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## Supporting individuals using medications for opioid use disorder in recovery residences: challenges and opportunities for addressing the opioid epidemic

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### Abstract

Full and partial opioid agonists and opioid antagonist medications play an important role in containing the opioid epidemic. However, these medications have not been used to their full extent. Recovery support services, such as recovery residences (RRs), also play a key role. RRs may increase an individual's recovery capital, facilitate social support for abstinence, and foster a sense of community among residents. These processes may be critical for individuals with opioid use disorder (OUD). In combination these two recovery pathways have the potential to enhance one another and improve outcomes among residents with OUD. Barriers to doing so have resulted in a limited supply of residences that can support residents using opioid agonist and antagonist medications. This perspective describes key interpersonal and structural barriers to medication use among individuals with an OUD seeking support from a recovery residence and discusses measures for reducing these barriers. These measures include workforce development to address stigma and attitudinal barriers and enhancing residence capability to ensure resident safety and reduce potential diversion. The perspective also highlights the need for additional research to facilitate the identification of best practices to improve outcomes among residents treated with medications living in recovery residences.

### Keywords

Recovery; recovery residence; opioid use disorder; opioid agonist therapy; policy; implementation

### Introduction

Opioid use disorder (OUD) is a significant driver of the opioid epidemic (1,2). Both the National Institute on Drug Abuse and the Substance Abuse and Mental Health Services

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Administration (SAMHSA) are encouraging states to expand access to medications for OUD (MOUD) and associated treatment services to contain the effects of this crisis, including the use of medications (3,4). The American Society of Addiction Medicine recommends that MOUDs be used in conjunction with psychosocial interventions including recovery support services (5). However, little is known about how MOUDs may best be used in conjunction with recovery support services. This article describes one type of recovery support service, the recovery residence (a continuum of residential, substance-free living environments for individuals in recovery from a substance use disorder (6), and discusses the unique opportunity for addressing the opioid epidemic in these settings.

## Background

### Medications for opioid use disorder (MOUDs)

Three types of MOUDs are FDA-approved: full agonist (methadone), partial agonist (buprenorphine), and antagonist (naltrexone). Both methadone and buprenorphine activate opioid receptors (7,8) to reduce opioid withdrawal and craving (9), and can result in a similar physiological response as experienced with other illicit and commonly misused opioids. Naltrexone does not activate opioid receptors but instead prohibits opioids from binding to and activating them, preventing a physiological response (7,8). While oral formulations of naltrexone have poor medication adherence, the extended-release injectable formulation has been found to be as effective as buprenorphine in multiple medication trials (10–12). Overall, the evidence base for the effectiveness for all three MOUDs is robust (10,13–15), as evidenced by the significantly lower odds of mortality while receiving MOUDs (16–18).

Despite this evidence, significant gaps in access to treatment remain (19,20). Due to their risk of diversion, both full and partial agonists are classified as Schedule II and Schedule III narcotics, respectively, under the Controlled Substances Act. These medications must be dispensed in either a specialty clinic setting (methadone) or in an office-based outpatient medical setting (buprenorphine) by a physician with a waiver from the Drug Enforcement Agency. Other barriers to access include inadequate physician staffing in specialty treatment settings (21), medication cost (22), patient factors that affect medication adherence (e.g., smoker status, co-occurring psychiatric disorders) (23), and negative perceptions toward full and partial agonist medications (2,24–29). Additional research is needed to better understand for whom these medications are most effective and how best to deploy MOUDs across different settings.

### Recovery residences

Psychosocial factors such as employment, peer support, and comorbid health conditions play a key role in the course and management of OUD (30–32). Therefore, additional supports are needed to increase an individual's psychosocial recovery capital, or the social, financial, cultural, and human capital needed to achieve and maintain recovery long-term (33). These resources are commonly referred to as recovery support services (RSS), and "*provide emotional and practical support for continuing remission as well as daily structure and rewarding alternatives to substance use*"(34). Examples of RSS include mutual aid groups

(e.g., Alcoholics Anonymous, Narcotics Anonymous), peer recovery coaches, and recovery community centers.

