

This entry is our account of a study 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 study 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 study. Below are some comments from Drug and Alcohol Findings.

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► [Curbing alcohol use in male adults through computer generated personalized advice: randomized controlled trial.](#)

Boon B., Risselada A., Huiberts A. et al.

Journal of Medical Internet Research: 2011, 13(2), e43.

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Spending just ten minutes each on a drinking feedback and advice web site is leading over 2000 heavy drinking Dutch men a year to reduce to safer levels was the implication of this randomised trial from the Netherlands.

Summary Face-to-face interventions are limited by the shortage of suitable professionals, and heavy drinkers may be reluctant to discuss their drinking, meaning most remain untreated. In contrast, on-line interventions need require no therapist time and users can engage in them whenever they wish and in the privacy of their homes without fear of stigmatisation. This study aimed to examine the effect of [DrinkTest](#), an on-line intervention targeting heavy drinking adults in the Netherlands by offering [personalised feedback](#) about each user's drinking pattern.

Such interventions have proven a feasible way to reach heavy drinkers and are generally well received. However, beyond student samples, results are not yet conclusive. An [analysis](#) synthesising the results of on-line alcohol and tobacco interventions included only three studies of drinking among general adult populations. Another [research synthesis](#) focused on drinking reported an overall medium [effect size](#) for nine randomised controlled trials, including the present study, but most of the on-line interventions were fairly time consuming, ranging from one 90-minute session to a 10-week programme, and some required therapist involvement.

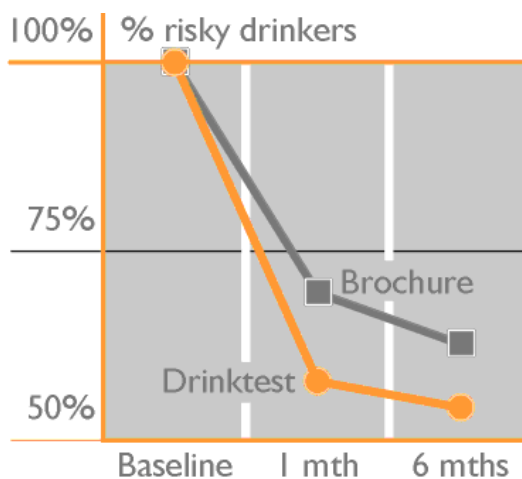
Developed by the Netherlands Institute for Health Promotion and Disease Prevention, DrinkTest is delivered in a single 10-minute session with no therapist involvement. It asks the user about their usual weekly alcohol intake and their intentions to change their drinking. Based on this it offers feedback on their intake and associated health risks compared to other Dutch residents of the same age and sex. Users who score as heavy

drinkers (by design, all did in the current study) are further quizzed about their drinking occasions and patterns, how confident they feel in their ability to change, and their attitudes and intentions with regard to reducing alcohol intake. Based on their answers, respondents receive personalised feedback on how to reduce alcohol intake in their specific situation, which in the study they could print and take home.

An initial study found DrinkTest worked for women but not men, leading to the revision tailored to men tested by the featured study. Participants were recruited via an on-line screening questionnaire sent to around 9000 men on two survey panels and through national newspaper adverts. In all 887 respondents whose drinking exceeded **Dutch guidelines** but had not recently been treated for this were invited to take part in the study. Of these 450 agreed and were randomly allocated to the DrinkTest intervention or (the **control** group) to read and if they wished take home a standard brochure on the biological effects of alcohol and healthy and unhealthy drinking patterns. Rather than the study's true objective, participants were told they were in a study of healthy lifestyle education and had happened to be allocated to the alcohol topic. Both the on-line intervention and reading the brochure were completed at research offices rather than at home.

On average the sample was 40 years of age and drank about 315gm alcohol a week or 39 UK units, and most were employed and well educated.

Main findings



Of primary interest was the proportion of men who cut their drinking to below Dutch guidelines for low-risk drinking. One month after working through DrinkTest, 42% had compared to 31% who had read the brochure. The proportions equated to one person becoming a 'safe' drinker for every nine allocated to DrinkTest. This difference remained statistically significant when another method was used to estimate the drinking of participants who did not complete the follow-ups and when the analysis was confined only to respondents.

Six months after the interventions, still more had become 'safe' drinkers, but the gap had shrunk to 46% v. 37% and now narrowly missed remaining statistically significant ▶ *chart* (this recalculates the figures to the proportions *still* drinking excessively). Assuming a real impact at six months, the difference equated to one person becoming a 'safe' drinker for every 12 allocated to DrinkTest.

Impacts of the interventions did not significantly differ for people of different ages,

educational attainment, or average weekly drinking.


The authors' conclusions

At least in the short-term, computer-based personalised feedback led more male heavy drinkers to cut their intake to safer levels than a standard alcohol information brochure. These findings derive from a study with a high follow-up rate and were robust under alternative analytic methods. The initial impact was comparable to that found after a [more intensive](#) on-line, four-step cognitive behavioural intervention also directed at the Dutch general adult population.

