DRUG & ALCOHOL FINDINGS *Hot topic*

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GO Can 12-step mutual aid bridge recovery resources deficit?

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The profile of abstinence-based recovery has been heightened in recent UK national strategies (1 2 3), with renewed attention falling on one of the best-known and most widely implemented programmes for achieving this goal – 12-step 'anonymous' mutual aid fellowships such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA). This hot topic keys into what qualities have preserved 12-step as the dominant model, despite its reliance on a 'higher power' and abstinence clearly not suited to everyone, what conclusions can be drawn about its effectiveness given the tensions inherent when 'faith meets science', and the extent to which confidence in the 12 steps comes from "consistency with established mechanisms of behavior change" as opposed to some of its more distinct components.

Faith in one's recovery

The 12 steps at the heart of Alcoholics Anonymous (▶ described here) have an overtly religious tone, with seven of the steps "refer[ring] either to a deity – 'God,' 'Him' or 'a Power greater than ourselves' – or to religious practices such as prayer."

While the umbrella group for Alcoholics Anonymous in the UK acknowledges the programme has its origins in a Christian group, it says there is "only one requirement for membership and that is the desire to stop drinking. There is room in AA for people of all shades of belief and non-belief." And, it does seem that there is some appetite for this application of the principles across the spectrum.

In the United States, where the programme is a more established feature of addiction treatment, the New York Times covered the growing phenomenon of "Alcoholics Anonymous, Without the Religion". At the time of publication, there were around 150 groups nationally which appealed to agnostics, atheists, and humanists alike. People were reportedly creating their own secular versions of the 12 steps, for example, instead of needing divine assistance for recovery, needing "strengths beyond our awareness and resources to restore us to sanity", as well as creating secular traditions within the groups themselves – for instance, instead of clasping hands and reciting the Lord's Prayer (or the Serenity Prayer) at the end of the session, reciting together, "Live and let live".

Religion is one of several "controversial" aspects of 12-step programmes which research has identified as a "point of resistance" among some people with

THE 12 STEPS AS DESCRIBED BY ALCOHOLICS ANONYMOUS

1. We admitted we were powerless over alcohol – that our lives had become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of God as we understood Him.
4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of all persons we had harmed, and became willing to make amends to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with God as

we understood Him, praying only for knowledge of His will for us and the power to carry that out.

12. Having had a spiritual awakening as the result of these steps, we tried to carry this message to alcoholics and to practice these principles in all our affairs.

drug and alcohol problems, while recognising that for some belief in an external higher power may be just what is needed to propel them towards change (for which see the story of Bill Wilson who went on to co-found Alcoholics Anonymous). However, religion being a potential point of resistance is not necessarily the same as it being a major obstacle to participation.

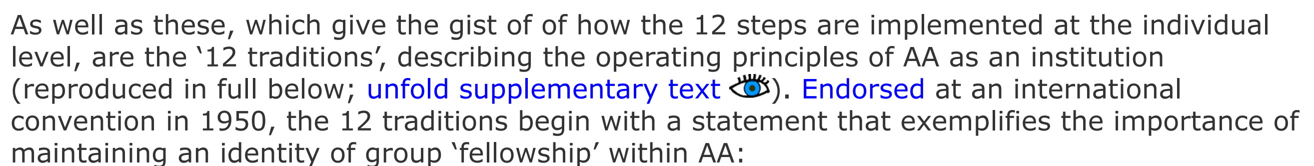
A US survey of outpatient treatment services between 2001 and 2002 found that barriers to 12-step participation were more often perceived to be motivation, readiness for change, and feeling the need for help, than religion or accepting powerlessness over addiction – though around half of both still agreed that "the religious aspect of 12-step groups is an obstacle for many" and that "the emphasis on powerlessness can be dangerous".

Whether similar findings would emerge in the UK is unclear. Certainly in one study, references to a 'higher power' and God seemed the least appreciated and most off-putting of the 12 steps, and more so among drinkers in treatment than drug users. In this study almost half the drinkers said the 12 steps would deter them from attending AA/NA meetings.

