

Assessing the Evidence Base Series

Recovery Housing: Assessing the Evidence

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Objective: Recovery housing is a direct service with multiple components that provides supervised, short-term housing to individuals with substance use disorders or co-occurring mental and substance use disorders. It commonly is used after inpatient or residential treatment. This article describes recovery housing and assesses the evidence base for the service. **Methods:** Authors searched PubMed, PsycINFO, Applied Social Sciences Index and Abstracts, Sociological Abstracts, and Social Services Abstracts. They identified six individual articles from 1995 through 2012 that reported on randomized controlled trials or quasi-experimental studies; no reviews or meta-analyses were found. They chose from three levels of evidence (high, moderate, or low) based on benchmarks for the number of studies and quality of their methodology. They also described the evidence of service effectiveness. **Results:** The level of evidence for recovery housing was moderate. Studies consistently showed positive outcomes, but the results were tempered by research design limitations, such as lack of consistency in defining the program elements and outcome measures, small samples, and single-site evaluations, and by the limited number of studies. Results on the effectiveness of recovery housing suggested positive substance use outcomes and improvements in functioning, including employment and criminal activity. **Conclusions:** Recovery housing appears to be an important component in the continuum of care for some individuals. However, replication of study findings with greater specificity and in more settings is needed. (*Psychiatric Services* 65:295-300, 2014; doi: 10.1176/appi.ps.201300243)

Access to stable and supportive housing is recognized in the addiction field as an important component of establishing and

maintaining recovery from substance use disorders (1). Research suggests that maintaining recovery gains may be difficult for individuals who are not

living in stable housing situations (2), and environmental cues may play a role in triggering relapse (3). There is a need to identify housing settings that promote recovery after the completion of residential treatment or during the receipt of outpatient treatment for substance use disorders. Recovery housing is one example of a type of service used in the field to address the needs of individuals with substance use disorders.

This article reports the results of a literature review that was undertaken as part of the Assessing the Evidence Base (AEB) Series (see box on next page). For purposes of the AEB Series, the Substance Abuse and Mental Health Services Administration (SAMHSA) has defined recovery housing as a direct service with multiple components that provides supervised, short-term housing to individuals with substance use disorders or co-occurring mental and substance use disorders. Recovery housing aims to increase an individual's stability, improve his or her functioning, and move the resident toward a life in the community by supporting abstinence and recovery. Table 1 contains a description of the components of this service.

Policy makers and other leaders in behavioral health care need information about the effectiveness of recovery housing and its value as a service within the continuum of care. The objectives of this review were to describe models of recovery housing for individuals with substance use disorders or co-occurring substance use and mental disorders, rate the level of research evidence (that is, methodological quality),

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About the AEB Series

The Assessing the Evidence Base (AEB) Series presents literature reviews for 13 commonly used, recovery-focused mental health and substance use services. Authors evaluated research articles and reviews specific to each service that were published from 1998 through 2012 or 2013. Each AEB Series article presents ratings of the strength of the evidence for the service, descriptions of service effectiveness, and recommendations for future implementation and research. The target audience includes state mental health and substance use program directors and their senior staff, Medicaid staff, other purchasers of health care services (for example, managed care organizations and commercial insurance), leaders in community health organizations, providers, consumers and family members, and others interested in the empirical evidence base for these services. The research was sponsored by the Substance Abuse and Mental Health Services Administration to help inform decisions about which services should be covered in public and commercially funded plans. Details about the research methodology and bases for the conclusions are included in the Introduction to the AEB Series (10).

and describe the effectiveness of the service. To be useful for a broad audience, this article presents an overall assessment of research quality and focuses on key findings of the review.

Recovery housing and the continuum of care

Recovery housing for individuals with substance use disorders generally consists of alcohol- and drug-free residences, such as sober living houses (4,5). Recovery housing is often provided to individuals after they have been in an inpatient or residential treatment program or during their first few months of recovery or sobriety. Recovery housing is not a formal treatment; rather, it is a service that supports recovery during or after treatment. Thus there is guidance about

what constitutes recovery housing, but there are no clear standards.

