit opiate/opioid use due to MAT was cited by participants as a reason for their belief that there is a reduced or eliminated risk of a future opiate/opioid overdose. Examples of theme can be seen below:

> I think it has a good impact [on the likelihood of me overdosing] because it will prevent me from using fentanyl or any opioid and possibly over overdosing so it would prevent me from even using the substances and possibly overdosing. (A man who had never been hospitalized for an overdose)
>
> It is beneficial for me help to prevent you from having a future overdose, keeping me on the medication or methadone helps with the cravings chances of relapsing are a lot less without medication and it also takes my pain management so that I will not try to use secondary drug to manage pain. (A man who had never been hospitalized for an overdose)
>
> [MAT] minimizes the risk of me overdosing not only because my tolerance is strengthened, but at the same time it keeps me from wanting to do those things [opiate/opioids from the street] that caused me to overdose in the first place. (A man who reported being hospitalized for an overdose more than five times)

As exemplified above, 78.9% (n = 15) of participants responses drew confidence in their continued abstinence from street opiates/opioids due to MAT, which in turn would result in the elimination of overdose risk. Of the participant responses containing this theme, 40% (n = 6) of

these participant responses cited their reductions in cravings due to MAT as a piece of rationale for their confidence in their abstinence from street opiates/opioids. An example of this can be seen in the response of a participant who had been hospitalized for an overdose twice, saying "So for me, I'm not gonna overdose because I have no cravings whatsoever for any opiates while I'm on methadone." Continued MAT maintenance contributing to abstinence and therefore the reduction of overdose risk was another sub-theme identified as a source of confidence in the decreased likelihood of a future overdose, with a participant who had never been hospitalized for an overdose stating, "I mean that it's very likely that I won't overdose if I stay on medically treatment." This subtheme was identified in 20% (n = 3) of the responses that cited MAT as providing them with confidence in abstinence, and in turn a decreased risk of overdose. Data indicates that participants believed that MAT is a protective factor in the context of future opiate/opioid overdoses since it allows for abstinence by reducing cravings for extended periods of time.

Additionally, participants felt the risk of opiate/opioid overdose was decreased since MAT is safer than opiates/opioids from the street. A man who had had never been hospitalized for an overdose pointed out that "I have a stable dose that I can stay on instead of getting it on the street and not knowing what the dose is, [that can] cause an overdose, you know?" This participant noted that they could not dose opiates/opioids purchased from the street with accuracy, a major risk factor for opiate/opioid overdoses. In comparison, they know the exact dosage that they are getting of MAT, resulting in them feeling safer and having a minimized risk of overdose. MAT being safer than street drugs was cited as a reason for the reduction of a possibility of a future opiate/opioid overdose by 31.6% (n = 6) of participants.

Lastly not all the participants cited confidence in their ability to remain abstinent from illicit opiate/opioid as the reason for their belief in MAT reducing their risk of overdose. One participant pointed out that since their form of MAT is an opioid itself, their tolerance to opioids will be higher at the time of a possible relapse. This increased tolerance to opioids was cited as a rationale for how MAT helps decrease the possibility of a future overdose. Below is this participants explanation:

> OK, well to be completely honest it is very difficult to overdose on methadone, not overdose on methadone but overdose while on methadone. My body has already got a high tolerance for the methadone [dosage in] milligrams, and I know because normally when I'm using and I'm taking methadone, I can do a lot more heroin and fentanyl than a normal person at a single time, just for the fact of my tolerance is so high from the methadone that I'm taking. (A man who reported overdosing more than 5 times)

As you can see, even though this participant was not exactly confident in methadone allowing him to be abstinent because of his past experiences, he still believes that the methadone hinders the likelihood of him overdosing again. The frequency of the themes and sub-themes that were identified in responses to this question are displayed below (Table 16).

Table 16

Themes Identified in Relation to Overdose Risk

Theme Subtheme	n	%
Confident in ability to remain abstinent	15	78.9%
Continued MAT will prevent relapse	3	15.8%
Reduction in cravings due to MAT	6	31.6%
MAT is safer than street drugs	6	31.6%
Increased Tolerance	2	10.5%

Participant's Experiences with Overdose Hospitalizations

When asked about their experience while being hospitalized for an overdose, 77.8% (n = 7) of participants discussed how traumatic the experience of hospitalization for overdose was including the variety of feelings experienced when they regained consciousness. Although a variety of feelings and emotional reactions were discussed, the two common ones that emerged in the analysis were fear and disorientation. Feelings of fear were evident in 66.7% (n = 6) of these responses, while feelings of disorientation were present in 55.6% (n = 5) of responses. Below are two examples of participants recalling their traumatic experiences:

> It was traumatic because the first time it happened, I didn't know who I was or where I was. I just heard a really loud ring so I was terrified. I literally barricaded myself in the room and also all the memories flooded back in and I knew I made a horrible mistake, but it was the most terrifying experience. (A man who reported being hospitalized for an overdose twice)

> OK, so in reference to my experience at the hospital, I've actually had that happen a few times, the most serious was actually woke up after 30 days of being in a coma. I just woke up. I went in on September 21. I woke up on October 23, or something like that. I didn't know what was going on. I had a tube down my throat. I couldn't walk, couldn't write, all that. I didn't even know where I was at or what was going on and I was very confused. Now, I have woken up at the hospital or on the way to hospital when they Narcan you… you wake up with like this cold feeling like… you were freezing, you can't even stop shaking. (A man who reported being hospitalized for an overdose more than 5 times)

As exemplified, participants discussed the psychologically and emotionally strenuous toll that being hospitalized for an overdose takes on someone. This toll may be worsened by their treatment by hospital staff, considering that 33.3% (n = 3) of participants discussed the attitude of hospital staff towards them during their hospitalization for their overdose/s. Each of these three participants had unique perceptions of attitudes towards them. Below these three participants unique experiences:

> When I was hospitalized for an opiate overdose or any type of overdose, I've always been treated kind of poorly. I've always been like judged or discriminated because I'm an addict, you know? A lot of people don't know the history behind my drug problem so you know they prejudge you just another addict, another overdose, and another problem in society. So as far as being hospitalized, I've had a pretty bad experience, but it's not an all places, you know? Some places I get treated better than others, you know? As far as a detox facility, I've been treated pretty good, but as far as going to the hospital, you know, you get looked at as, you know, you get looked down on and discriminated against. (A man who reported being hospitalized for an overdose more than 5 times)
>
> My experience was pretty shitty and not all of them were good. Some of them were OK but most of them are shitty. The doctors don't treat you the best, you know? I could definitely say that they're not really good and pretty nasty, but I got some good and some bad. (A man a who reported being hospitalized for an overdose more than five times)
>
> It was scary at the beginning, but everybody was pretty comforting and seemed like they cared and wanted to try to get me help…Any of the other times that [I was hospitalized for an overdose] I might've forgotten but they probably wanted to try to give me help every time. I might've just forgotten from clouded judgment from drugs. But overall

> good experiences, helpful for getting me to not do the things I was doing. (A man who reported being hospitalized for an overdose more than five times)

There are mixed views on how hospital staff treated participants, with some participants feeling as though their treatment was impacted by stigmatizations of those with SUDs. While this may be true, some participants also noted that they had experiences where they felt that hospital staff cared and did not judge them for being addicts. This data demonstrates that treatment by hospital staff varies from person to person, and that stigmatization of OUD is prevalent in the medical field which can impacts the care of those with OUD. Below are the frequencies of some of the themes discussed in the data (Table 17).