Another type of RSS is the recovery residence (RR), commonly referred to as sober homes, therapeutic communities, or Oxford Houses (OH). RRs may increase an individual's recovery capital (33). Importantly, RRs promote peer support for abstinence by fostering a sense of community among residents (35,36) which may be critical for individuals with OUD struggling with cravings and relapse triggers on their own. While the total number of RRs in the United States is unknown, there are an estimated 4,500 residences supporting approximately 45,000 individuals in a given year among residences that can be identified, i.e., those that are affiliated with the National Alliance for Recovery Residences (NARR) or are chartered by Oxford House (37,38).

NARR developed a typology of RRs that identifies four distinct levels of support (see Figure 1), varying by the staffing, governance, and intensity of clinical services or supports offered on-site, and the stage of recovery for which each level is appropriate (39). The first level of support refers to settings that are wholly peer-run and have no staff or clinical supports and services offered on-site (e.g., OH (40)). The second level, such as sober homes or sober living homes in California, may have a house manager that oversees the daily operation of the residence, and often require residents to attend mutual aid meetings in the community as a condition of their stay (41). The third level, such as those that have been studied in Philadelphia, also have a house manager, and may require residents to attend community-based mutual aid meetings and/or outpatient treatment (42). The fourth level, such as therapeutic communities or the Minnesota Model (i.e., 28-day residential treatment), are typically licensed and have trained clinicians that deliver clinical services on-site in addition to peer-supports (43).

The evidence base for these models is growing. A systematic review of the literature on resident outcomes by Reif, George (44) found moderate evidence of reduced substance use and criminal justice involvement and higher rates of employment and higher income levels (44). However, this evidence is limited by small sample sizes, few randomized trials and a lack of control or comparison groups, and little focus on organizational characteristics (44). Empirical evidence of RR effectiveness for individuals with OUD is emerging. Preliminary evidence indicates abstinence rates are higher following opioid detoxification and during psychosocial substance use treatment among individuals residing in RRs compared to those who do not (45,46). However, negative attitudes toward MOUDs among RR residents may present a barrier for those utilizing MOUDs who may concurrently benefit from a stay in a RR (47). While research comparing outcomes for those in MOUD-specific RRs with those in general population RRs has not yet been conducted, some evidence suggests that population-specific RRs may be beneficial (48). No research has been conducted that examines the effects of RRs on MOUD adherence or prescriber attitudes toward or perceptions of RRs.

### **Combining recovery pathways**

Supporting individuals utilizing MOUDs in RRs could have a significant impact on the opioid epidemic, particularly in rural areas (49). Individuals with OUD are more likely to

relapse if they received short-term inpatient care only (50), during the period immediately following MOUD initiation (51), and upon MOUD discontinuation (52), and relapse too often results in premature mortality (16). RRs extend the continuum of care beyond detoxification and medication initiation to assist with longer-term symptom management in the community. While a number of barriers work to undermine the support of individuals on MOUD in recovery housing, these barriers may be overcome with adequate infrastructure and guidance from the empirical literature.

## **Barriers to MOUDs in RRs**

### **Disparate belief systems and stigma**

MOUDs and recovery housing evolved out of separate communities and disparate belief systems. The use of medication emerged from the medical model, wherein a trained clinician offers expert advice and treatments primarily targeting underlying biological processes of a disease. In contrast, RRs emerged from a social model approach, wherein non-clinician peers play a central role in the provision of experiential psychosocial support (53). These residences are largely 12-step oriented (42,54), and may espouse an abstinence-based approach which would prohibit resident use of any psychoactive substances, including MOUDs.