Sober living houses usually are peer-run residences where small- to medium-sized groups of individuals in recovery live in single or shared bedrooms with common living areas. Individuals are expected to work, contribute rent, and participate in the responsibilities of running the household. Abstinence is an expectation, and individuals who relapse may be asked to leave the house because their behavior threatens the recovery of others. Sober living houses generally do not incorporate a structured recovery program, although residents often are required or strongly encouraged to attend a 12-step mutual-help group (6), and they may choose to participate in formal

treatment or aftercare. Less common are sober living houses that are affiliated with outpatient treatment facilities and require individuals to attend outpatient treatment (7).

Oxford House is a specific type of recovery home in which members evaluate and vote on candidates who may become residents to help ensure that they will fit in with the current housing members and meet expectations for the residence (4). Oxford Houses have a national network. They do not require individuals to be engaged actively in formal treatment, but residents may choose to participate in self-help groups or outpatient treatment.

The models of recovery housing described above generally are considered part of the continuum of care that spans from outreach through formal treatment and extends into informal treatment, maintenance, and aftercare needs. In this approach, recovery housing is an essential part of preparing for or transitioning to an independent life in the community. Recovery housing frequently facilitates access to support services and treatment utilization, such as case management, therapeutic recreational activities, and peer coaching or support. Often working in partnership with treatment or recovery programs, recovery housing options may provide transportation, in-house counseling, or mentoring.

Recovery housing is often used by individuals who do not or no longer require higher levels of care, such as hospitalization or long-term residential treatment. Individuals who utilize recovery housing may need assistance with activities of daily living (such as managing finances) or reminders and support to attend treatment, take medications, or abstain from alcohol and drug use. For these individuals, recovery housing may be a step on the way to independent living. It should be noted that there is concern that individuals who utilize abstinence-contingent housing may be at risk for housing instability if relapse occurs during the process of recovery.

In summary, recovery housing is a type of service used for individuals with substance use disorders who are stepping down from inpatient or residential care or who are not ready or able to live independently. This literature

Table 1

Description of recovery housing

Feature	Description
Service definition	Recovery housing is a direct service with multiple components that provides individuals with mental and substance use disorders with supervised, short-term housing. Services may include case management, therapeutic recreational activities, and peer coaching or support.
Service goals	Increase the individual's stability; improve the person's functioning; help the individual move toward a life that is integrated into the community.
Populations	Individuals with substance use disorders or those with co-occurring mental and substance use disorders.
Settings of service delivery	Settings may vary and include sober living houses.

review examined the available research on recovery housing to determine its relative value as a treatment approach.

Methods

Search strategy

To provide a summary of the evidence and effectiveness for recovery housing services, we conducted a survey of major databases: PubMed (U.S. National Library of Medicine and National Institutes of Health), PsycINFO (American Psychological Association), Applied Social Sciences Index and Abstracts, Sociological Abstracts, and Social Services Abstracts. We searched for and reviewed meta-analyses, research reviews, and individual studies from 1995 through 2012. We also examined bibliographies of reviewed studies. We used combinations of the following search terms: recovery housing, sober housing, halfway house, group home, and substance abuse.

Inclusion and exclusion criteria

This review included the following types of articles: randomized controlled trials (RCTs), quasi-experimental studies, single-group repeated-measures design studies, and review articles such as meta-analyses and systematic reviews; U.S. and international studies in English; and studies that focused on recovery housing for individuals with substance use disorders or co-occurring mental and substance use disorders, including abstinence-contingent recovery housing.

Excluded were studies of residential treatment, supportive housing, supported housing, and permanent supportive housing, because these topics are covered in the review of permanent supportive housing in this series (8). Housing First models focus on permanent housing rather than on short-term, recovery-focused housing; they are also discussed in the article on permanent supportive housing and excluded here. Other housing models for individuals with substance use disorders that do not require total abstinence as a requirement for residence (for example, "wet houses" or "dunk houses") were excluded from this review because they are associated with Housing First models. Residential treatment and therapeutic communities are covered in a review of

research on residential treatment for substance use disorders in this series (9). Also excluded were articles about shelters or other housing-only options without a recovery focus. We excluded studies that used only a pre-post bivariate analysis or a case study approach without comparison groups. Also excluded were studies that solely analyzed costs associated with the service, because our focus was on outcomes associated with clinical effectiveness.