Table 17

Themes Identified in Relation to Hospitalization for Overdose

Theme Subtheme	n	%
Recall of traumatic experience	7	77.8%
Feelings of fear	6	66.7%
Feelings of disorientation	5	55.6%
Perceptions of hospital staff attitudes		
Positive perceptions	1	11.1%
Mixed perceptions	1	11.1%
Negative perceptions	1	11.1%

Perceptions of MAT related Stigma

Most participants felt that the receival of MAT was stigmatized, with 78.9% (n = 15) of participant responses recognizing that there is some extent of MAT related stigma. However, participants had some differing opinions on what the source of the stigma was. The different explanations as for why the medication was stigmatized were identified and discussed below.

Nearly half or 47.3% (n = 9) of participant responses shared the sentiment that others feel that recipients of MAT are just looking for a substitute high and are not interested in sobriety and recovery. Examples of this sentiment are below:

> Yeah, I agree. A lot of people don't like it because they feel like we're still using. We're still under the influence of drug and it… [they] just feel like it's not sober, really going against our recovery and cheating our way out of it. (A man receiving methadone)
>
> Yeah, I feel that people who don't know what it is or don't understand the situation at hand can definitely view it as just another way to get high or just another thing to use as a

> crutch to continue using a substance, especially family members and people who don't have any experience with the situation. (A man receiving methadone)

These findings demonstrate that receivers of MAT believe that they are judged for not truly being sober or in recovery because they receive medications that are opioids themselves. The misconception that they are just trading one high for another leads to judgment, and questions about the true intent of receivers of MAT.

Additionally, 47.3% (n = 9) of participant responses indicated that the source of the stigma was in part due to misconceptions about MAT in a more general context. A man receiving methadone said "Yes, I do believe that the treatment is stigmatized by people, especially if they don't have the full information of what it does how it helps". Below is another example of these perspectives of the misunderstandings of MAT:

> A lot of times people don't view methadone or suboxone correctly because they don't have the knowledge. They don't understand how it works for people or addicts, or they think that you don't have to be on medication in order for you to be sober. (A man receiving methadone)

These responses indicated that the source of the stigma for MAT was that the public did not understand why the medication is needed and how it helps, leading for people to hold baseless negative perceptions of MAT, and in turn receivers of MAT. These perceptions show that receivers of MAT feel that more education of how MAT works and benefits individuals is needed.

Similarly, 36.8% (n = 7) of participant responses mentioned that those who weren't addicts could not understand what cravings and withdrawals were like, and therefore could not empathize with those struggling with addiction. A man receiving methadone argues that "The

people that don't use, don't understand how methadone or Suboxone helps people with cravings." Another man receiving methadone asserts that "It is stigmatized mostly by people that do not understand what it's like to be addicted to it and try to get off." These participants felt as though the stigmatization of MAT and its receivers was because people who have not struggled with addiction are unable to comprehend the necessity of MAT, and therefore can't have a true and fair understanding of how MAT helps.

Lastly, 31.6% (n = 6) of participants reported perceiving MAT related stigma but argued that recipients of MAT should be judged on a case-by-case basis instead of as a group. These responses argued that the motivations of the individual trump the beliefs surrounding the recipients of MAT. An example of this follows:

> I think it is stigmatized, but it shouldn't be because like it all depends on the person. But I do think that methadone and Suboxone and the MAT program can help people, it just depends on person. It's a case-by-case basis. (A man receiving methadone)

Some receivers of MAT feel that stigmatizations are unfair because they are generalized, and don't factor in the goals of the individual. They argue that judgement stems from a few individuals with bad intents, and does not reflect the sum of those who receive MAT.

Participants overwhelmingly felt that MAT related stigma existed, and identified varying misconceptions and misunderstandings as for why these stigmatizations exist. Below are the frequencies of these themes identified within the responses (Table 18).

Table 18

Themes Identified in Relation to Stigma

Theme Subtheme	n	%
Stigmatization of MAT is prevalent	15	78.9%
MAT is misunderstood by the public	9	71.4%
Non-addicts can't relate	7	36.8%
Personal goals trump the stigma	6	31.6%
"Another way to get high"	9	71.4%

MAT's Impact on Housing

Participants had varied responses when asked about MAT's impact on housing, however there were two themes that emerged. A major finding was that 33.3% (n = 6) of participant responses discussed the perception that sober living homes discriminate against prospective residents who receive MAT. A man interested in sober living points out that "It affects your ability to find housing because I would say about 50 to 60% of the housing or sober living [houses] don't allow any type of medically assisted treatment." Another participant interested in sober living concurs and explains that "MAT is important for housing because some sober living facilities don't want you using methadone. I've seen two cases of several houses close by where I live don't accept people that take methadone…there's nowhere for me to go." Another participant interested in sober living adds that "a lot of places don't take methadone people, just Suboxone." Below is yet another example of participants discussing discriminatory tactics used by sober living houses against recipients of MAT:

> Some houses, they don't it want it all and it makes a little more difficult but if you're on it [MAT] at all, but it definitely is a factor that is more harmful than it is beneficial as far as getting into a [sober living] house. (Participant 18, June 2024).

Receivers of MAT speak from experience and on the general understanding that sober living programs discriminate against receivers of MAT, partially because of stigmatization of MAT. This stigma leads many who were homeless prior to residential treatment unable to attain transitional housing, and in turn back on the street. The perception that sober living programs won't accept them leads to hopelessness in terms of housing status after residential treatment.

Additionally, 22.2% (n = 4) of participants mentioned the fact that potential housing needed to be in the MAT clinic for it to be a feasible option for them. Below are two examples of this theme:

> Being able to find housing while on Suboxone, Methadone, Subutex or any type of medicine is very very hard. You need to live a certain range of the clinic that gives you the medicine. So, if I live in Tallahassee and the nearest place to dose is in Gainesville. I would have to travel to Gainesville every day to dose. So, where I live and dose at, it hinders me from using the medicine absolutely. (A man previously experiencing homelessness)
>
> It affects me finding housing because I have to find an area close to where the treatment is. I have to make sure there's a bus route locally or way to get there transportation wise…It's almost like it's a ball and chain. (A man previously experiencing homelessness)

Participants point out that the necessity of attendance at a clinic makes finding housing more difficult, as they need to be within a reasonable proximity to the clinic. This narrows down housing options for those in recovery, making the recovery process even more difficult than it already is.

When asked about housing, participants believe that MAT has an impact because of stigma held against them by sober living programs and the necessity of having housing that enables access to MAT. The frequency of these themes within the responses is below (Table 19).