Comparing the importance of religion in the US and UK in 2003, a Gallup public opinion poll found that 60% in the US felt religion was very important (and 23% fairly important), but only 17% (and 30%) in Great Britain. More recently the proportion of the UK population identified as having no religion in the British Social Attitudes survey reached 53% (up from 49% in 2014 and 46% in 2011), outnumbering the 43% who defined themselves as Christian.

What (else) defines the 12-step experience?

The key tenets of Alcoholics Anonymous are sometimes referred to as the 'AA six pack': don't drink, go to meetings, ask for help, get a sponsor, join a group, and get active.



As well as these, which give the gist of of how the 12 steps are implemented at the individual level, are the '12 traditions', describing the operating principles of AA as an institution (reproduced in full below; unfold supplementary text). Endorsed at an international convention in 1950, the 12 traditions begin with a statement that exemplifies the importance of maintaining an identity of group 'fellowship' within AA:

> *"Our common welfare should come first; personal recovery depends upon AA unity."*

1. Our common welfare should come first; personal recovery depends upon AA unity.
2. For our group purpose there is but one ultimate authority – a loving God as He may express Himself in our group conscience. Our leaders are but trusted servants; they do not govern.
3. The only requirement for AA membership is a desire to stop drinking.
4. Each group should be autonomous except in matters affecting other groups or AA as a whole.
5. Each group has but one primary purpose – to carry its message to the alcoholic who still suffers.
6. An AA group ought never endorse, finance or lend the AA name to any related facility or outside enterprise, lest problems of money, property and prestige divert us from our primary purpose.
7. Every AA group ought to be fully self-supporting, declining outside contributions.
8. Alcoholics Anonymous should remain forever nonprofessional, but our service centers may employ special workers.
9. AA, as such, ought never be organized; but we may create service boards or committees directly responsible to those they serve.
10. Alcoholics Anonymous has no opinion on outside issues; hence the AA name ought never be drawn into public controversy.
11. Our public relations policy is based on attraction rather than promotion; we need always maintain personal anonymity at the level of press, radio and films.
12. Anonymity is the spiritual foundation of all our traditions, ever reminding us to place principles before personalities.

Close supplementary text

This focus on the 'social', the 'collective', and 'mutual aid' is one of the defining features of 12-step programmes, not just because there is evidence to suggest that it may be one of the key "mechanisms of action" in deriving positive *outcomes* from 12-step programmes, but because it characterises the *process* or *experience* of recovery from the perspective of members.

Speaking to members in the US to mark the 75th anniversary of AA in 2010, the BBC addressed "What happens in an Alcoholics Anonymous meeting?" Dismissing the belief in a higher power as being just about religion, one member said: "The higher power is not just the god of your understanding, it is the people in the room," another that "It works because everything I attempted to do about drinking by myself never worked … By coming into AA I was able to get support to not drink – people who think exactly like me, that common bond."

In the UK, an academic case study documented the experience of a young adult participating in 12-step programmes, and what recovery looked like for him two, six, and 10 months down the line. Throughout this time, AA and NA were a strong feature of his social life; even when his frequent attendance at meetings started to decline, the programme still provided a key social network, with all of his friends members of the programme at the 10-month mark:

> *"I've got a lot of things you know like people in the Fellowship helped me to move so you know, I go out for a meal after the meeting every Tuesday with people from the Fellowship from AA, and I go out for coffee after the meeting tonight [at NA] … I do sort of participate in the social aspect of it."*

Initially, 'James' attended NA and AA meetings four to five days a week, dropping down to three to four times a week at six months, and then hovering around four times a week at ten months (though mostly NA attendance at this point). Although in general there can be considerable variability in AA meeting attendance during early recovery, research finds that attendance tends to be higher during the early days of recovery, then decreasing in the following months to an estimated average of three meetings per week.