Strength of the evidence

The methodology used to rate the strength of the evidence is described in detail in the introduction to this series (10). We independently examined the research designs of the studies of recovery housing identified during the literature search and chose from three levels of evidence (high, moderate, or low) to indicate the overall research quality of the collection of studies. Ratings were based on predefined benchmarks that considered the number of studies and their methodological quality. In rare instances when ratings were dissimilar, a consensus opinion was reached.

In general, high ratings indicate confidence in the reported outcomes and are based on three or more RCTs with adequate designs or two RCTs plus two quasi-experimental studies with adequate designs. Moderate ratings indicate that there is some adequate research to judge the service, although it is possible that future research could influence reported results. Moderate ratings are based on the following three options: two or more quasi-experimental studies with adequate design; one quasi-experimental study plus one RCT with adequate design; or at least two RCTs with some methodological weaknesses or at least three quasi-experimental studies with some methodological weaknesses. Low ratings indicate that research for this service is not adequate to draw evidence-based conclusions. Low ratings indicate that studies have nonexperimental designs, there are no RCTs, or there is no more than one adequately designed quasi-experimental study.

We accounted for other design factors that could increase or decrease the evidence rating, such as how the

service, populations, and interventions were defined; use of statistical methods to account for baseline differences between experimental and comparison groups; identification of moderating or confounding variables with appropriate statistical controls; examination of attrition and follow-up; use of psychometrically sound measures; and indications of potential research bias.

Effectiveness of the service

We described the effectiveness of the service—that is, how well the outcomes of the studies met the goals of recovery housing. We compiled the findings for separate outcome measures and study populations, summarized the results, and noted differences across investigations. We considered the quality of the research design in their conclusions about the strength of the evidence and the effectiveness of the service.

Results

Level of evidence

A search of the literature revealed very limited research in this area. No meta-analyses or research reviews on recovery housing were found. We identified five articles describing RCTs that compared some version of recovery housing to some control condition (4, 11–14) and one quasi-experimental study with a within-group, repeated-measures design (15). However, four of the five articles describing RCTs reported on the same base study; therefore, only three distinct studies on this topic met the inclusion criteria. All studies were conducted in the United States. Features of the studies and their findings are summarized in Table 2.

The level of evidence for recovery housing was moderate. There were more than two RCTs of specific types of recovery housing models, but they had some methodological limitations. Methodological flaws, such as missing or inconsistent definition of program elements and small sample sizes, were prevalent and influenced the rating. Because of the variability in how recovery housing was defined, fidelity rarely was discussed. The outcome measures varied across research studies and included measures of substance use, quality of life, and other outcomes. This