Table 19

Themes Identified in Relation to Housing

Theme	n	%
Sober living won't accept people receiving MAT	6	33.3%
Proximity of housing to MAT clinic	4	22.2%
Have not thought about it	2	11.1%
Sees no relationship	3	16.7%

Access to MAT

When asked about barriers to access of MAT, participants identified several barriers that make attaining access more difficult. Finding transportation to a clinic that provides MAT, paying for treatment and its associated costs, and incorporating MAT into daily schedules were concerns shared by 50% (n = 9), 27.8% (n = 5), and 33.3% (n = 6) of respondents respectively. Below two examples of responses that shared concern about all with the third example demonstrating just how big of a barrier transportation can be:

> As far as receiving medically prescribed treatment, [it will be] extremely hard for me to catch a ride every day, to come up with the money every day for the medicine, to find the time and support system that's gonna help me do it. It's gonna be so hard to do that. You know it's made to make you fail. I feel like it's not that easy. (A man previously experiencing homelessness)
>
> Transportation is a big one. Also, if they ask you to pay daily monetary issues will come up. Will I have enough money to pay? With the transportation, if I have to take a bus or get someone to drive me there it's just a little bit difficult working around all of those things if you don't already have support." (A man previously experiencing homelessness)
>
> It will be very difficult for me to get treatment because I don't have a driver's license. I don't have a vehicle. I'm homeless and I live two counties away from this facility, so I wouldn't be able to get here at all. So, it'd make it very difficult for me to get treatment if I had to come to the clinic. (A man previously experiencing homelessness)

As seen above, participants had some serious concerns about the ability to access MAT outside of residential treatment, going as far as to say the current system makes it so difficult it feels like

it was crafted to have people fail. Social support emerged as something that mitigated barriers to access, with participants citing that having practical social support reduces their perception of barriers.

While a lot of participants voiced concerns about access to MAT, 22.2% (n = 4) of participants were less concerned about barriers in access, saying they anticipate having little issues with future access to MAT. A man who was not experiencing homelessness before says “I have a vehicle so I can just go to the clinic every day. I live five minutes away.” Ownership of a car and proximity to the clinic provides this induvial with the belief that MAT will not be a hassle to obtain, a stark contrast to those who are without cars and homes. Additionally, another participant dismisses claims of barriers made by others, arguing that “Too many people make excuses but had no issue getting drugs in active addiction.” This participant expresses the sentiment that while the receival of MAT can be perceived as burdensome by others, it is no worse than the barriers faced by addicts getting illicit opiates/opioids.

The frequency of the theme identifies within the data can be seen below (Table 20). While most participants perceived that transportation, financial, and time related barriers existed and will be troublesome in the future, those who had access to better practical supports and were very determined in their recovery had much more confidence in their ability to continue receiving MAT. This contrast displays just how important socioeconomic factors are in the recovery abilities of those recovering from addiction.

Table 20

Themes Identified in Relation to Access

Theme	N	%
Transportation barriers	9	50%
Financial barriers	5	27.8%
Time management	6	33.3%
Confidence in ability to access MAT	4	22.2%
Social support as a remedy to barriers	2	11.1%

MAT's Impact on Mental Health

Participants felt as though MAT had a positive impact on their mental health, with 72.2% (n = 13) of participants mentioning improvements because of MAT. Specifically, 44.4% (n = 8) of responses reported a reduction in stress/anxiety, 38.9% (n = 7) of responses reported a decrease in instability, and 33.3% of responses reported a decrease in depressive symptoms (n = 6). A man diagnosed with depression, bipolar disorder, PTSD, and ADHD reported that "It has an impact on my mental health, it lets me not be depressed. I don't have episodes of bipolar feelings, I'm just more stable." Another man who reported being diagnosed with depression and anxiety discussed stability, saying "It makes me think more positive so like, I don't know, it's like an anchor or something…It also gives me a sense of security, knowing that [MAT] is there I and I can adjust my dose." Another example of the decrease in mental health symptoms is seen below:

> It has impacted my mental health in a good way. I'm not stressed out, anxious, or going through the pain… it also cancels out the cravings. It kinda covers up that spot in your brain that makes you feel depressed and frustrated and concerned about where I'm going to or how I'm gonna get better. (A man who reported being diagnosed with anxiety, depression, bipolar disorder, and ADHD)

MAT provided participants with a source of confidence in their struggles with their mental health. Participants with mental health disorders perceive that MAT in and of itself can be attributed to a bettering of their mental health, a crucial aspect of their recovery.

Another source of the positive impact was the benefit of sobriety, with 38.9% (n = 7) of participant responses discussing how no longer being in active addiction created conditions for better mental health. These participants pointed out that MAT has enabled them to no longer

have to be in the endless conquest for the next high, leading to improved mental health. A man with depression, anxiety, and bipolar disorder stated that "with the methadone, I know I don't have to go out there and search for other drugs to get high so that's a positive impact." Another participant without a mental health diagnosis went into more depth, explaining that:

> It has a great impact on my mental health because it stops distress and anxiety of me having to go out and find drugs on the street when I can just get my medication and go about my day. It gives me the ability to go about what I need to do during the day and get things done that I need to get done. You know, go to work instead of having to be sick and going to try and find drugs on the street and I don't have to worry about somebody potentially harming me trying to get drugs."

This participant perceives the improvement is not because of the medication directly, but rather that the medication enables him to live without the hardships he experienced while in active addiction. Similarly, 11.1% (n = 2) of participant responses discussed how MAT has enabled them to have to be in the endless conquest for the next high has enabled them to have greater self-esteem and self-worth. A man without mental health diagnoses says, "It's a confidence boost because you can focus on living a normal sober life, you don't have all these other things getting in the way of success like drugs." Additionally, participant 11 who reported receiving diagnoses of depression and anxiety, stated that "It does kind of make me feel good about myself because I'm staying clean. So maybe it does help in the self-esteem area as well as the depression area long as I'm right with the methadone."

The frequency of themes and subthemes identified in the data can be seen below (Table 21). Overall, participants felt as though MAT had an overwhelming positive impact on their

mental health by lessening the severity of their symptoms and enabling stability which allows them to pursue recovery and build their new lives post addiction.