Long-term engagement with 12-step programmes is critical to AA philosophy that "addiction [is] a disease that can be arrested but never eliminated". With regard to AA, this is embedded in the accepted language for talking about alcoholism and accepting the identity of alcoholic (ie, 'Once an alcoholic, always an alcoholic'), and eventually – if someone is willing to "face the problem honestly and try to do something about it" – the qualified identity of 'recovering alcoholic'.

> *"We understand now, that once a person has crossed the invisible line from heavy drinking to compulsive alcoholic drinking, they will always remain alcoholic. So far as we know, there can never be any turning back to 'normal' social drinking. 'Once an alcoholic – always an alcoholic' is a simple fact we have to live with."*

In the above case study, James' understanding of recovery changed over time. To begin with he offered a description aligned with the AA story of recovery, but then went on to create his own story – one that was more positive and complemented his evolving worldview. From the authors perspective this illustrated that, although official AA literature can be quite prescriptive about what addiction and recovery mean, it is possible for people to construct their own interpretations and way of making sense creatively and meaningfully.

Facilitating attendance

In respect to 12-step mutual aid, the main role of treatment services is to encourage and enable patients who want to and can benefit from this resource to access it, without undermining the independent mutual aid ethos.

However, given the constraints faced by providers in non-speciality settings, including a lack of training on substance use disorders and few resources available for referring patients, many professionals in medical, mental health, and social service settings feel ill-equipped to adequately or fully address the issue, and resort to recommending readily available and free services such as 12-step self-help groups even when they are not convinced these programmes would be effective or that the client would go.

Potentially filtering down into client perceptions of the validity of the 12-step approach, interviews conducted with patients who had a diagnosis of alcohol dependence one year after entering community alcohol treatment services in three London boroughs revealed that more than half had experienced 12-step groups such as AA, but some described being 'pushed' into them, and overall there was an impression that AA was "second class to 'treatment' or not part of the legitimate treatment services available".

Relevant to Britain is a US study which showed that 12-step philosophy can be de-emphasised during treatment, and the emphasis instead placed on encouraging patients to tap in to the social support offered by these groups – potentially important for people who find it hard to embrace this philosophy, but would benefit from repeated and extended contact with committed abstainers.

This is not the only study to have suggested that – if they prioritise this – treatment services can promote mutual aid attendance and thereby improve substance use outcomes for their patients. Perhaps the most influential of these studies randomly allocated 345 US patients starting non-residential treatment to standard or intensive referral to 12-step groups. Compared with patients who received standard referral, intensive-referral patients were more likely to attend and be involved with 12-step groups and improved more on alcohol and drug use outcomes over the follow-up year. This was, however, a demonstration of what can be done in relatively ideal circumstances unlikely to be duplicated outside the context of a research project.

These findings were broadly replicated in a UK inpatient addiction unit, where 12-step groups are less well known and intensive referral may have the scope to be more effective than in the USA. However, the referral option tried was considerably less intensive than in the USA and did not involve arrangements for a 12-step group member to accompany the patient to their first meeting. Especially when delivered by someone who had themselves recovered from addiction via 12-step groups, the single session substantially encouraged post-treatment attendance, but only modestly and insignificantly increased the proportion of patients who sustained abstinence from their main problem substance. The contrast calls in to question the degree to which in the UK context post-treatment 12-step attendance 'artificially' elevated by special efforts during treatment generates abstinence. Instead the pattern of outcomes seems consistent with attendance being largely a sign of the patient's ability and determination to sustain abstinence rather than an active force in generating that ability and determination.

Gains in substance use reductions were also modest in Norway but they were statistically significant, roughly an extra four days of not using drugs and about the same for alcohol over the last 30 days of a six-month follow-up. This extra reduction was generated by an intervention to encourage 12-step group affiliation among patients completing inpatient detoxification, which had the intended effects of bolstering affiliation and (though not statistically significant) attendance after leaving the ward. However, total abstinence over the last 30 days of the follow-up did not differ and nor did the severity of drug or alcohol use problems.

