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Post-release treatment uptake among participants of the Rhode Island Department of Corrections comprehensive medication assisted treatment program☆

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ABSTRACT

The Rhode Island Department of Corrections (RIDOC) recently implemented the first state-wide, comprehensive medications for addiction treatment (MAT) program in the US. The objective of this study was to elucidate perceived barriers for individuals who participated in RIDOC's MAT program while incarcerated. Of the 588 individuals eligible for this study, 227 phone surveys were completed with 214 individuals. Data relevant to demographic characteristics, probation/parole status, retention in MAT treatment, MAT type received during incarceration, MAT treatment history, location where they received community treatment, perceived barriers to treatment, and future goals for MAT were collected. Simple percentages, frequencies, means, and standard deviations were calculated with SPSS. Most participants (82.4%) reported continuing MAT post-release and a majority (74.3%) received treatment at an opioid treatment program. Those who did not connect with treatment post-release reported transportation issues (23.1%) and not wanting to continue MAT (20.5%) as major reasons for not continuing treatment. The most commonly reported goal for treatment was to continue MAT long-term (43.5%). Results indicate that most participants linked to MAT treatment post-release. Participants reported reasons for why they did not continue MAT and had mixed intentions about continuing MAT in the future. Results provide identification of novel factors, such as side effects, time between release and treatment linkage, and family and friends' opinions that influence MAT continuation post-incarceration. Results highlight areas of exploration to influence treatment retention, including the role of probation/parole officers and the potential for peer support specialists to assist in reducing stigma and increasing interest in MAT.

1. Introduction

Individuals who have recently been incarcerated are at increased risk of overdose, especially during the first two weeks post-release (Binswanger et al., 2013). In Rhode Island (RI), among those who had been recently incarcerated, rates of opioid use disorder (OUD) and overdose are also amplified. Recently, the risk of overdose has increased due to the prevalence of fentanyl-contaminated heroin in the drug supply (Brinkley-Rubinstein et al., 2018). In RI in 2015, 70% of those with criminal justice involvement in the two years before death had a fentanyl-related overdose, an increase from 38% in 2014.

An effective and evidence-based overdose prevention strategy is providing access to medication assisted treatment (MAT) to people during incarceration with linkage to treatment in the community after release. Because of that, MAT is recommended by the National Institute of Drug Abuse and the World Health Organization as a first line treatment of OUD (Schuckit, 2016; W.H.O., 2009). Not providing access to MAT medications denies patients appropriate medical care (National Academies of Sciences Engineering and Medicine, 2019). The National Academies of Sciences, Engineering, and Medicine recommends

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correctional settings provide all FDA approved MAT types and mentions that states (National Academies of Sciences Engineering and Medicine, 2019) MAT provides far reaching benefits including reductions in illicit opioid use (Sees et al., 2000), criminal behavior (Deck et al., 2009), incarceration (Deck et al., 2009), recidivism (Deck et al., 2009), mortality and overdose risk (Green et al., 2018; Degenhardt et al., 2011), HIV risk behaviors (Sharma et al., 2016), and an increase in treatment engagement (Sharma et al., 2016; Gordon et al., 2008). However, despite these recommendations and research supporting MAT, in the United States, there are few correctional facilities that offer MAT (Center, L. A, 2011; Care, N. C. o. C. H, 2018). In 2016, the Rhode Island Department of Corrections (RIDOC) introduced the first statewide correctional MAT program in the country. The program offers all three FDA approved medications (suboxone, methadone, and naltrexone) for the treatment of OUD.

The RIDOC MAT program has been associated with a significant drop in statewide overdose deaths post-release (Green et al., 2018).The program includes screening for OUD as well as continuing and initiating individuals on either methadone, buprenorphine, or naltrexone. Individuals who report opiate use or score positive for an OUD on the Texas Christian University Drug Screen 5 (Institute of Behavioral Research, 2017) are assessed for OUD according to the American Society of Addiction Medicine Criteria by a clinician. Patients are then referred to a medical provider who evaluates and initiates treatment. Type of medication prescribed is decided based on a combination of clinical considerations, patient past experience and preference, and logistical factors (such as MAT options in the patient's community after release).