Table 21

Themes Identified in Relation to Mental Health

Theme Subtheme	N	%
Reduction in negative mental health symptoms	13	72.2%
Reduction in stress and anxiety	8	44.4%
Reduction in depressive symptoms	6	33.3%
Reduction in mental instability	7	38.9%
	7	38.9%
Mental wellbeing post-active addiction		
Newfound confidence and self-worth	2	11.1%

Criminal Behavior

When asked about MAT's impact on criminal behavior, 72.2% (n = 13) of participants' responses asserted that MAT reduced their criminal behavior. Participants indicated that the source of their criminal behavior in the past was a result of the need for drugs or the consequences of using them. Below is an example explaining the relationship between receival of MAT the reduction of criminal behavior:

> So, the impact that methadone has…I don't know. I don't have to do any criminal stuff, I'm stable, and I'm not sick. I'm not having withdrawals so that way I'm able to work and I don't have to go out there and do criminal activity. (A man who had multiple arrests and incarcerations)

As seen above, a reduction in cravings was cited by 33.3% (n = 6) of participants responses as for why MAT reduced their criminal behavior. Participants argued that cravings for drugs are partially responsible for the participants criminal behavior. An example is shown below:

> It keeps me from thinking of stealing to get high or doing some type of crime to get my fix, because the medication helps to reduce the cravings and keep me on track. I'm not using because of the med treatment. I'm not thinking of doing crimes because the crimes are being committed because of drug issues. (A man who reported multiple arrests and incarcerations)

Participants believe that MAT enables them to break the cycle of criminal behavior associated with addiction, where cravings precipitate the need for criminal acts. This cycle and criminality mentality created by addiction was mentioned by 27.8% (n = 5) of participants. These responses showed that MAT helps participants shift their criminal mentality by removing the factors that cause their criminal behavior. An example is shown below:

> It's very positive and beneficial to me with my criminal mentality. I don't have to do anything to get the money together to get myself together to be able to handle the day and I don't even think that way as long as I get my methadone. (A man who reported multiple arrests and incarcerations)

Some participants felt as though MAT enabled them to not only break this cycle and mentality but facilitate changes in personal growth with 11.1% (n = 2) of participants indicating that MAT is helpful in their transformation as a person. A man who reported multiple arrests shared that "It has a positive impact, because I don't want to do criminal activities anymore because I want to be a better person. I want to change and the methadone helps with that." This individual identifies MAT as a tool that helps change unwanted behaviors, a process that would be significantly more difficult while in active addiction.

Overall, MAT was seen as a preventative measure for criminal behavior with participants citing the management of cravings, breaking of the criminal cycle, and the enabling of personal growth as for why. The frequency of these themes that emerged from the data can be seen below (Table 22).

Table 22

Themes Identified in Relation to Criminal Behavior

Theme Subtheme	N	%
Reduction in criminal behavior	13	72.2%
No cravings, no crime	6	33.3%
Diminishment in criminal mentality	5	27.8%
Desire to be better	2	11.1%

Discussion

This research explored the multifaceted impacts of Medically Assisted Treatment (MAT) on individuals recovering from OUD, highlighting seven key factors: overdose, stigma, housing, access, mental health, and criminal behavior. Each factor sheds light on different aspects of the perspectives and experiences of receivers of MAT. In the discussion of this research, each factor will be discussed in depth and will compare current findings with previous findings.

Overdose

Previous research shows that MAT reduces the risk of overdose. This study not only supports these findings but also indicates that participants believe MAT effectively reduces overdose risk. Quantitative findings showed that of the 10 participants who reported being hospitalized for an opiate/opioid overdose, only 20% (n = 2) reported actively receiving MAT before any overdose/s, reinforcing the idea that the receival of MAT reduces risk of overdose. Qualitative findings revealed that receivers of MAT perceive MAT to reduce overdose risk, citing that MAT provided them with confidence in their ability to remain abstinent from opiates/opioids, a safer alternative to illicit opiates/opioids, and an increased tolerance to opioids/opiates as for why. These findings support the notion that MAT is a great tool for reducing overdose risk

Previous findings indicate that post-overdose hospital referrals to MAT were effective, but that there was a lack of prevalence and consistency in hospital staff making these referrals. Present findings support the idea that there is a lack of consistency with these referrals, as of the 10 respondents who had been hospitalized for an overdose only 20% (n = 2) reported that hospital staff were consistently making referrals to either MAT, detoxification, or residential

treatment and 50% (n = 5) reported that hospital staff never referred them to MAT after any hospitalization. Considering the success of these referrals in prior findings, it is concerning that this data indicates that referrals are not happening consistently.

An emerging theme from the qualitative data was that the hospitalization for an overdose was a traumatic experience, with 77.8% (n = 7) discussing the distressing nature of the experience. This suggests that hospitals may not be adequately addressing the needs of their patients in these difficult times. This idea is supported by a participant who reported being hospitalized for an overdose more than five times, who says "When I was hospitalized for an opiate overdose or any type of overdose, I've always been treated kind of poorly. I've always been like judged or discriminated against because I'm an addict, you know?" Stigmatizations of individuals with OUD held by hospital staff may be the source of why some of participants reported that they felt some level of judgment from hospital staff. However, the reports of hospital staff treatment towards them were varied, indicating that experiences can differ significantly from patient to patient and hospital to hospital. Factors such as being a "frequent flyer", lacking advocates, coming from lower socioeconomic backgrounds, or being a racial/sexual minority may influence the quality of treatment received and whether referrals are made. Considering the importance of competent post-opiate/opioid overdose responses by hospital staff and paramedics, more research on this subject is needed.

Stigma

Previous findings suggest that receivers of MAT feel that they are stigmatized for receiving MAT. Additionally, findings suggest that stigma is perpetuated by social supports and treatment providers and becomes internalized for receivers of MAT which leads to shame and social isolation. The existence of MAT related stigma is supported by findings that indicate that

78.9% (n = 15) of participants believe that stigmatization exists to some degree. However, the idea that MAT stigmatization comes from non-opiate/opioid addicts who are also in recovery, friends and family, and providers of MAT and SUDs treatment was not supported. Participants reported mild feelings of judgment from non-opiate/opioid addicts in recovery and essentially no judgement from treatment either providers or themselves due to MAT. For this reason, there were no findings indicating that the stigma leads to social isolation or shame for recipients of MAT. Qualitative findings show that receivers of MAT attribute the stigmatization of MAT to be sourced in misconceptions of the medication, specifically from those who were not addicts and could not empathize with or understand why this medication is necessary. This finding suggests the need for a more informed collective understanding of MAT and its necessity to combat the stigmatization associated with its use. Interestingly, findings revealed that 31.6% (n = 6) of participants reported feeling that their own motivations and goals for receiving MAT are more valuable than pressures associated with external stigmatization, showcasing that self-esteem's mitigatory effect on stigmatizations consequences.

Findings from quantitative data indicate that participants had very positive opinions of Methadone, Suboxone, and XR-Buprenorphine/Sublocade alike, with no major differences in their opinion for either form of MAT. Participants were fairly split on whether they deemed MAT necessary for recovery and whether those receiving MAT should be considered sober but leaned towards yes for both of those questions. These findings indicate that perceptions of stigma and beliefs about MAT vary amongst individuals, possibly due to the unique experiences of the individual.