These disparate philosophies may lead to mistrust between the two communities, potentially worsening stigma against people treated with MOUDs. Indeed, stigmas may not only come from the general public (55,56), medical providers (57,58), or the criminal justice system (59–61), but may also come from substance use treatment counselors (62), participants of mutual aid groups (63), or RR operators and residents (47,57,62). Additionally, anti-medication stigma varies by type and in some cases has resulted in an overemphasis on antagonist medication despite its limitations for some individuals (59,61).

### **Residence safety**

RR operators may not consider an applicant who is utilizing a full or partial opioid agonist due to their risk of diversion. Factors that increase the risk for diversion include their potential for abuse (64), the difficulty of legally accessing these medications (65), and their potential as a source of income (66). When misuse of these medications occurs in a RR the entire community's safety is at risk, given the increased risk of relapse caused by drug-seeking environmental cues that can trigger relapse (67,68).

A primary tool for reducing the risk of diversion is direct monitoring of medication use (4). However, monitored administration in RRs presents several challenges. RRs may lack tools that support medication safety such as lock boxes or safes which require upfront capital investment. Staffing is also a concern in some RRs. While higher-intensity settings (e.g., Level III and Level IV residences) may have credentialed staff and closer supervision of residents, staff-to-resident ratios in lower-intensity settings are usually lower, and staff may have little or no training in medication management. Long-acting injectable or implantable buprenorphine with naloxone also show promise in reducing overdose (69), as does

maintaining a supply of naloxone on-site. However, access to these medications is often cost-prohibitive (70,71) and varies widely by state (72).

## Facilitators of medication use in RRs

### Workforce development

Over time the definition of recovery has evolved from one that is abstinence-based to one that is recovery-oriented. SAMHSA describes recovery as occurring across “multiple pathways” (73). While abstinence-based approaches are still dominant, the concept “medication-assisted recovery”, i.e., the use of medications in combination with abstinence-based recovery to support individuals for whom both pathways are appropriate, is gaining acceptance (74). Educating RR operators on MOUDs and how best to support residents using these medications could reduce stigma (62,75), particularly by including the voices of individuals who have had success using MOUDs. At the same time, building collaborations between RR operators and MOUD prescribers requires increasing prescribers’ understanding of RRs and the need to establish resident information exchange protocols.

### Preventing diversion and overdose

Even when an operator is supportive of MOUDs the setting must be properly equipped to monitor medication adherence. Some low-cost protocols are already being implemented by RR operators. These include screening protocols that ensure that a prospective resident’s needs can be addressed. For example, a prospective resident who needs to be closely monitored while initial dosage levels are established may be more appropriate for a higher level of support with the accompanying staff who can conduct this monitoring. Regular and random drug testing for all residents – regardless of medication status – is another strategy that is already commonplace in many RRs. Other low-cost strategies include conducting pill counts, keeping medication logs, having staff accompany residents when picking up medications from the pharmacy, and behavioral monitoring by staff and/or fellow residents. Injectable medication formulations also reduce the risk of diversion, although they may not be appropriate for, or available to, everyone.

## Conclusions and implications for future research

In response to the ongoing opioid epidemic, states are exploring opportunities to increase the availability of MOUDs and the supply of RRs for individuals using MOUDs. A variety of approaches, as discussed above, may address the challenges of doing so. However, mandating changes without providing financial incentives and operational support limits the ability of key stakeholders to meet these goals. Therefore, we suggest that policymakers and operators work together to create a comprehensive set of policies that account for local contextual factors that may affect implementation.

Many of the above suggestions are primarily based on anecdotal evidence and practice-based experience. Research is urgently needed to examine the effects of various interventions on rates of medication initiation and maintenance, and the effects of these interventions on proximal and distal recovery outcomes. These research gaps are indicative of the limited research infrastructure needed to conduct rigorous research on recovery residences more

broadly. Specifically, there are too few researchers knowledgeable about RRs, there is no central registry of RRs, and few incentives for RR operators to participate in research (76). More training and funding opportunities are needed to address these challenges, and to stimulate new research on RRs, including studies focused on outcomes of individuals with OUD residing in RRs.