A major component of the RIDOC program is linking patients with treatment in the community post-release. A contracted behavioral health organization provides much of the treatment inside the facility and facilitates continuation of care post-release. Clinicians from the contracted behavioral health agency help patients enroll in health insurance, set up appointments with and referrals to community providers. The agency also provides guest dosing for all RIDOC MAT program patients, for up to 7 days post-release and at any of the agency's locations. In the current study, we followed up with people post-release to better understand if they had linked to community treatment and to identify any barriers that had prohibited linkage.

2. Methods

Individuals who were released from the RIDOC and were participants of the MAT program while incarcerated were contacted by phone between February 2017 and August 2018. Participant release date and demographic data were collected through RIDOC's electronic record system. Study inclusion criteria required the participants to be 18 and older, to meet clinical criteria for OUD, and to have received MAT while incarcerated at the RIDOC. During the intake process for initiating treatment, patients signed a form and release authorizing research assistants to contact them about post-release treatment status. During the discharge planning process, individuals provided a phone number for contact at post-release. Those who did not have a personal phone number provided contact information for a significant other and signed a release to allow research assistants to contact an identified significant other. Individuals who were incarcerated more than once during the study period were contacted each time they were released from the RIDOC. Institutional review board approval was obtained from Brown University and the Medical Regulations Advisory Group at the RIDOC.

2.1. Data collection

The survey administered to participants included a series of 23 questions that identified post-release treatment status and barriers to treatment access post-release. The survey was administered by research assistants with no previous relationships with the subjects. Surveys were conducted over the phone and all responses were entered into a Qualtrics database. Participants were asked about their socio-demographic characteristics such as: probation/parole status, current living situation, and if they had been arrested since their most recent release date. In addition, questions about their access to and use of post-release treatment, barriers to treatment, experience of a non-fatal overdose since release, and plans for future or continued treatment were asked. Participants were not incentivized for participating in this study.

3. Results

3.1. Sample characteristics

A total of 588 individuals were eligible for the study. However, 78 did not provide a personal contact number or sign a release to contact a significant other, and were, therefore, unreachable post-release. Subsequently, 510 individuals were called post-release of which 214 were reached (36%). A total of 227 surveys were completed (due to 13 participants being incarcerated multiple times during the study period). Of the 214 individuals contacted, 78% identified as White, 14% Hispanic, and 5% as Black. The remaining 3% identified as American Indian, Asian, other, or unknown. The average age of respondents was 37 years (SD = 9) and 77% of respondents were male. A majority of participants were continued on MAT during incarceration (54%; $n = 122$) versus initiated soon after commitment (34%, $n = 77$) or inducted before release (12%, $n = 28$). Race, age, gender, MAT status (e.g., continued MAT from the community), and type of medication received at RIDOC were compared between participants who were and were not contacted, with no significant differences between the groups, except that those who completed the survey were older (M = 37, SD = 9 years) than those who did not complete the survey (M = 36, SD = 8 years; $t(470) = 2.28$, $p = .03$).

Eighty-four percent of respondents were on probation or parole at the time of survey. A majority were receiving methadone ($n = 128$; 56%) during incarceration at the RIDOC, while 43% ($n = 97$) were on buprenorphine, and 1% ($n = 2$) received a naltrexone shot upon release. Surveys were conducted with participants, on average, 28.8 (SD = 7.4) days post-release. Most participants were living with family other than their spouse or partner (44%), 28% with spouse or partner, 20% in temporary housing, and 8% in sober housing or residential treatment.

3.2. Post-release treatment data

Most participants ($n = 187$, 82%) reported continuing MAT post-release. Almost all (96%) of those surveyed who entered the facility on MAT reported continuing with medication post-release. Sixty-five percent of those inducted soon after commitment and 68% of those inducted prior to release reported continued post-release treatment.

Of those who continued MAT, a majority ($n = 139$, 74%) received treatment at an opioid treatment program, 20% from an office-based provider, 1% received treatment at a residential program, and 5% reported receiving treatment at another or unclassifiable location. At the time of survey, 5 (3%) of those who continued with treatment post-release decided to discontinue and were no longer on MAT.