Housing

Previous research established the correlation between experiencing homelessness and OUD and has discussed the detrimental effects of experiencing homelessness on those attempting to recover. In this research, 63.2% (n = 12) of participants reported experiencing homelessness prior to residential treatment, demonstrating the correlation between experiencing homelessness and OUD. Findings of this research support the idea that housing status impacts recovery ability, with participants in overwhelming agreement that their housing status impacts their ability to recover. There was a significant difference in the ratings of the question "Does your housing status impact your ability to recover from opioid use disorder?", with participants who reported experiencing homelessness before residential treatment giving higher ratings (M = 5.00, SD = .000) than those who reported not experiencing homelessness before residential treatment (M = 3.43, SD = 1.813), $t(6) = 3.068$, p = >.001. This discrepancy showcases how those who had experienced homelessness before had a much deeper understanding of just how crucial housing is in the context of recovery. Those who have lived the experience understand how a lack of stable housing magnifies the challenge of recovery Findings from this research strongly support the idea that receivers of MAT feel that their housing status is crucial to their recovery, especially those who had experienced homelessness.

One explanation for the connection between OUD and homelessness is that previous research has found homelessness leads to a decrease in maintenance of MAT. There were varied responses for a question asking whether housing status impacts ability keep up with maintenance of MAT, which may be because of individual experiences and personal situations. While the quantitative data does not shed much light on this being a factor for participants, the qualitative

data yields insight. Below is quote from a participant who was asked about barriers that prevent access to MAT:

> It will be very difficult for me to get treatment because I don't have a driver's license. I don't have a vehicle. I'm homeless and I live two counties away from this facility, so I wouldn't be able to get here at all. So, it'd make it very difficult for me to get treatment if I had to come to the clinic.

To stay on track with MAT maintenance, you need to be able to access the medication. This becomes quite the task when you are experiencing homelessness, as this participant points out. An individual's unique situation in terms of social support, location, and access to transportation may magnify the impact of experiencing homelessness on continued receival of MAT.

Despite sober living being an effective transitionary tool where previously homeless recovering addicts can transition into long term housing; previous research finds receivers of MAT are discriminated against in the selection process. Participants overwhelmingly wanted to go to sober living after residential treatment, with 94.7% (n = 18) of participants expressing interest in sober living. There was a significant difference in the ratings of the question concerning the chances of being accepted to a sober living program, with participants who reported experiencing homelessness before residential treatment giving higher ratings (M = 3.5, SD = 1.446) than those who reported not experiencing homelessness before residential treatment (M = 2.67, SD = 1.366), $t(10.650) = 1.196$, p = >.023. When asked about how MAT impacts their housing status, 33.3% (n = 6) of participants mentioned sober living as being difficult to get into as a receiver of MAT. A participant explains his experience with the situation, saying "MAT is important for housing because some sober living facilities don't want you using methadone. I've seen two cases of sober houses close by where I live don't accept people that take

methadone…there's nowhere for me to go." In conclusion, the findings of this research highlight a critical obstacle for recipients of MAT. Despite the proven benefits of MAT in supporting recovery and reducing relapse, sober living facilities refuse to accept recipients of MAT. This leads to housing instability for those trying to recover, adding another barrier that diminishes the chances of recovery.

Access

Daily attendance to clinics that is often required for MAT leads to barriers that prevent access to MAT. Previous research points to transportation and time commitment as some of the major barriers for recipients of MAT. When asked about what obstacles exist in the way of obtaining access MAT, 50% (n = 9) of participants cited transportation as a barrier, 33.3% (n = 6) of participants mentioned time management, and 27.8% (n = 5) mentioned the financial costs. Considering these barriers, participants even perceived the current system for MAT as designed to make people relapse. This sentiment is seen in the following response:

> As far as receiving medically prescribed treatment, [it will be] extremely hard for me to catch a ride every day, to come up with the money every day for the medicine, to find the time and support system that's gonna help me do it. It's gonna be so hard to do that. You know it's made to make you fail. I feel like it's not that easy. (A man receiving methadone)

Findings indicate that barriers to accessing MAT, such as transportation, time management, and financial costs, are major challenges that further hinder their recovery journey, which is already a tumultuous process. The prevalence in the perception of barriers demonstrates the urgent need for systemic changes that improve accessibility and support for providers of MAT. Addressing

these barriers may increase retention and effectiveness of MAT, in turn leading to better outcomes.

Take home MAT has shown to have similar effectiveness to MAT with daily clinic attendance, all while reducing the impact of barriers like transportation and time commitment. 78.8% (n = 15) of participants in this sample indicate that they would like to receive take homes after their time in residential treatment. This may be because participants felt as though recovery would be much more obtainable if they could receive take home MAT. Even though take homes are wanted, as effective, and reduce barriers associated with recovery, they are still considered a privilege and not granted to everyone. Granting take homes is a simple and easy way to reduce barriers to access for receivers of MAT but is not being practiced enough considering its benefit.

XR-buprenorphine has similar treatment outcomes to oral forms of MAT like methadone and suboxone, with the need for daily clinic attendance. This form of MAT is administered via injection every month or so, considerably reducing barriers like time and transportation to the clinic. Findings indicate that participants generally thought that there are less barriers associated with the XR-buprenorphine compared to oral forms of MAT. Despite these findings, only 36.8% (n = 7) of participants were very familiar with XR-buprenorphine, and only 5.3% (n = 1) of respondents were receiving it. So, while XR-buprenorphine has a good reputation and may very well eliminate barriers for receivers of MAT, knowledge of its existence and availability may not be had by receivers of MAT. It may be underutilized considering its benefits.

Mental Health

OUD is known to frequently be accompanied by a wide variety of mental health disorders, an understanding of OUD that's consistent with this sample considering that 73.7% (n

= 14) of participants report being diagnosed with a mental health disorder. With this relationship in mind, present findings are concerned with developing a better conception of how MAT impacts mental health. Both the qualitative and qualitative data indicated that most participants feel as though MAT had a strong positive impact on their mental health. Participants cited reduction in mental health symptoms like stress, depression, and instability as the explanation for this benefit. These three aspects of mental health we're identified as sub-themes in thematic analysis, with reduction in stress appearing in in 42.1% (n = 8) of responses, reduction in depressive symptoms appearing in in 33.3% (n = 6) of responses, and reductions in instability appearing in 38.9% of responses (n = 7). Those with mental health disorders were quick to sound off on how MAT impacts their mental health, like this man who reported being diagnosed with depression, bipolar disorder, PTSD, and ADHD describing how "It has an impact on my mental health, it lets me not be depressed. I don't have episodes of bipolar feelings, I'm just more stable." Another example of MAT's impact on depression and anxiety follows:

> It has impacted my mental health in a good way. I'm not stressed out, anxious, or going through the pain… it also cancels out the cravings. It kinda covers up that spot in your brain that makes you feel depressed and frustrated and concerned about where I'm going to or how I'm gonna get better. (A man who reported being diagnosed with anxiety, depression, bipolar disorder, and ADHD)

Prior findings have shown that MAT reduces depressive symptoms, however findings about MAT's impact on stress and stability are fresh and valuable. MAT seems to serve as an "anchor" for the mental health of many grappling OUD, a valuable understanding for providers of SUD and mental providers in the midst of a raging opiate/opioid epidemic.