Standing in the way of treatment services facilitating 12-step group attendance may be a conviction that this has to be left entirely to the choice of the patient. Around 2010 that attitude was evident in responses to problem-drinking offenders in north-east England. In most areas criminal justice agencies were not directly linked to self-help groups, and though information on Alcoholics Anonymous was available in most probation services, direct referrals were not made because it was felt offenders should attend "of their own volition".

Methodological catch-22s impede unbiased evaluation

Nearly all the research on 12-step groups and allied treatments comes from the USA, but the US record – where the 12 steps are deeply engrained and widely accepted – is not necessarily a guide to their impact in societies like Britain.

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For example, from the huge US Project MATCH alcohol treatment trial came the seemingly puzzling finding that 12-step therapists had been no more directive than therapists who implemented a motivational approach. Presumably as a result, these therapies unexpectedly had similar impacts on angry patients who react against direction. How could it be that practitioners of a codified set of steps – with prescribed beliefs about addiction, prescribed activities and prescribed ways to recover – were no more likely to lead, teach and instruct their clients than practitioners of a method designed above all to avoid being explicitly directive? Possibly the answer is that in the US context, and in particular with these patients, 12-step based therapy was 'second nature': there would be little need to direct and teach.

Another difficulty is that the classic randomised trial format fits mutual aid badly. Most fundamentally, participating in mutual aid groups is something someone *does*, not something *done to* them which can be expected to work regardless of whether they chose that route to recovery or embraced it once experienced. At a deep level that may also be true of psychosocial

therapies in general, but with mutual aid it is the explicit essence. Researchers can randomly select people to be coerced by courts or employers to attend mutual aid groups, but cannot make them actively contribute to their own recovery and that of the other attendees, or make other attendees accept and interact productively with those forced to attend. And unlike 'gated' professional services, it is impossible to deny someone access to a free and open-access mutual aid network, and people prepared to deny themselves by random allocation are not necessarily typical dependent drinkers or drugtakers. But without randomisation, results are vulnerable to the possibility that people who choose to participate in mutual aid groups do better than those who choose not to just because they are keener to achieve abstinence, rather than due to any impact of the groups – so-called 'self-selection' bias.

Reviewing literature on AA's effectiveness in its totality, and organising the studies according to six key criteria for establishing cause and effect, one paper aimed to help readers judge for themselves whether the Cochrane Review was, on balance, correct in concluding that there is no experimental evidence of AA's effectiveness:

1. **Strength of association:** rates of abstinence were approximately twice as high among those who attended AA.
2. **'Dose–response' relationship:** higher levels of attendance were related to higher rates of abstinence.
3. **Consistency of association:** found across different samples and follow-up periods.
4. **Demonstrating the effect followed the influence:** prior AA attendance was predictive of subsequent abstinence.
5. **Specific effects:** evidence weakest when held to the standard of ruling out other explanations for abstinence.
6. **Plausibility:** the 'active ingredients' predicted by theories of behavioural change were evident at AA meetings and through the AA steps and fellowship.

Only two studies provided strong proof of a specific effect from AA or '12-step facilitation' (which introduces clients to the 12-step philosophy and support system), but this may have been due not to AA, but to the treatment programme which promoted attendance at AA groups: the outpatient arm of Project MATCH (with effects at one and three years) (1 2); and the intensive-referral condition in another trial (with effects for abstinence at six months and one year).