For those who did not continue on MAT post-release, individuals reported not connecting with treatment due to transportation issues (23%), not wanting to continue MAT (21%), perceiving treatment as a hassle (8%), because of a time lapse between release and connecting with a community MAT provider (8%), experience of side effects (5%), cost (5%), and due to family/friends not wanting them to continue MAT (3%). Four (W.H.O, 2009) individuals reported experiencing a non-fatal overdose post-release, at on average, 29.3 (SD = 41.7) days after leaving the RIDOC. Of those who overdosed, 2 patients reported they were not on MAT at the time of overdose. One patient overdosed the

Table 1
Responses to the question "Do you have anything to add about the MAT program?", 87 participants.

Concerns $N = 43$
- Time to receive treatment ($N = 16$)
  - Took a week before got methadone, was getting ready to leave before put on methadone, going through withdrawals, took almost a month to get treatment
  - Would like if the program could get to people faster, didn't get suboxone for four or five days when committed"
  - 18 days to get methadone, experienced withdrawal
  - didn't see a doctor once, uncomfortable the whole time he was there, went in on a dose but was never seen, put in 20 slips for a higher dose
- Stigma from staff ($N = 9$)
  - COs [correctional officers] at the ACI [RIDOC] called him a junkie when he went for medication at night.
  - Liked the CODAC [behavioral healthcare organization providing services] part of the program, but said the COs made offensive remarks, might not know the full effects of the program. As for medical staff (nurses) he said they need to be more knowledgeable about MAT, said that some of the staff acted like the COs in terms of MAT.
- Dose timing ($N = 10$)[a]
  - Inmates should get suboxone in the morning, not at night, because it keeps him awake, or to split dose-1 in AM and 1 in PM
  - Upset that we give it at 9 pm, says that is causes inmates to "bounce off the walls". Would prefer that the medication dosing is more spaced out.
- Program admission leniency ($N = 4$)
  - Upset that we give it to everyone "giving it away like it's candy".
  - don't prioritize patients who really need medication, people who are in for long periods of time and then get prescribed MAT are doing it just to get high

Positive feedback $N = 40$
- Happy that they started doing it in the RIDOC, a lot of people came in sick and ended up as a butterfly in the chapel.
- It was great, helped when needed it, able to stay in OTP [opioid treatment program] after release
- It's helping a lot of people! Really big help for him. Used the same day when he was released before the program started, but thought the program was amazing!

Percentages and counts may not add to 100% due to some comments containing both concerns and positive feedback.

[a] Based on feedback the medication dispensing time was moved to the morning.

day after release (intentional overdose) and had not yet connected with treatment, then later continued with MAT. One patient had been receiving MAT when they overdosed post-release (4 days post-release).

Regarding plans for future treatment, 44% of respondents reported wanting to continue MAT long-term, 37% wanted to eventually discontinue MAT, 5% wanted to stop taking MAT as soon as possible, and 2% of respondents had another goal for MAT treatment; 8% were not receiving MAT at the time of survey but wanted to start receiving MAT again and 4% were not receiving and had no desire to re-start MAT.

In response to the question "Do you have anything to add about the MAT program?", 87 participants provided a response. Results are presented in Table 1. Comments included both positive ($n = 40$) and negative ($n = 43$) feedback about the program. The most commonly reported concerns were the length of time from commitment to receiving treatment (18%), the timing of dosing at RIDOC (12%), stigma from staff about the MAT program (10%), and perceived program admission leniency (e.g., believing that people without an OUD frequently are MAT patients) (5%).

4. Discussion

Results of this study demonstrate that a majority of participants had linked to community-based MAT post-release. While participants had varying plans for their continuation of treatment (longer or short-term), most participants connected with and were satisfied with the treatment they received in the community. The low rates of individuals (National Academies of Sciences Engineering and Medicine, 2019) who initially connected with post-release treatment and then discontinued support this conclusion. In addition, participants that had not connected to treatment gave key reasons why: transportation, a time lapse between release and access to MAT, side effects, and preferences of friends and family.

Response rates for this study were notable at 36% of eligible participants, in comparison to data that shows many phone-based survey studies without incentives can have much lower response (about 9%) when compared to those with incentives (24–32%) (Keeter et al., 2017; Link et al., 2007) Additionally, demographic data and MAT status at RIDOC (e.g., initiated soon after commitment), generally matched between those were reached vs not reached. These groups were relatively similar with respect to the data we collected on both.

