DRUG & ALCOHOL FINDINGS *Review analysis*

This entry is our analysis of a review or synthesis of research findings considered particularly relevant to improving outcomes from drug or alcohol interventions in the UK. The original review was not published by Findings; click Title to order a copy. Free reprints may be available from the authors – click prepared e-mail. The summary conveys the findings and views expressed in the review. Below is a commentary from Drug and Alcohol Findings.

The effectiveness of residential treatment services for individuals with substance use disorders: a systematic review.

de Andrade D., Elphinston R.A., Quinn C. et al.

Drug and Alcohol Dependence: 2019, 201, p. 227–235.

Has enough high-quality evidence accumulated over the past five years to improve confidence in the effectiveness of residential treatment?

SUMMARY Residential treatment provides intensive care and support for people with severe and complex substance use disorders within alcohol- and drug-free, 24-hour, residential settings. While the types of interventions vary, residential treatment generally includes individual and group psychological support, self-help, peer support, and help with reintegration into the community, and support for withdrawal or support with maintenance on substitute drugs in a hospital or supervised residential facility. The length of stay can vary from a relatively short period to longer-term (eg, anywhere from four weeks to 12 months).

While there is a considerable body of research evaluating residential treatment, findings have provided limited evidence for the effectiveness of residential treatment, and the quality of the studies has tended to be poor.

The featured review aimed to examine recent evidence not included in other reviews (1 2 3 4 5 6 7) – the latest ones being in 2013 and 2014 – identifying the most effective models of care, their core components, and promising directions for future research and clinical practice. The criteria for studies was that they were published between 2013 and 2018, and assessed the effectiveness of residential treatment for adults (aged 18 years and over) with drug and/or alcohol problems. Studies were not included if the treatment took place outside the general community (ie, in a prison or psychiatric hospital).

Key points
From summary and commentary

Residential treatment provides intensive care and support for people with severe and complex substance use disorders within alcohol- and drug-free, 24-hour, residential settings.

A review of studies published between 2013 and 2018 found that residential treatment is more likely than not an effective intervention for adults with substance use problems.

Overall there was moderate quality evidence that residential treatment is effective in reducing substance use and improving mental health, and some evidence that treatment may have a positive effect on crime and social outcomes.

Main findings

Out of a total 23 studies, 10 were rated as methodologically strong overall, six as moderate, and seven as weak. Three studies were randomised controlled trials, generally looked at as the 'gold standard' design for research, however, one of those was rated weak in methodological quality.

There was consistent support for residential treatment being an effective treatment for substance use problems. However, due to methodological flaws in constituent studies, confidence in these findings was limited. This included a high rate of participants dropping out of studies before the pre-determined follow-ups. [The authors reported in the text that drop-out was high in seven studies, however, *Table 1* reported eight studies being of weak quality in that respect. According to a paper referenced by the authors, a weak rating indicated that fewer than 60% of participants could be followed up. Six studies were rated moderate quality for retention (follow-up rate of 60–79% participants), five strong quality (more than 80% participants followed-up), and for four studies this criterion was not applicable.]

Substance use. Seventeen studies reported substance use outcomes, and of these 16 found that residential treatment had a statistically significant positive effect (ie, could not be dismissed as chance findings). Five studies used the Addiction Severity Index, a semi-structured interview format for evaluating someone's health across seven life domains (medical, employment/support, substance use, legal, family/social relationships, and

psychiatric). Between baseline (before the treatment began) and follow-up, all five found a significant reduction in substance use regardless of the treatment model, population included in the study, or length of time before follow-up. Furthermore, among these five the reductions were observed in multiple studies up to the one-, three-, six- and 12-month follow-ups.

Mental health. Seventeen studies reported mental health outcomes such as psychological distress, post-traumatic stress disorder, depression, anxiety, stress, and general mental health – 16 finding a significant positive effect and one no significant effect. Four studies (two weak and two moderate quality) reported statistically significant improvements in Addiction Severity Index scores for mental health at follow-ups. Five studies which focused on integrated mental health treatment reported significant improvements in mental health after participants were discharged from residential treatment.

Criminal justice. Nine studies reported criminal activity as an outcome, and of these eight reported a significant positive effect of residential treatment and one no significant effect. Six of the studies measured significant changes in Addiction Severity Index legal domain scores between baseline and follow-up, indicating a significant reduction in criminal activity. However, in a strong-quality study involving more than 53,000 people dependent on alcohol followed-up for two years after being discharged from residential treatment, inpatient detoxification, or community-based pharmacotherapy, records linked to national police data showed significant reductions in recorded offences following inpatient detoxification and community-based pharmacotherapy programmes but not residential treatment.

Social. Outcomes were measured in 11 studies, with 10 reporting positive effects, and the effects unknown to reviewers in one study. Six studies (three studies of weak, two moderate and one strong quality) reported statistically significant improvements in Addiction Severity Index scores for family and social relationships. However, only two studies found significant improvements in participants' employment score.

Mortality. Only one study examined mortality as an outcome. Results from a methodologically strong Australian study showed that service users whose last recorded treatment was in residential services had an increased risk of death in the first year after leaving residential treatment. Residential withdrawal (treatment within an inpatient withdrawal unit or hospital with access to medical staff, medications and continuous monitoring) presented the highest risk of death, followed by residential rehabilitation (intensive treatment programmes conducted in a residential setting, typically offering a mixture of one-on-one, group work, peer support and team/community building processes).

The authors' conclusions

The featured review provides moderate quality evidence that residential treatment may be effective in reducing substance use and improving mental health, and some evidence that treatment may have a positive effect on crime and social outcomes.