Reviews inconclusive

A review published in 1999 synthesised the results of trials comparing AA groups against other approaches or no treatment at all. Finding just three randomised trials – in general the 'gold standard' research method, but in this case all involving coerced attendees – among its collection of studies, the results suggested that people forced to attend AA do no better and possibly worse than when coerced instead into professionally run treatments or left to sort out their own ways of overcoming their problems. In contrast, the non-randomised studies in which (with one partial exception) alcohol clients chose whether or not to attend AA meetings recorded statistically significant advantages over other treatments. This pattern of results suggests that AA looks better in some studies because those who attend are more motivated, and that people coerced into attending AA meetings might do worse than those coerced into other treatments, perhaps because existing members resent their presence and are under no professional or occupational obligation to try to engage the newcomers and promote their recovery from their drinking problems. However, the three randomised trials were deeply flawed as assessments of AA as usually accessed and attended, and in two of the trials methodological features meant they were poor indicators of relative impacts on drinking.

These two trials were omitted from a later review conducted under the rigorous Cochrane procedures, which included studies not only of patients allocated directly to 12-step groups, but to interventions to promote attendance at and affiliation to these groups. It found no convincing evidence that AA-based approaches were superior to other approaches at controlling drinking, and recommended that people considering attending 12-step groups should be made aware of the lack of rigorous evidence on their effectiveness. But with just eight trials to go on, often trialling very different approaches with different comparators, evidence was lacking rather than conclusive. Due to "a flurry of additional empirical investigations" since the 2006 review, the need for an update was identified and expounded upon in a 2017 protocol.

If AA does work, it is likely that it does so not primarily because of features which distinguish it from other approaches, but because of what it shares with those approaches. A review of how Alcoholics Anonymous works highlighted these shared mechanisms including heightening confidence that one can resist drinking, bolstering motivation for abstinence and commitment to recovery, developing coping strategies such as avoiding high-risk situations, and strengthening

social support. Particular importance was placed on "perhaps its most potent influence" – social group dynamics in the AA meeting, the broader 'fellowship', and social support. In contrast to these generic mechanisms found in other approaches, there was less support for spirituality, adherence to AA beliefs and philosophy, or following recommended AA practices.

The social "mechanisms of action" work by contributing to a *shift* in one's social network, with a reduction in the number of individuals who support drinking and an increase in those who support abstinence. This is accompanied by a decrease in exposure to drinking-related activities (and cues that induce craving), as well as an increase in non-drinking activities, belief that abstinence is achievable, and rewarding social relationships.

Accounting for self-selection bias

Given the limitations of direct randomisation, the ideal is to mimic randomisation by natural means – for example, to compare outcomes for drinkers who differ in their AA attendance because meetings are more or less available to them or for other extraneous reasons unrelated to drinking, not because they are more or less motivated and able to overcome their drinking problems. Three US studies have used statistical techniques called an 'instrumental variable' analysis to simulate this situation.

The first capitalised on the relative availability of AA meetings to patients encouraged to attend following 12-step based inpatient treatment. Standard analysis found a significant positive effect of attending the meetings. Even after adjusting for other factors, patients who went on to attend AA in the three months after leaving the detoxification centre were almost four more likely to have remained abstinent. Though it remained, at 1.7 times more likely to be abstinent the effect was halved and became statistically insignificant when adjusted for self-selection. The adjustment relied on the fact that most of the sample were not in a position to drive themselves to meetings and a minority did not live in a town with an AA group. Both factors affected whether patients attended the groups but were presumed to have no direct impact on abstinence – the only effect they could have, it was thought, was via influencing attendance. Unfortunately this assumption was not tested by examining the data, and it is not hard to think of ways both factors could be related to drinking – for example, via car owners having greater economic resources and more to lose from not sustaining abstinence, and via towns with AA groups having a different drinking culture to those without. The study also found no extra abstinence due to attending more meetings, bolstering the impression that attending AA groups had little effect.