Our findings echo those of other studies that have made clear the connection between access to MAT while incarcerated and continued uptake of MAT in the community after release (Sharma et al., 2016; Gordon et al., 2008). For instance, a review conducted by Sharma et al. (2016) found that in four randomized control trials, those who received MAT during incarceration were more likely to continue treatment in the community post-release (Sharma et al., 2016). Importantly, for those who stop MAT after release, this study elucidates potential targets for maintaining MAT use long-term.

A novel finding of this study is the identification of factors post-release that may affect linkage to and initiation of MAT post-release. Transportation is a known barrier to care during community re-entry (Sung et al., 2011; La Vigne, 2008; Begun et al., 2016). However, perhaps more relevant to MAT, were participants responses related to time between release and linkage, side effects, and family and friends' opinions about MAT. These have clear implications for intervention to improve uptake of MAT in the community such as making sure that linkage to community-based treatment post-release is timely, including education about possible side effects of each type of MAT, and providing information about alternative types of MAT if side effects are experienced. Where cost is of concern, community supports can be utilized to access payments methods (e.g. signing people up for Medicaid before release).

Finally, it is well documented that there is stigma related to MAT. Previous research has found that some people may have hesitations about using MAT because they conceptualize it as at odds with abstinence only approaches to recovery (Olsen and Sharfstein, 2014). Corrections-based overdose education and naloxone provision programs have recently had some success in providing information to family and friends who visit people who are incarcerated (Huxley-Reicher et al., 2018). These campaigns could be expanded to include information relevant to MAT and the importance of MAT to combat overdose risk during community re-entry.

Probation/parole officers (PPOs) may play an important role in maintaining MAT during release in that over 84% of this sample was on probation/parole. Importantly, partnerships with community providers well versed in engagement and linkage could be of assistance in maintaining MAT for persons on probation/parole. In particular, Peer Recover Support Specialists (PRSS) have lived experience and have been found to be effective at assisting in long-term recovery, motivation, access to resources (e.g., transportation, social support), and services engagement (Kunicki et al., 2018; Gagne et al., 2018). At the very least, for the almost 10% of the sample not on MAT but who wanted to restart MAT after release, this is a missed opportunity for engagement. What's more, there are likely probationers/parolees released from incarceration who are not started on MAT due to rapid release (e.g. very short stays at the RIDOC). PPOs are ideally positioned to partner with community agencies, and in particular PRSS to complete screening, assessment, and use of MAT.

4.1. Limitations

A major limitation of this study is that the results do not take into account the 64% of eligible participants not reached. Therefore, overall treatment retention rates for the majority of the sample are unclear. Also, although the study included participants with racial, ethnic and

gender diversity that generally matched the demographics of eligible participants not contacted, a majority of participants were White, non-Hispanic, adult males, which may limit the generalizability of results.

The survey also included individuals who chose to participate with no incentive, so self-selection bias may limit the representativeness of this sample with respect to all MAT program participants. Additionally, because this survey was based solely on participant self-report, answers, it is unclear if self-report bias influenced participant honesty and validity of the results.

Whether some forms of MAT were stopped more frequently than others was not examined, nor was switching between types of MAT. It may be that participants need access to more options in order to maintain MAT, including longer-acting injectable naltrexone—especially since transportation was an issue. In order to keep interviews relatively brief, this study did not evaluate facilitators of MAT in the community. Although some social support detracted from MAT use, many participants lived with family who may be supportive of MAT. Participants were followed an average of a month after release. Extending follow-up would be important to determine numbers who stopped MAT at further follow-up and why.

Finally, it is important to study barriers and facilitators for PPOs with respect to probationer/parolee MAT use. Certainly, in some systems multiple legal entities (e.g., courts, public defender, district attorney) are needed to remove barriers and facilitate PPOs engagement with clients related to MAT.

5. Conclusion

MAT begun during incarceration is effective in that a majority of persons maintain use an average of one month after release. Many have family support available, although in some cases, social supports discouraged continued MAT use. PRSS may be an important solution in addressing barriers to continued use, including engagement in services. Preparing participants for potential side effects, and additional MAT options may be important in maintaining MAT in the community. Further investigations should focus on how PPOs, familial relationships, and support networks facilitate or hinder MAT post-release. Partnerships with treatment agencies offering comprehensive MAT including PRSS and behavioral interventions may be of use.

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