

 **Drug and Alcohol FINDINGS** Your selected document

This entry is our account of a review or synthesis of research findings selected by Drug and Alcohol Findings as particularly relevant to improving outcomes from drug or alcohol interventions in the UK. Unless indicated otherwise, permission is given to distribute this entry or incorporate passages in other documents as long as the source is acknowledged including the web address <http://findings.org.uk>. The original review was not published by Findings; click on the [Title](#) to obtain copies. Free reprints may also be available from the authors – click [Request reprint](#) to send or adapt the pre-prepared e-mail message. Links to source documents are in [blue](#). Hover mouse over [orange](#) text for explanatory notes. The Summary is intended to convey the findings and views expressed in the review. Below are some comments from Drug and Alcohol Findings.

Click [HERE](#) and enter e-mail address to be alerted to new studies and reviews

---

► [Computer-delivered interventions for alcohol and tobacco use: a meta-analysis.](#)



Rooke S., Thorsteinsson E., Karpin A. et al. [Request reprint](#)

**Addiction: 2010, 105, p. 1381–1390.**

*Computer-based and in particular internet-based therapies open doors to treatment for drinkers who cannot get or do not want face-to-face-help. This review finds they do curb drinking, but its sub-finding that they are as effective as alternative therapies should not be taken to mean computers can replace therapists.*

**Summary** Computer-delivered treatments offer a way to relieve the unmet demand for alcohol and other drug therapists, and can be disseminated to any location at low cost. Stigmatisation concerns are reduced because there need be no face-to-face contact and in many cases the recipient retains anonymity. Automation assures the treatment is consistently delivered as intended.

The first objective of the current [meta-analysis](#) was to quantify the overall effectiveness of computer-delivered interventions for the use of alcohol, tobacco and other substances on the basis of a comprehensive search for relevant literature published up to January 2009. The second was to for the first time systematically examine whether effectiveness is associated with treatment characteristics, including the provision of normative feedback on how the user's substance use compares with that of the population as a whole, availability of a chat feature, inclusion of entertainment features to facilitate engagement, emphasis on relapse prevention, number of treatment sessions, treatment location, treatment format (web or off-line program) and the degree to which a therapist was involved in the treatment.

The analysis included trials where participants were randomly allocated to the focal computer-based intervention or to a [control](#) or alternative treatment not delivered directly via computer. Few studies concerned substances other than alcohol or tobacco so the analysis was confined to these two. The result was 34 studies with a total of 10,632 participants and which made 42 comparisons between computer-based interventions and a comparator.

## Main findings

Across all the studies computer-based interventions were modestly more effective in reducing substance use than the comparators, the advantage amounting an **effect size** averaging 0.20.

Effectiveness varied significantly between the studies, so the analysis was done on the assumption that there was no single true effect size but that this depended on the characteristics of the study, and a search was conducted for what might explain the variability in outcomes. As would be expected, effect sizes were lower (0.10) in studies which compared the computer-based treatment to an active alternative treatment rather than to no treatment (0.22). Across the 28 comparisons where drinking was targeted, the impacts were slightly greater (0.22) than where smoking (0.14) was targeted. Among the other findings, impacts were lower when success was measured as abstinence as opposed to substance use reductions and when there was appreciable contact with a therapist. Though longer interventions tended to be more effective, this was not statistically significant, nor was the tendency for longer follow-ups to record greater impacts.

Generally studies employing active treatments as the comparator found computer-based interventions little or no more effective. To clarify what affected outcomes, further analyses excluded these studies, leaving only those in which the comparator was not intended to be therapeutic. Across these studies, the difference in the impacts on drinking versus smoking (effect sizes of 0.26 and 0.12 respectively) was greater than across all the studies, possibly because studies addressing smoking tended to apply the more stringent standard of abstinence, which was associated with significantly smaller effect sizes than reduction in use. Finally, off-line programs run actually on the computer produced significantly higher effect sizes than web-based programs (effect sizes of 0.37 and 0.18 respectively).