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Table 2

Studies of recovery housing included in the review

Study	Study design and population	Outcomes measured	Summary of findings	Comments
Randomized controlled trials				
Jason et al., 2006 ^a (4)	Oxford House versus usual aftercare; no exclusions noted	Substance use, criminal activity, employment	At 24 months, Oxford House group had significantly lower substance use, higher monthly income, and lower incarceration rates.	Brief report with little detail on methods or participant characteristics
Jason et al., 2007 ^a (12)	Oxford House versus usual aftercare; no exclusions noted	Substance use, criminal charges, employment	Oxford House group had significantly more positive outcomes for each measure over time (up to 24 months) compared with usual care. Length of stay and age interactions with outcomes were noted.	Statistical controls for demographic and baseline characteristics (no demographic differences reported by group); no information reported on response rates at follow-up
Groh et al., 2006 ^a (11)	Oxford House versus usual aftercare; no exclusions noted	Substance use, criminal activity, employment	Abstinence significantly increased for Oxford House group versus usual care for those who had high 12-step involvement. For those with low 12-step involvement, abstinence rates were similar across groups.	No baseline sociodemographic differences; analyses did not control for covariates
Jason et al., 2011 ^a (13)	Oxford House versus usual aftercare; no exclusions noted	Substance use, employment, self-regulation	Individuals with posttraumatic stress disorder (PTSD) in usual aftercare had worse self-regulation at 2 years than those without PTSD in either group. For those with no PTSD, employment rates were higher in Oxford House group than in usual aftercare. For those with and without PTSD, relapse rates were higher in usual aftercare than in Oxford House.	Small sample of participants with PTSD; required employment of Oxford House residents led to somewhat biased outcome; only self-regulation analyses included covariates
Tuten et al., 2012 (14)	Three groups: recovery house alone, recovery house plus reinforcement-based treatment, and usual care; participants, 18-60 years old, were opioid dependent and had completed medication-assisted detoxification; study excluded individuals receiving opioid agonist medication, those experiencing acute medical or psychological illness, and pregnant women	Abstinence (opioid and cocaine), consistent abstinence	Abstinence decreased over time for participants in two recovery house conditions and increased over time for those in usual care condition, with significant differences between recovery house groups and usual care at 6 months. Length of stay mediated abstinence.	Inclusion and exclusion criteria limited generalizability; abstinence measured only for opioids and cocaine; urine samples collected to complement self-report
Quasi-experimental study				
Folain et al., 2010 (15) ^b	Sober living houses associated with outpatient treatment versus freestanding sober living houses; no exclusions noted	Substance use, Addiction Severity Index, psychiatric symptoms	Significant decline in "peak density" of drug use was noted over 6 months in both groups. Low severity of alcohol and drug use at baseline was either maintained or further improved. Employment significantly improved in both groups. 12-month outcomes were similar to 6-month outcomes.	Self-selection into housing and characteristics of clients in two groups differed; some evidence of recovery success required before entry into sober living house; thus some floor effect for outcomes

^a These articles reported on the same overall study.

^b Also reported in Folain et al., 2010 (6)

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lack of consistency in models and outcomes made it difficult to assess evidence across programs. Most of the studies did not distinguish among substances used by participants, but the programs required abstinence at the time of entry into housing.

Effectiveness of the service

Studies examining Oxford House models for individuals with substance use disorders showed positive effects. In an RCT, Jason and colleagues (4,11-13) recruited individuals who were completing residential substance use treatment and randomly assigned them to Oxford House or to treatment as usual (for example, outpatient substance use treatment, aftercare, and mutual help). The researchers, who are long-term collaborators with Oxford Houses, facilitated Oxford House entry by identifying those with openings for new residents and assisting with the application process. Two years after entering the Oxford House, individuals had significantly less substance use, more employment, and higher incomes than those who received usual care. Further, longer stays in an Oxford House were related to better outcomes; this was particularly true for younger Oxford House residents, who had better outcomes if they stayed at least six months. Researchers also found that among individuals with co-occurring post-traumatic stress disorder who were randomly assigned to an Oxford House or to treatment as usual, individuals in the treatment-as-usual condition had lower levels of self-regulation compared with those in the Oxford House condition (13). Replication of this study is warranted because it used small samples. Oxford House residence combined with involvement in a 12-step program had a positive effect on self-report of abstinence over a 24-month period (11).

Tuten and colleagues (14) examined drug abstinence outcomes of individuals who were randomly assigned after opioid detoxification to a recovery home with a reinforcement-based outpatient treatment condition, a recovery home only condition, or usual care (that is, aftercare referrals and community-based resources). They found that the groups had signif-

Evidence for the effectiveness of recovery housing: moderate

Areas of improvement suggested by overall positive results:

- Drug and alcohol use
- Employment
- Psychiatric symptoms

icantly different rates of abstinence at the one- and three-month follow-up assessments; those in the recovery home with reinforcement-based outpatient treatment had the highest rates of abstinence, and those in the usual-care condition had the lowest rates of abstinence. Individuals in the recovery home with reinforcement-based outpatient treatment remained significantly more likely than individuals in the usual-care condition to abstain from opioid and cocaine use at the six-month follow-up assessment. In a single-group, repeated-measures study of individuals receiving outpatient treatment combined with residence in a sober living house, Polcin and colleagues (15) found improvements at six months postbaseline on measures of alcohol and drug use, arrests, and days worked. Significant declines in alcohol and drug use were maintained at 12 months postbaseline, and no significant increases in alcohol or drug use were found at 18 months.