The intervention web site attracts about 90,000 men a year of whom 70% score as heavy drinkers. Four of ten complete the test and presumably receive tailored feedback. To estimate the potential impact, it is assumed that this usage is maintained and that the impact at six months in the study is a valid indicator of the impact in the home setting. Then each year 2117 men would cut their alcohol intake for at least six months as a consequence of spending 10 minutes on DrinkTest. In turn this suggests that offering personalised feedback through highly accessible web sites can efficiently and economically contribute to generating health gains at the population level. This suggestion is reinforced by a [study](#) modelling the potential impact in the Netherlands of alcohol eHealth interventions such as DrinkTest. Moreover, DrinkTest's impact was consistent across different types of heavy drinkers, again a finding which replicates that for [another Dutch on-line alcohol intervention](#).

Of note is that even in the control condition many participants curbed their drinking. High levels of motivation among those who agreed to participate seems an unlikely explanation as they thought they were engaging in a lifestyle education study, not one specifically to do with drinking. Perhaps repeated questions about drinking at different time points had an impact. If so, the on-line intervention still exerted an extra impact.

While effectiveness has been demonstrated in 'laboratory' conditions, it remains to be seen whether these results hold up when the intervention is (as normally it would be) engaged in at home, where web site users might not complete it or pay as much attention to its advice. A hopeful sign is that a [synthesis](#) of similar studies did not find on-line alcohol interventions any less effective when undertaken at home as opposed to other locations. Moreover, any such effect could be expected to also increase the impact of reading the brochure.

 A rigorous analysis with little loss to follow-up gives confidence that the outcomes represent a valid extra impact on the participants recruited to the study of the on-line intervention relative to reading a brochure, in the context of a study which virtually ensured full attention to both. The main questions (▶ below) are over whether this impact would be replicated among the general run of heavy drinkers accessing the service in the normal way at home.

As acknowledged by the researchers, the home environment differs from the soundproofed-room research setting where participants sat with no distractions and only one task before them – to complete the on-line intervention or read the brochure, paying attention in expectation that their views would be sought as part of the study they had committed to. It is reasonable, as the authors point out, to suggest that if this magnified the impact of the interventions, it would have done so for both, yet still the on-line process led to greater drinking reductions. But it is also the case that if the on-line process had an advantage, this would itself probably have

been magnified. Already in the study the advantage is quite small and possibly fleeting. In normal circumstances, it might be still less convincing.

A second concern is that a direct approach to 9000 people plus national newspaper ads netted just 413 who completed the one-month follow-up. Moreover, presumably they joined the study not because they were concerned or curious about their drinking – why people might visit the DrinkTest site or read a brochure – but because they wanted to help with a lifestyle education study. Whether how they reacted to the interventions represents how the general heavy-drinking adult Dutch population would react is an open question. It is, of course, entirely open in respect of women. They reacted well to the previous version of the on-line intervention, but it cannot be presumed they will still react well to the new male-adjusted version; if men reacted differently to the two versions, so too may women.

None of this is to seriously cast doubt on the validity of the impacts on the people who did participate in the study, or to deny the probability that others interested enough to access the intervention would respond similarly. However, it could be that rather than a resource accessed widely enough to have an impact on public health across a country, internet-based alcohol applications become one more niche option attracting and/or having a beneficial impact on a rather different population to conventional care.

Some of the limitations of the featured study broadly applied also to the [evaluation](#) of a Canadian version of a very similar 10-minute web-based intervention. The main exception was that this did test the intervention in the conditions in which it would normally be used: without face-to-face guidance and in the user's own home, or wherever else they chose. This too found initially promising results, but by 12 months later drinkers allocated to the intervention were drinking the same amount as those who had not been, and the significant extra drinking reductions seen earlier had disappeared. As well as confirming the fleeting nature of these reductions, that study offered an alternative explanation for the early findings: that intervention participants, having been alerted and sensitised to their excessive drinking, then under-reported it, creating the illusion that they had but back more than the control group.

The featured intervention was among those whose impacts were [simulated for the Netherlands](#), the results of which suggested that national health would improve and/or intervention costs be reduced if on-line brief interventions and therapy were added to or replaced conventional alcohol-related health care. The other interventions were:

- [DrinkingLess](#), an on-line four-step cognitive behavioural intervention involving exploring one's alcohol use, setting goals, changing behaviour, and maintenance of behaviour change;
- [OnlineTreatment](#), an on-line therapist-led treatment for problem drinking; communication between participant and therapist is conducted over the internet in seven chat sessions of 45 minutes each covering setting goals, self-control techniques, monitoring, recognising relapse-precipitating situations, and relapse prevention techniques.

Since these three eHealth interventions increase in intensity, it was suggested that they could be used in a stepped-care framework, starting with the least intensive intervention, the DrinkTest, and if needed moving up to the more intensive levels of DrinkingLess and OnlineTreatment.

See other Findings analyses for a review of computer-delivered self-help interventions [for drinking and smoking](#) and a review [focused on drinking](#). Both analyses include further commentary on the role of computer delivery and on UK findings.

Thanks for their comments on this entry in draft to John Cunningham of the Centre for Addiction and Mental Health in Toronto in Canada. Commentators bear no responsibility for the text including the interpretations and

any remaining errors.

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