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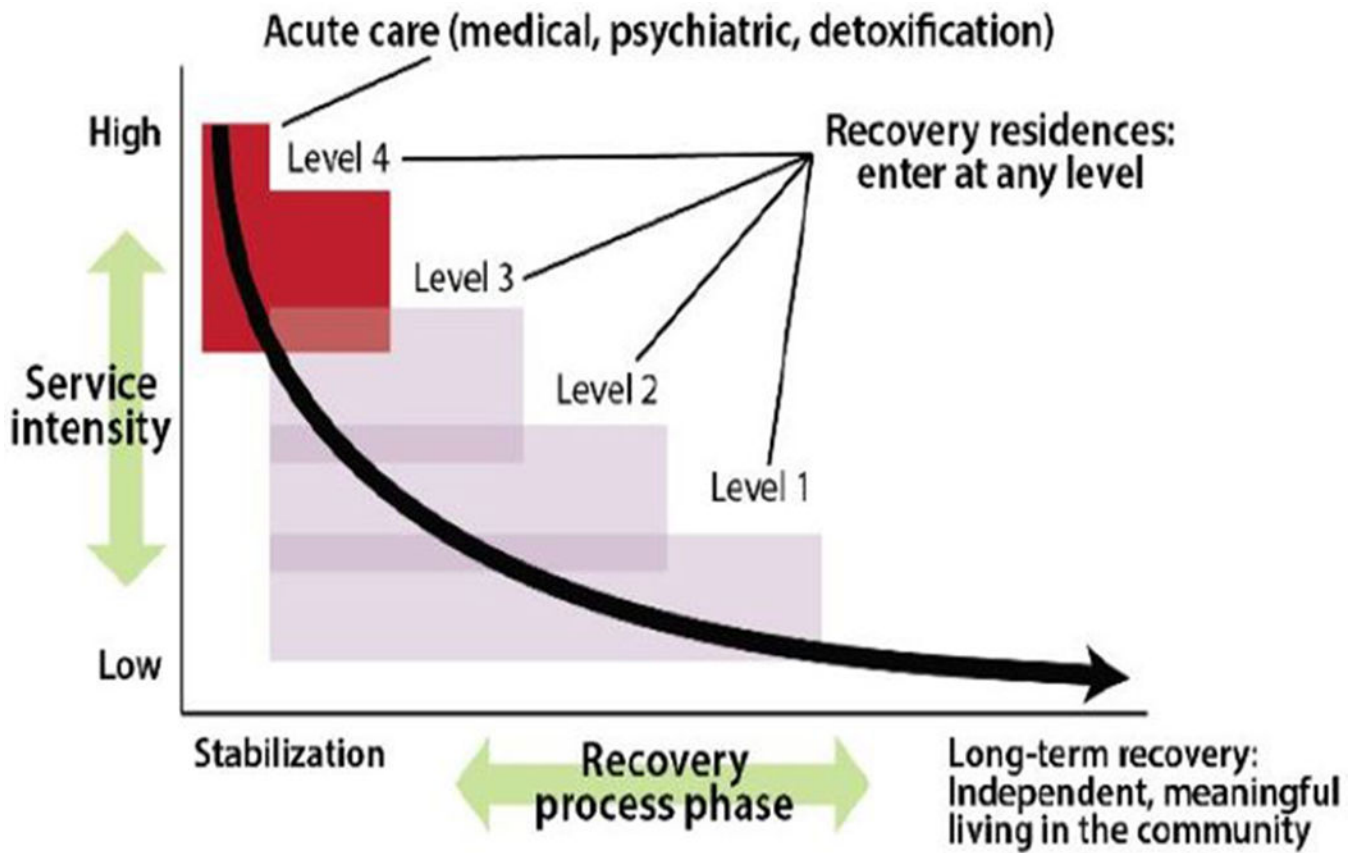
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**Figure 1.**  
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