## The authors' conclusions

The overall findings suggest that computer-delivered interventions may be a cost-effective and highly accessible way to treat uncomplicated substance use and related problems. In the analysis these interventions reduced substance use significantly by a fifth of a standard deviation – statistically a small effect size, but still a meaningful impact. For example, in studies of smokers, reductions generally represented the proportion of individuals who had achieved abstinence through the intervention. In studies addressing drinking, reductions generally represented decreases in average consumption across a larger number of participants. Effects were comparable to those obtained in studies of individual counselling for smoking and brief alcohol interventions in non-clinical populations. The relationship between treatment effect and follow-up period was non-significant, suggesting that treatment effects may be reasonably enduring. Methodological quality of the research was also unrelated to effect size.

No significant advantages were found for interventions which offered normative feedback, on-line discussion, entertainment features, an emphasis on relapse prevention, or more treatment sessions. The implication is that these differences matter little, and that the very fact of offering a bona fide intervention of whatever kind is the overriding influence – a finding recorded across psychotherapies. However, the variability in effectiveness

between studies seems to belie this conclusion and suggests that other variables which could not be included in the analysis were influential. Among these may for example be the program's sophistication, the expertise of the developer responsible for the therapeutic content, and how engaging users find it. Together with other findings, the fact that the degree of therapist contact made no difference suggests that minimal contact interventions with relatively few sessions and which can be accessed from home may be as effective as high-cost, labour intensive interventions.

Compared to no intervention, programs which have to be run on the computer the user is using were more effective than those run over the internet, a finding apparently not due a higher level of monitoring and supervision, which made no difference to outcomes. Perhaps off-line programs offered a higher level of structure and required more dedication on the part of the participant, such as having to make the additional effort to use the program in its own right as opposed to incorporating it in to variety of on-line activities.

## **FINDINGS**

Though only a minority of site visitors may sign up for web-based alcohol programmes, nevertheless the numbers engaged can be very large, and the risk-reductions seem of the order typical in studies of brief advice to drinkers identified in health care settings. In these settings screening programmes typically identify people who are not actually seeking help for drinking problems – 'pushing' them towards intervention and change – while web sites 'pull' in people already curious or concerned about their drinking. As such these two gateways can play complementary roles in improving public health and offering change opportunities to people who would not present to alcohol treatment services. However, in Britain and elsewhere, both tactics reach only small fractions of the population who drink excessively, leaving the bulk of the **public health work** to be done by interventions which drinkers generally cannot avoid and do not have seek out, such as **price increases** and **availability restrictions**.

### Opening more doors to change for more people

A particular role for alcohol self-help sites may be to offer an easy, quick and accessible way to for drinkers to actualise their desire to tackle their problems, especially when that desire is allied with the resources to implement and sustain improvements without face-to-face or comprehensive assistance. After conducting the Project MATCH trial, some of the world's leading alcohol treatment researchers **argued** that "access to treatment may be as important as the type of treatment available". The implication is that in cultures which accept 'treatment' as a route to resolving unhealthy and/or undesirable drinking, having convincing-looking and accessible 'treatment doors' to go through may be more important than what lies behind those doors, as long as this fulfils the expectations of the client or patient. This is likely to be especially the case for people who retain a stake in conventional society in the form of marriages, jobs, families, and a reputation to lose. These populations – the kind attracted to self-help alcohol therapy web sites – have more of the '**recovery capital**' resources needed to themselves do most of the work in curbing their drinking.

### The British Down Your Drink site

The best known British alcohol self-help web site is the **Down Your Drink** site run by a

team based at University College London, an initiative [originally funded](#) by the [Alcohol Education and Research Council](#) and now by the Medical Research Council's National Prevention Research Initiative. In 2007 this [was revised](#) to offer set programmes from a one-hour brief intervention to several weeks, but also to generally give the user greater control over the use they made of the site. The approach remained based on principles and techniques derived from motivational interviewing and cognitive-behavioural therapies.