Discussion and conclusions

This review found a moderate level of evidence for the effectiveness of recovery housing (see box on this page). Findings in the literature suggest that recovery housing can have positive effects on many aspects of recovery and that this service has an important role to play in supporting individuals with substance use disorders. This recommendation is tempered by the fact that the six articles identified through the literature review represented only three distinct studies. Further, these studies had methodological limitations, including attrition, nonequivalent groups, small samples, single-site evaluations, and lack of statistical controls.

With limited literature, it is difficult to draw conclusions across studies; however, these studies highlight areas of recovery housing that have policy and practice implications. It should

be noted that with an abstinence requirement for entering housing, there is often a floor effect. That is, when participants have very low substance use at baseline, it is unlikely that further improvements over time will be found in substance use measures—a traditional outcome in studies of substance use disorders. Rather, outcome measures are likely to reflect maintenance of abstinence or limited substance use over time. Changes in employment and criminal activity instead may be the key outcomes.

Two studies indicated that outcomes were better with longer stays in the recovery house (12,14). In addition, several studies indicated that success in the recovery house may also depend on other client characteristics, such as involvement in a 12-step program, age, or a diagnosis of posttraumatic stress disorder (11-13). These differential effects should be examined further, and it is likely that other variations in outcomes may be identified in additional studies.

The primary recommendation for future research is for methodologically rigorous randomized or nonrandomized controlled trials that are conducted with larger samples and across multiple sites. Further, several of the studies (for example, studies of Oxford House) were conducted by researchers who were collaborators. In most cases, the conditions were not blind to the interviewers or the evaluator. Because these issues may lend themselves to bias, external evaluations would also be an important next step. The research in this area would benefit from more consistent approaches that would facilitate better cross-comparisons and meta-analyses.

We identified other topics for future research, in addition to the need for greater methodological rigor. The effects of recovery housing on long-term recovery in multiple domains of functioning should be examined. For

example, the literature should focus on improvements in psychiatric symptoms and substance use and severity that extend beyond housing and quality-of-life outcomes. Further studies of approaches to recovery housing for individuals with substance use disorders should be undertaken to determine whether models other than the Oxford House approach are valuable. Also, evaluation of which organizational and structural aspects of sober living houses are effective would help with program development and clarity in defining the recovery housing model.

Finally, it is important to assess recovery housing for specific subpopulations (for example, by diagnosis, age, sex, and immigrant status). Most studies described participants' demographic characteristics, and some studies controlled for these characteristics in their analyses. However, few studies specifically analyzed race or ethnicity through interaction terms, stratification, or other approaches. As with any consideration of individual lives and successful recovery, it is essential to consider subgroup differences. This may be important particularly when we consider how people live, interact, or incorporate their cultural beliefs and backgrounds—key concerns when evaluating the role of housing. These characteristics may affect willingness to live independently or in group settings, for example, and they may also affect the roles of staff or residents in managing aspects of recovery. Preliminary research is beginning to examine approaches to adapt features of recovery homes to better meet the cultural needs of specific racial-ethnic populations (16). However, more research is required to explore the effectiveness of these adaptations. We encourage future researchers to evaluate whether certain approaches are as successful for a variety of subgroups as they are for the broader population.

Recovery housing has value as part of the full spectrum of options that support recovery from substance use disorders. However, a key issue for

recovery housing as a service is funding. In most cases, recovery housing does not include formal therapeutic treatment; therefore, it is not reimbursable by public or private insurance. Rather, recovery houses are often supported by charitable donations and contributions from the residents. Policy makers, including payors (for example, directors of state mental health and substance use treatment systems, administrators of managed care companies, and county behavioral health administrators), must consider alternative mechanisms that would support recovery housing as they determine how best to incorporate this approach into a full continuum of care. Consumers will benefit from increased access to sober living opportunities as a long-term step toward a life in recovery in the community. Future rigorous research on this service will improve our ability to target the consumers who would receive the most benefit.

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