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► [Providing web-based feedback and social norms information to reduce student alcohol intake: a multisite investigation.](#)



Bewick B.M., West R., Gill J. et al. [Request reprint](#)

Journal of Medical Internet Research: 2010, 12(5), e59.

The perennial problem of excessive student drinking may have a modern-day remedy in the form of web-based programs comparing the site visitor with other students. This UK trial is not altogether convincing, but the US evidence is on balance positive.

Summary Internet-based alcohol interventions have built on the established brief interventions evidence base to offer a means of self-identifying problems and addressing them, particularly for drinkers who have not sought traditional sources of help and value confidentiality. However, all the trials identified in a recent [Cochrane review](#) of studies involving college students were carried out at single educational institutions, and European trials are relatively rare. The featured study conducted in the UK aimed to add to the European evidence base and test whether an intervention developed at one educational institution can remain effective at other institutions.

A recent [trial](#) from the same research team had suggested that web-based interventions for UK students can reduce the average amount each student drinks at one sitting. In this trial the intervention incorporated brief personalised feedback on the site user's drinking as it relates to those of students in general. A second and larger trial replicated these findings and showed the reduction to be maintained at the four-month follow-up. Both drew their samples from the same single institution. The current trial tested whether this intervention remained effective at three other UK universities in England and one in Scotland, representing the first evaluation of an electronic web-based feedback and social norms alcohol intervention to include students from multiple universities from outside of North America.

The intervention

The intervention tested in the study was offering access to the [Unitcheck](#) web site, which provides users with personalised feedback on their drinking as it relates to those of

students in general – so called 'social norms' or 'normative' feedback. Feedback was available every time participants visited the web site and completed the online survey. It covered the number of alcohol **units** they consumed a week, associated health risks, and whether the user should cut down or stay as they are to drink within current **sensible levels**. Students who drank at least twice as much as these levels were told how many times a week they exceeded the guidelines, and it was suggested that they may want to reduce their per occasion consumption. Site users were also told what proportion of UK university students drink less than they do and the negative effects reported by those who consumed within the same risk band. Also on offer was standard information on calculating units drunk, health risks of heavy drinking, UK sensible drinking guidelines, tips for sensible drinking and contact details of local and national support services.

The study

At the four universities, 2005 students who drank (if only once in the past six months) and gave initial details of their consumption registered interest in the study via various adverts and notices and were allocated at random to the intervention or to an assessment-only **control** group. Of these, 1112 (54%) agreed to join the study and completed an initial assessment. Nearly three quarters were women and over 8 in 10 came from two of the four universities. On average they drank 23 units a week and according to their **AUDIT survey** scores, the drinking of 57% was potentially hazardous or harmful.

After their initial assessments, the 1112 participants were asked to complete further on-line assessments of their drinking and other variables in weeks eight, 16 and 24 of the study; respectively, 62%, 42% and 34% responded. Of the 1112, 354 had been allocated just to complete these assessments. After their initial assessment, another 334 (immediate intervention) were given brief personalised feedback and social norms information via the **Unitcheck** web site, which they could access for another seven weeks. Another 424 (delayed intervention) did not get feedback until completing the eight-week assessment, and then could access the web site for the following eight weeks.

Main findings

The key issue was whether in the weeks following being given feedback students drank less than their counterparts who had not (or not yet) been given feedback; for this analysis it was assumed that non-responders had continued to drink as per their last assessment. The first yardstick was the amount drunk over the past week, the second, amount drunk on average per sitting. Two types of analyses were performed, the first of which found no clear effect of having received feedback.

A second analysis was performed which was better able to compensate for high drop-out from the study and for the fact that proportionately more of the students allocated to the intervention did not complete follow-up assessments. For the first yardstick only, it used the available data to predict how much on average each student would have drunk over the past week if they completed no assessments (about 12 units for women and 16 for men), completed at least two assessments (about 6 units for women and 8 for men), or additionally were assigned to the intervention web site and had received at least initial feedback (about 6 units for women and 8 for men eight weeks later, falling at 24 weeks to about 4 and 5). In this analysis both completing assessments and (at the final

assessment only) having been allocated to the intervention and received at least initial feedback were associated with statistically significant reductions in consumption relative to other students.

The authors' conclusions

Regardless of which university the student attended or when during the college year the intervention was delivered, this study suggests that both undergoing on-line assessments of one's drinking and additionally being given feedback on those assessments reduced average weekly consumption. While these results are in line with other research on similar web-based interventions, they differ from the previous study of the same intervention which found that weekly consumption was unaffected by the intervention but per-sitting intake was. Possibly completing an assessment (or in this study, at least two) led participants to monitor and reflect on their drinking, a process reinforced by a brief personalised intervention based on assessment feedback.

However, it has to be borne in mind that only 26% of participants completed all five assessments, most participants were from a single university, and the study did not feature a long-term follow-up. Also the apparent impact of assessment may instead have been due to students willing to comply with the study by completing assessments also being the ones who tended to cut back more on their drinking.

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A well constructed study and one whose results were analysed using sophisticated techniques, nevertheless the results offer only a weak endorsement of the efficacy of the intervention. On one of the two measures and at one of the three follow-ups, it was associated with a greater reduction in drinking, but this was based on the final follow-up when just a third of students responded. Attempts to compensate for this degree of loss to follow-up by estimating unknown data from known rest on too many assumptions to be convincing. The analysis which threw up the statistically significant finding was not performed in the earlier study which found per-sitting drinking reduced but not overall consumption, raising the issue of whether the findings depend on the analytic method rather than being robust enough to emerge from any appropriate analysis. Also the randomisation intended to ensure comparable students in each arm of the study was compromised by the fact that nearly half the randomised students had to be excluded from the analysed sample. Further upsetting the balance of the study was the unexplained fact that many more students allocated to the feedback intervention failed to complete assessments than those for whom the assessments were their sole engagement with the study.

The one passage during which loss to follow-up could not have affected the results was that between the screening assessment and the first of the study's main assessments, since only students who completed both were included in the analysis. Between these two – when any intervention had yet to be delivered – weekly consumption fell among the intervention groups by on average 8 units. From then on it fell by only another 2 units. These raw results suggest that the main and most reliable impact on drinking was associated with being asked about one's drinking for the first time and/or was a consequent on having joined the study.

When [reviewers recently analysed](#) studies of computer-based alcohol interventions they found them modestly effective at reducing drinking compared to assessment only or a

'placebo' intervention not intended to affect drinking, and equivalent to non-computer based interventions. Narrowing in on the type of intervention (normative feedback) and the type of population (college students) involved the featured study, [another review](#) concluded that across the five relevant studies, computer-based feedback was more effective than a comparator typically consisting of an alcohol advice leaflet.

Apart from the impact on the individuals, the ambition for web-based interventions is that their low cost and potential reach will enable them to make an impact at the level of an entire population. 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](#).

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