The previous version had been structured as six consecutive modules to be accessed weekly. An [analysis](#) of data provided by the first 10,000 people who registered at the site after piloting ended in September 2003 revealed that most were in their 30s and 40s, half were women, nearly two-thirds were married or living with a partner, just 4% were unemployed, and most reported occupations from higher socioeconomic strata. As an [earlier study](#) commented, site users were predominantly middle class, middle aged, white and European. Six in 10 either did not start the programme, or completed just the first week. About 17% completed the six weeks. Of these, 57% returned an outcome questionnaire. Compared to their pre-programme status, on average they were now at substantially lower risk, and functioning better and living much improved lives. The sample had been recruited over about 27 months, a registration rate of about 4500 a year. By way of comparison, in England during 2008/09, around 100,000 adults [were treated](#) for their alcohol problems at conventional services. User profile and site usage had been similar during the [earlier pilot phase](#). Results from surveys sent to pilot programme completers indicated that three quarters had never previously sought help for their drinking.

### Can computers replace therapists?

As the analysts responsible for the featured review commented, it is only to be expected that computer-based therapies outperform comparators not intended to be therapeutic at all. Of greater interest is whether they show the potential to be as effective as (and therefore probably more cost-effective than) conventional therapies. In respect of alcohol, the verdict that they were indeed no less effective than alternative treatments rests on four studies. All were of US college students and in none were they seeking help for their drinking problems in the normal way. It would be a mistake to see results from these studies as indicating that computer-based interventions can replace face-to-face therapy for people troubled enough by their drinking and/or its consequences to seek help, the usual way people enter treatment. Details [below](#).

[One](#) of the four studies seems to have been miscategorised because rather than an active treatment, students in the [comparison condition](#) were directed to a web page thanking them for their involvement. None of the other three studies were of students actually seeking help for drinking problems. In [one](#) they undertook the study to satisfy requirements imposed on them by the college after being caught drunk or violating alcohol-related rules. The main comparator was a single face-to-face motivational interview but despite some differences, over the 12-month follow-up this was not clearly associated with extra reductions in drinking or related problems. In the other two studies students were induced to participate by course credits and in one also financial payments. The comparators were cognitive-behavioural therapy in [one](#) and in the [other](#) a print version of the program which was mailed to students. In neither did drinking outcomes from the computer-based intervention significantly differ from those of the comparator.

*Thanks for their comments on this entry in draft to Sally Rooke of the National Cannabis Prevention and Information Centre at the University of New South Wales. Commentators bear no responsibility for the text including the interpretations and any remaining errors.*

Last revised 27 July 2011

► [Comment on this entry](#) ► [Give us your feedback on the site \(one-minute survey\)](#)

---

Unable to obtain the document from the suggested source? Here's an [alternative](#).

---

### **Top 10 most closely related documents on this site. For more try a [subject or free text search](#)**

[A meta-analysis of motivational interviewing: twenty-five years of empirical studies](#) REVIEW 2010

[Curbing problem drinking with personalized-feedback interventions: a meta-analysis](#) REVIEW 2009

[Twelve-month follow-up results from a randomized controlled trial of a brief personalized feedback intervention for problem drinkers](#) STUDY 2010

[Dismantling motivational interviewing and feedback for college drinkers: a randomized clinical trial](#) STUDY 2009

[Web-based alcohol prevention for incoming college students: a randomized controlled trial](#) STUDY 2010

[Computerised feedback challenges belief that most drink more than me](#) STUDY 2001

[Translating effective web-based self-help for problem drinking into the real world](#) STUDY 2009

[Efficacy of physician-delivered brief counseling intervention for binge drinkers](#) STUDY 2010

[Counselor skill influences outcomes of brief motivational interventions](#) STUDY 2009

[ModerateDrinking.com and Moderation Management: outcomes of a randomized clinical trial with non-dependent problem drinkers](#) STUDY 2011