A cautious interpretation of the evidence is that best-practice residential treatment would take a holistic approach to improving health and wellbeing, integrate mental health with substance use treatment, and ensure continuity of care after discharge.

FINDINGS COMMENTARY Based on a partial review of the evidence base – research published between 2013 and 2018 – the featured paper concluded that residential treatment may be effective in reducing substance use and improving mental health. However, this interpretation comes with caveats.

Variety. In addition to the studies varying in terms of methodological quality, there was a considerable difference between the 23 studies in terms of:
• the nature of treatments offered (eg, therapeutic communities, substitute prescribing, mindfulness-based relapse prevention, and mutual aid groups);
• entry point for participants (eg, some participants sought out treatment and for others it was court-mandated);
• the design of studies (eg, some compared outcomes with people in control groups or outcomes between different residential treatments; some randomly allocated participants while others retrospectively analysed the 'real life' trajectories of people in residential treatment settings);
• the degree of confidence that can be placed in a report of a 'statistically significant positive effect' and the extent to which a positive finding is indicative of a meaningful change for participants following residential treatment (eg, in one study, 100% of participants were recorded as abstinent at discharge, which was counted as a significant positive effect, but unlike other studies where participants were followed up three, six, or 12 months later, did not reflect whether any positive effect would be carried over when participants left the protected residential setting and returned to their old environments).

Implications. The study rated highest in quality across six domains took place in the United States. Participants were allocated to receive life enhancement treatment for substance use (known as 'LETS ACT') or supportive counselling (unfold supplementary text to read what these interventions involved) in addition to treatment as usual, which consisted of daily group sessions attended by

approximately 30–50 patients, including topics relevant to Alcoholics/Narcotics Anonymous, 12-step approaches, relapse prevention, spirituality, and drug education. Against the primary outcome, LETS ACT had significantly higher rates of abstinence three, six, and 12 months after treatment compared with supportive counselling. LETS ACT participants also reported significantly fewer adverse consequences from substance use at 12 months' post-treatment. However, the type of treatment had no effect on the percentage of days of substance use among those who returned to drinking or taking drugs. While this study understandably met criteria for reviewers recording a 'significant positive effect' for residential treatment, what this label didn't show was that both groups in the study were in residential treatment, and the significant positive effect was for a particular type of treatment in a residential setting. The study's own researchers did not draw inferences about residential treatment in general, but said that the study "provides important evidence supporting the effectiveness of *LETS ACT* to reduce the incidence of post-treatment substance use and substance use-related adverse consequences".

Close supplementary text

LETS ACT was originally developed for depression, and later modified for substance use. It taught participants, in small groups of 3–5 people, how to generate, schedule, engage in and record value-driven substance-free behaviours that serve to increase daily positive reinforcement, and counter depression and relapse.

In same-size groups, and at the same times, **supportive counselling** involved group discussions, facilitated by therapists who provided unconditional support, utilised reflective listening techniques and managed group dynamics by encouraging equal participation among patients.

Close supplementary text

Transferability. Providing a protected environment far removed from the temptations and pressures which helped sustain the client's addiction might sound like ideal conditions, but this was interpreted differently by William White, US guru of re-orienting treatment and allied systems to recovery objectives and principles. In his key work on systems of care, he pointed out that the non-recovery oriented systems he sought to transform "grew out of a tradition of isolating addicted persons from their natural physical and social environments [to] enter a closed therapeutic environment" such as a residential treatment programme or therapeutic community. The problem as he saw it is that learning to live without drugs is likely to be unlearnt on transfer to a different environment: "The greater the physical, psychological, social, and cultural distance between the treatment environment and the natural environment of the client, the greater will be this transfer-of-learning challenge." Part of the solution, he argued, is a "greater emphasis on delivering home- and neighborhood-based (eg, health clinics, neighbourhood centers) addiction treatment and recovery support services" – the antithesis of the traditional model of residential rehabilitation in Britain. While non-residential rehabilitation in the area where the client lives may initially be more challenging, it may be more realistic for the client and the substance-free behaviour more likely to stick.

Causal effect. Of the 23 total studies, just two were acceptable-quality randomised controlled trials. The lack of studies designed in such a way as to rule out competing explanations of positive outcomes not only casts doubt on the observed effects, but on the line that can be drawn between residential treatment and positive outcomes (ie, cause and effect). When the reviewers were assessing the effectiveness of residential treatment, they did not require that studies demonstrate a *causal* link between residential treatment and improved outcomes (either through comparing residential treatment with no treatment, or residential treatment with non-residential treatment). Such studies would have to select patients who can safely and practically be sent to either option and who are willing to leave the choice to chance, yet any advantages of residential care are likely to be most apparent to those with strong preferences, or among homeless clients, whose vulnerability makes non-residential care unsafe. An audit for England's National Treatment Agency for Substance Misuse found that residential rehabilitation is a vital and potent component of the drug and alcohol treatment system and should continue to be so – not as an alternative to community treatment, but as one potential element of a successful recovery journey. Disaggregating their contribution is challenging as residential services are so entwined with non-residential in the treatment journeys of residents.

An Effectiveness Bank hot topic titled *Residential rehabilitation: the high road to recovery?* elaborates on the diversity of residential treatment approaches. The term 'residential rehabilitation' describes a multitude of programmes, differing by philosophy, intensity, inclusion criteria, programme content, and duration. Often the only common factors are that residents have to stay overnight at the facility to receive treatment, and are expected to be drug- and alcohol-free before they start the programme (though in some cases supervised withdrawal is offered by the centres themselves as the first stage of the treatment).

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