Prior findings have indicated that the mental health comorbidities associated with OUD make the continued treatment of OUD difficult to sustain. While present findings show that MAT has a positive impact on mental health, participants did not strongly feel as though their mental health made it difficult to continue receiving MAT. While this seems to indicate that participants felt as though their mental health status had little impact on their ability to continue their recovery journey, there was a significant difference in the ratings of the statement when participants were grouped by whether they had a mental health disorder or not. Participants who reported having a mental health diagnosis had higher ratings (M = 1.93, SD = 1.385) than those who reported no mental health diagnoses (M = 1.00, SD = .000), $t(13) = 2.509$, p = >.001. While participants who had mental health diagnoses did not report that their mental health strongly impacted their ability to continue treatment, there was a significant difference between them and those without diagnoses. This finding is consistent with prior research and shows the need for comprehensive mental health care within residential treatment programs. These findings may be in part due to the stabilizing effects of MAT in the context of mental health, as mental stability may be the groundwork for successful recovery from OUD.

MAT has been shown to promote better social well-being of those in recovery, and building of social well-being is a quintessential part of recovery. This was reflected in these findings, with the statements surrounding utilization of social support and self-sufficiency both having high mean scores. Improved mental well-being was reflected in 38.9% (n = 7) of responses to a question asking about the impact of MAT on participants mental health. Notably, this improvement in wellbeing was influenced by the fact that participants were no longer held victim to a substance and could engage in “normal” activities that their overbearing addiction

took from them. In turn, their mental health improved because focus and normality became possible while the rat race of addiction ceased. An example of what this looks like is below:

> It gives me the ability to go about what I need to do during the day and get things done that I need to get done. You know, go to work instead of having to be sick and gonna try and find drugs on the street and I don't have to worry about somebody potentially harming me trying to get drugs."

To conclude, these findings show that MAT facilitates improvements on social well-being and in turn mental health for those in recovery, consistent with understandings of MAT and mental health.

Criminal Behavior

OUD is correlated with criminal behavior, as those in active addiction search for ways to secure funds for their addictions. Since MAT promotes recovery from OUD, it indirectly results in a decrease in criminal behavior. In this sample, 84.2% (n = 16) of participants report being arrested and of these 16 participants, 62.5% (n = 10) of them said that they were always in active addiction prior to their arrest/s and 75% (n = 12) reported incarceration (time in prison as opposed to brief time in jail) at some point in their life. Considering that many individuals jailed/incarcerated have OUD, initiatives providing them with MAT have shown to be promising at promoting recovery and reducing recidivism, despite widespread availability. 56.3% (n = 9) of the 16 participants who've been arrested reported never seeing MAT being available during their time in the system. While these initiatives may be effective, their prevalence does not match their necessity.

When participants were asked how MAT impacts the possibility of criminal behavior in the future, 72.2% (n = 13) of responses indicated that it decreases or ceases their criminal

behavior. This finding is supportive of the fact that MAT reduces recidivism. 33.3% (n = 6) of participant responses indicated that the reason MAT reduces their criminal behavior is because it reduces the cravings that drive them to commit crimes for monetary purposes. An example of how MAT reduces cravings which reduce criminal behavior is below.

> It keeps me from thinking of stealing to get high or doing some type of crime to get my fix, because the medication helps to reduce the cravings and keep me on track. I'm not using because of the med treatment. I'm not thinking of doing crimes because the crimes are being committed because of drug issues. (Participant 3, who reported multiple arrests and incarcerations, May 2024)

Additionally, 27.8% (n = 5) of participant responses showed that MAT helps shift their mentality from a criminal one to a healthy one by changing their previous exclusive focus on drugs

> It's very positive and beneficial to me with my criminal mentality. I don't have to do anything to get the money together to get myself together to be able to handle the day and I don't even think that way as long as I get my methadone. (Participant 7, who reported multiple arrests and incarcerations, May 2024)

In sum, findings indicate that MAT removes the root cause of criminal behavior for addicts, which is addiction, and delivers their mind in route to recovery.

Conclusion

Key Findings

This study provides crucial insights to the relationship of MAT with overdose, stigma, housing, access, mental health, and criminal behaviors. Findings indicate that recipients of MAT perceived a decreased risk in overdose because of MAT and that hospital protocol for opiate/opioid overdose was inconsistent and potentially problematic. Additionally, the relationship between housing and MAT is explored, with insights into barriers that prevent receivers of MAT from attaining access to sober living. Speaking of access, findings show some of the barriers perceived by recipients of MAT and the perspectives of potential mediators for these barriers. Findings provide detailed insights into the gravity of impact that MAT has on recipients' mental health. Lastly, a broader understanding of the diminishing effects MAT has on criminal behavior is made.

Policy Implications

Findings of this study further accentuate the need for better systems that enable discharge planners at hospitals to provide the opportunity of treatment, as people in desperate need of care may be skipped over because of dysfunction within healthcare and criminal justice systems. Creation of large-scale referral systems may prevent overdose and recidivism if approached properly.

Considering the discrimination faced by applicants to sober living programs due to the stigmatization of OUD, programs designed to help MAT recipients transition into long term housing would diminish the amount of housing instability experienced by recipients of MAT that

occurs because of discrimination. These programs may foster communities of those recovering from OUD, and in turn improve the chances of recovery success for residents.

Receivers of MAT should be educated on their treatment options, recipients should not be unaware of alternatives to oral MAT like XR-buprenorphine, especially if other forms of treatment have the potential to lessen barriers to potentially lifesaving care. Additionally, many participants expressed frustration with the fact that people perceived them as just getting high. Efforts to educate the public on the efficacy of MAT may reduce the stigmatization of MAT.

It is unreasonable to expect that anyone, let alone people experiencing homelessness, to have to overcome ridiculously tall barriers to access potentially life-changing and lifesaving medication. A widespread restructuring of the way MAT is administered is needed urgently to meet the needs of the population. Improved transportation, flexibility in scheduling, increase in availability, and opportunities for financial assistance should be the first steps.

Programs that are equipped to treat SUDs need to be equipped to treat the mental health disorders that accompany SUDs. Changes that accommodate those with mental health disorders would allow individuals with dual diagnoses a better chance at recovery.

Future Research

Future research should further examine referral processes, with intent to improve them. Additionally, a deeper dive into the relationship between MAT, OUD, and mental health can provide more insight into how these factors interplay and contribute to recovery.

Limitations

One major limitation of this research is that the sample size is only 19, making findings less generalizable. The sample also only included men and recruitment took place at one program, not gathering a representative sample of the recipients of MAT. This research only took

place for a month, another factor which adversely affected the sample size. Additionally, the individual conducting this study is a staff member at the program, which may have affected participant responses to certain questions.

Final Remarks

This study highlights that recovery from addiction is not a strictly pharmacological, psychological, or social process but rather a tangled and interwoven web of these factors and hundreds more. In the process of untangling this web, providers of services for SUDs can better identify and consequently implement solutions, improving the ever-important field of SUDs treatment.

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Appendix A

This appendix contains the entirety of the structured survey questionnaire. Questions are displayed in the order that they were provided to participants. Questions were organized by block, with each block corresponding to one of the major themes of this study.