A second study, which also used the instrumental variable methodology, instead recruited previously untreated alcohol clients who had contacted the alcoholism treatment system via an information and referral centre or detoxification centre. Instead of abstinence as an outcome, it averaged the severity of drinking in each of the last six months of a one-year follow-up period, and related this to AA attendance in the previous six months. Drinkers selected for the analysis were those who (apart from detoxification) did not go on to start professional treatment, many of whom nevertheless attended AA groups. In this study the factors relied on to sift AA's impacts from those of self-selection were how serious a problem the participant considered their drinking, a tendency to cope with problems by seeking information/advice, and the participant's sex. As hoped, all three were related to whether the participant attended AA meetings, but not to the severity of their drinking as assessed at the one-year follow-up. In other words, they only affected drinking in so far as they promoted AA attendance. In contrast to the study described above, it found that using these factors to eliminate bias due to self-selection into AA *doubled* the strength of its association with reduced severity of drinking. In the first study, self-selection bias had worked in favour of AA, possibly because promising clients most engaged with the 12-step inpatient programme continued to access 12-step support on leaving. When this second study investigated an untreated sample, the reverse was the case. Perhaps appreciating their difficulties, patients least likely to be able to avoid drinking chose AA rather than attempting to go it alone without treatment and without the support of a mutual aid group.

The third and most recent analysis was able to capitalise on studies which had randomly allocated patients not to AA meetings, but to treatment interventions which did versus did not systematically promote AA attendance. The thinking was that extra attendance promoted in this way could not be due to the greater motivation or resources of the patients, so would offer an unbiased estimate of the impact of AA attendance on abstinence. As in the first study, when AA followed inpatient treatment, attendance made no extra contribution to abstinence. But across the remaining studies the results implied that going to an additional two AA meetings each week would be associated with an additional 3.3 days of abstinence per month. Though in some ways an advance on previous estimates, it seems possible that the presumed impact of attending more meetings was in fact a gradient reflecting how well patients responded to the AA-

promoting intervention itself. The better they responded to it, the more meetings they would attend and the more they would remain abstinent, making it look as if meeting attendance cause the extra abstinence, when in fact both were caused by the professional intervention. One way to disentangle this would be to see if abstinence rates were similarly affected by the intervention when AA was simply unavailable. If the AA-promoting intervention still promoted the same extra degree of abstinence, it would indicate that attending meetings was not an active ingredient. However, such a study would seem a nonsense both to staff and patients, who would find themselves promoting or being encouraged to attend a non-existent resource.

The policy backdrop in the UK

For UK commissioners, mutual aid offers a way to reconcile diminished resources with the desire to get more patients out of treatment without triggering a relapse and consequently threatening lives, health, and communities. The 2017 Drug Strategy described peer support as an "essential component of effective recovery", referencing "well-documented" evidence for the efficacy of mutual aid. Outlining the nation's steps going forward, the strategy said that Public Health England will continue to develop, promote and support the implementation of its mutual aid toolkit (work up to 2015 is documented here), and explore the potential of online mutual aid groups (particularly useful in sparsely populated rural areas).

The interest at a national level can be judged from staff engagement and staff resources made available since around 2010 to aid implementation. How much has trickled down to local service level is unclear. Judging by a 2014 report on the alcohol-related content of joint health and wellbeing strategies from 25 English local authority areas – including 15 of the top 25 for alcohol-related harm – fostering mutual aid seems not to be a priority. However, when managers of adult drug and alcohol treatment services were surveyed in 2014/15, peer support including mutual aid groups were thought by nearly a quarter to have increased in availability since the previous year and by just 4% to have become less available, and most responding services actively promoted access by referral and by hosting or facilitating groups. It was, however, not specified whether these were free-standing groups open to anyone or, for example, peer support groups for users of the service.

Running this search will help you appreciate the degree to which the worldwide popularity of the steps is matched by evidence of effectiveness. One thing to look out for is the basis on which 12-step approaches are compared with others. When abstinence is the criterion the gap is sometimes more apparent than when substance use reduction or problem resolution are the yardsticks. Abstinence-focused evaluation plays to the 12 steps' aims and strengths, but abstinence does not tell the whole or only story about recovery.

Thanks for their comments on a previous version of this entry to Keith Humphreys of Stanford University in the USA. Commentators bear no responsibility for the text including the interpretations and any remaining errors.

Last revised 11 April 2018. First uploaded 01 March 2011

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