Start of Block: History and Current Status

Q1 What opiates/opioids have you used in the past year?

- ☐ **Fentanyl (1)**
- ☐ **Oxycodone/Percocet (2)**
- ☐ **Heroin (3)**
- ☐ **Hydrocodone/Vicodin (4)**
- ☐ **Methadone (5)**
- ☐ **Suboxone (6)**
- ☐ **Oxymorphone/Dilaudid (7)**
- ☐ **Other (Please Specify) (8)**

_____

- ☐ **Prefer not to say (9)**

Q2 Are you in treatment for other substances besides opioids?

- **Yes (1)**
- **No (2)**
- **Prefer not to say (3)**

Display This Question:

If Are you in treatment for other substances besides opioids? = Yes

Q3 What other substances are you in treatment for?

- **Cocaine/Crack (1)**
- **Methamphetamine/Amphetamines (2)**
- **Alcohol (3)**
- **Benzodiazapines (4)**
- **MDMA (5)**

- **Hallucinogens (6)**
- **Marijuana (7)**
- **Prefer not to say (8)**
- **Other (9) _____**

Q4 What method of administration for opioids was your preferred method?

- **Inhalation/Snorting (1)**
- **Injection (2)**
- **Oral (3)**
- **Smoking (4)**
- **Prefer not to say (5)**
- **Other (6) _____**

Q5 Have you been hospitalized for an opioid overdose?

- **Yes (1)**
- **No (2)**
- **Prefer not to say (3)**

Display This Question:

If Have you been hospitalized for an opioid overdose? = Yes

Q6 How many times have you been hospitalized for an opioid overdose?

- **Once (1)**
- **Twice (2)**
- **Three times (3)**
- **Four times (4)**
- **Five times (5)**
- **More then 5 times (6)**

O Prefer not to say (7)

Display This Question:

If Have you been hospitalized for an opioid overdose? = Yes

Q48 Did hospital staff offer medically assisted treatment after you were treated for your overdose/s?

O Yes, always (1)

O Yes, sometimes (2)

O No, never (3)

O Unsure (4)

O Prefer not to say (5)

Display This Question:

If Have you been hospitalized for an opioid overdose? = Yes

Q49 Did hospital staff refer you to inpatient/residential treatment or detoxification treatment after your overdose/s?

- **Yes, always (1)**
- **Yes, sometimes (2)**
- **No, Never (3)**
- **Unsure (4)**
- **Prefer not to say (5)**

Display This Question:

If Have you been hospitalized for an opioid overdose? = Yes

Q31 At the time of your overdose/s, were you receiving medically assisted treatment?

- **Yes, always (1)**
- **Yes, sometimes (2)**
- **No, Never (3)**
- **Prefer not to say (4)**

Q7 Have you been in residential/inpatient treatment for Opioid Use Disorder before?

- **Yes (1)**
- **No (2)**
- **Prefer not to say (3)**

Display This Question:

If Have you been in residential/inpatient treatment for Opioid Use Disorder before? = Yes

Q8 How many times have you been in residential/inpatient treatment for Opioid Use Disorder?

- **Once (1)**
- **Twice (2)**
- **Three times (3)**
- **Four times (4)**
- **Five times (5)**
- **More then five times (6)**
- **Prefer not to say (7)**

Display This Question:

If Have you been in residential/inpatient treatment for Opioid Use Disorder before? = Yes

Q9 Have you used medically assisted treatment in residential/inpatient treatment before?

- **Yes (1)**

O No (2)

O Prefer not to say (3)

Display This Question:

If Have you used medically assisted treatment in residential/inpatient treatment before? = Yes

Q10 How many times have you used medically assisted treatment in treatment?

O Once (1)

O Twice (2)

O Three times (3)

O Four times (4)

O Five times (5)

O More then five times (6)

O Prefer not to say (7)

Q11 Have you taken Suboxone, Methadone, or Subutex from the street before?

- **Yes (1)**
- **No (2)**
- **Prefer not to say (3)**

Q12 Are you currently receiving medically assisted treatment for treatment of Opioid Use Disorder?

- **Yes (1)**
- **No (2)**
- **Prefer not to say (3)**

Page Break

Display This Question:

If Are you currently receiving medically assisted treatment for treatment of Opioid Use Disorder? = Yes

Q13 What form of medically assisted treatment are you taking?

- **Suboxone (1)**
- **Methadone (2)**
- **Subutex (4)**
- **Burprenophine XR (Injection) (6)**
- **Other (3) _____**
- **Prefer not to say (5)**

Display This Question:

If What form of medically assisted treatment are you taking? = Methadone

Q14 What dosage of Methadone are you taking?

- **Under 30mg (1)**
- **Between 30mg and 59mg (2)**
- **Between 60mg and 89mg (3)**
- **Between 90mg and 120mg (4)**
- **Above 120mg (5)**
- **Unsure (6)**
- **Prefer not to say (7)**

Display This Question:

If What form of medically assisted treatment are you taking? = Suboxone

Q15 What dosage of Suboxone are you taking?

- **2 mg- 4 mg (1)**
- **6 mg - 8 mg (2)**
- **10 mg - 12 mg (3)**
- **14 mg - 16 mg (4)**
- **Above 16 mg (5)**
- **Prefer not to say (6)**
- **Unsure (7)**

Display This Question:

If Are you currently receiving medically assisted treatment for treatment of Opioid Use Disorder? = Yes

Q16 Are you planning on changing your dosage in the next month?

O **Yes, I plan on increasing my dosage (1)**

O **Yes, I plan on decreasing my dosage (2)**

O **No, I do not plan on changing my dosage (3)**

O **Unsure (4)**

O **Prefer not to say (5)**

Q50 How does medically assisted treatment affect your ability to recover from Opioid Use Disorder?

_____

Q51 What impact does medically assisted treatment have on the possibility of a future overdose?

_____

End of Block: History and Current Status

Start of Block: Stigma

Q18 Please rate the following statements from strongly agree to strongly disagree.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
People who are using medically assisted treatment are sober. (1)	0	0	0	0	0
Methadone is good for recovery (2)	0	0	0	0	0

Suboxone is good for recovery (3)	0	0	0	0	0
XR-Buprenorphine is good for recovery (4)	0	0	0	0	0
My family and friends would judge me receiving medically assisted treatment (5)	0	0	0	0	0
Other people in recovery judge me receiving medically assisted treatment (6)	0	0	0	0	0
Treatment providers judge me for receiving medically assisted treatment (7)	0	0	0	0	0
Medically assisted treatment is necessary for recovery from opioid addiction (8)	0	0	0	0	0

I judge myself for recieving medically assisted treatment (9)	0	0	0	0	0

Q17 Do you feel that using medically assisted treatment is stigmatized?

End of Block: Stigma

Start of Block: Housing

Q19 Before residential treatment, were you experiencing homelessness?

0 **Yes (1)**

O No (2)

O Prefer not to say (3)

Q65 Does your housing status impact your ability to recover from opioid use disorder?

O Definitely not (1)

O Probably not (2)

O Might or might not (3)

O Probably yes (4)

O Definitely yes (5)

O Prefer not to say (6)

Q64 Does your housing status impact your ability to continue receiving medically assisted treatment?

- **Definitely not (1)**
- **Probably not (2)**
- **Might or might not (3)**
- **Probably yes (4)**
- **Definitely yes (5)**
- **Prefer not to say (6)**

Q20 Are you interested in sober living after residential treatment?

- **Yes (1)**
- **No (2)**
- **Unsure (3)**
- **Prefer not to say (4)**

Skip To: Q53 If Are you interested are you in sober living after residential treatment? = No

Q21 Do you believe receiving medically assisted treatment affects the likelihood of being accepted to a sober living program?

- **Definitely yes (1)**
- **Probably yes (2)**
- **Might or might not (3)**
- **Probably not (4)**
- **Definitely not (5)**

Q22 If a sober living program asked you to decrease your dose, would you still want to live there?

- **Definitely yes (1)**
- **Probably yes (2)**
- **Might or might not (3)**

O Probably not (4)

O Definitely not (5)

Q53 How does medically assisted treatment affect your ability to find or maintain housing?

_____

End of Block: Housing

Start of Block: Access

Q70 After residential treatment, would daily attendance at a clinic for medically assisted treatment interfere with other obligations?

O Definitely not (1)

O Probably not (2)

O **Might or might not (3)**

O **Probably yes (4)**

O **Definitely yes (5)**

O **Prefer not to say (6)**

Q68 After residential treatment, would frequent attendance at a clinic for medically assisted treatment lead you to stop receiving medically assisted treatment?

O **Definitely not (1)**

O **Probably not (2)**

O **Might or might not (3)**

O **Probably yes (4)**

O **Definitely yes (5)**

O **Prefer not to say (6)**

Q24 Does access to transportation make receiving medically assisted treatment after residential treatment?

- **Definitely not (1)**
- **Probably not (2)**
- **Might or might not (3)**
- **Probably yes (4)**
- **Definitely yes (5)**
- **Prefer not to say (6)**

Q43 Do you hope to receive take home doses of medically assisted treatment after residential treatment?

- **Yes (1)**
- **No (2)**
- **Unsure (3)**

O Prefer not to say (4)

Display This Question:

If Do you hope to receive home doses of medically assisted treatment after residential treatment? = Yes

Q44 Would you abuse or sell the medication as a result of receiving take-home doses?

O Definitely not (1)

O Probably not (2)

O Might or might not (3)

O Probably yes (4)

O Definitely yes (5)

O Prefer not to say (6)

Q42 How much easier would it be to recover from opiate use disorder if you could receive take home doses?

- **Extremely difficult (1)**
- **Somewhat difficult (2)**
- **Neither easy nor difficult (3)**
- **Somewhat easy (4)**
- **Extremely easy (5)**

Q66 Are you familiar with XR-Buprenorphine (the shot)?

- **Yes (1)**
- **No (2)**
- **Prefer not to say (3)**

Display This Question:

If Are you familiar with XR-Buprenorphine (the shot)? = Yes

Q67 Would receiving XR-Burprenophine (the shot) make it easier to continue medically assisted treatment compared to oral Methadone/Suboxone/Subutex?

- **Definitely not (1)**
- **Probably not (2)**
- **Might or might not (3)**
- **Probably yes (4)**
- **Definitely yes (5)**
- **Prefer not to say (6)**

Q52 What difficulties will you experience attaining access to medically assisted treatment outside of residential treatment?

_____

End of Block: Access

Start of Block: Mental Health

Q25 Have you been diagnosed with a mental health disorder other then opioid use disorder?

- **Yes (1)**
- **No (2)**
- **Unsure (3)**
- **Prefer not to say (4)**

Display This Question:

If Have you been diagnosed with a mental health disorder other then opioid use disorder? = Yes

Q26 What mental health disorder/s have you been diagnosed with?

- ☐ **Depression (1)**
- ☐ **Anxiety (2)**
- ☐ **PTSD (3)**
- ☐ **Bipolar Disorder (4)**
- ☐ **Borderline Personality Disorder (5)**
- ☐ **Non-opioid substance use disorder (6)**
- ☐ **Schizophrenia (7)**
- ☐ **ADHD (8)**
- ☐ **Prefer not to say (9)**
- ☐ **Other (Please Specify) (10)**

_____

- ☐ **Unsure (11)**

Q72 Please rate your agreement with the following statements:

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
Medically assisted treatment has a positive impact on my mental health (1)	0	0	0	0	0
Medically assisted treatment allows me to be more self-sufficient (2)	0	0	0	0	0
My mental health makes it hard for me to continue treatment (3)	0	0	0	0	0
Medically assisted treatment reduces stress for me (4)	0	0	0	0	0
Medically assisted treatment reduces depressive symptoms for me (5)	0	0	0	0	0

I feel more stable mentally because of medically assisted treatment (6)	0	0	0	0	0

Q54 What impact does receiving medically assisted treatment have on your mental health?

_____

End of Block: Mental Health

Start of Block: Criminal History

Q32 Have you been incarcerated before?

0 **Yes (1)**

- **No (2)**
- **Prefer not to say (3)**

Skip To: End of Block If Have you been incarcerated before? = No

Q33 How many times have you been incarcerated?

- **Once (1)**
- **Twice (2)**
- **Three times (3)**
- **Four times (4)**
- **Five times (5)**
- **More then five times (6)**
- **Prefer not to say (7)**

Q34 Prior to any time you were arrested, were you receiving medically assisted treatment?

- **Yes (1)**
- **No (2)**
- **Prefer not to say (3)**

Q55 Prior to your incarceration/s, were you in active addiction?

- **Yes, always (1)**
- **Yes, sometimes (2)**
- **No, Never (3)**
- **Prefer not to say (4)**

Q35 Were/was your arrest/s drug related?

- **Yes, always (1)**
- **Yes, sometimes (2)**
- **No, never (3)**
- **Prefer not to say (4)**

Q56 During your incarceration/s, was medically assisted treatment available?

- **Yes, always (1)**
- **Yes, sometimes (2)**
- **No, never (3)**
- **Prefer not to say (4)**

Q57 What impact does medically assisted treatment have on your criminal behavior?

_____

End of Block: Criminal History

Start of Block: Demographics

Q55 How old are you?

_____

Q60 What race are you?

- **White (1)**
- **Black or African American (2)**

O American Indian or Alaska Native (3)

O Asian (4)

O Native Hawaiian or Pacific Islander (5)

O Other (6) _____

Q62 What is the highest level of education you completed?

O Less than high school (1)

O High school graduate (2)

O Some college (3)

O 2 year degree (4)

O 4 year degree (5)

O Professional degree (6)

O Doctorate (7)

O Prefer not to say (8)

Q63 What is your marital status?

- **Married (1)**
- **Widowed (2)**
- **Divorced (3)**
- **Separated (4)**
- **Single (5)**
- **Prefer not to say (6)**

End of Block: Demographics