

DRUG & ALCOHOL FINDINGS *Research analysis*

This entry is our analysis of a study considered particularly relevant to improving outcomes from drug or alcohol interventions in the UK. The original study was not published by Findings; click [Title](#) to order a copy. Free reprints may be available from the authors – click [prepared e-mail](#). Links in [blue](#). Hover over [orange](#) text for notes. Clicking [underlined](#) text highlights passage referred to. The Summary conveys the findings and views expressed in the study. Below is a commentary from Drug and Alcohol Findings.

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▶ [A multisite randomized controlled trial of brief intervention to reduce drinking in the trauma care setting: how brief is brief?](#)

Field C., Walters S., Marti C.N. et al.
Annals of Surgery: 2014, 259(5), p. 873–880.



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US trauma centres dealing with serious and often alcohol-related injuries ought to offer an environment conducive to brief alcohol interventions, but this first multi-site trial found motivational counselling more effective than minimal advice only when combined with a follow-up 'booster' phone call.

SUMMARY US trauma centres offering comprehensive regional emergency services ('level I') are required to provide brief interventions to injured risky drinkers, but exactly what these interventions should consist of remains unclear. The featured study aimed to clarify this issue by comparing the effectiveness of three kinds of brief interventions across several centres to test whether findings apply to different systems and caseloads.

During just over three years from October 2007, recent and/or risky drinkers among [injured](#) adult patients were recruited to the study at three urban US level I trauma centres. Research and trauma centre staff identified patients with positive blood alcohol tests or who had drunk in the six hours before their injury, and used the [three questions](#) of the [AUDIT-C](#) questionnaire to identify risky drinkers. Eligible patients who met any of these criteria were to be asked to join the study. Of 5895 patients who might have been screened for the study, 4727 were; of these, 1335 met at least one of the criteria for recent or risky drinking. Less than half these patients – 596 – were randomly allocated to the three interventions; most of the rest refused to join the study.

Typically they were white unmarried men without advanced educational qualifications. In the three months leading up to emergency admission they had averaged about 9 US drinks per week or around 126g alcohol or 16 UK units, and drank [heavily](#) on between 1 day in 5 and 1 in 4. At their peak they had drunk around 18 UK units at a sitting. More typically, on average on each drinking day they consumed about 10 UK units.

All the patients in the study received alcohol handouts including strategies for cutting down and information on sources of help. In addition, they were randomly allocated to:

- **minimal advice:** on average about five minutes of face-to-face feedback on screening results, recommendations to quit or cut down, and information on hospital and community services;
- **single-session motivational intervention:** on average about 23 minutes of counselling based on the empathic and client-centre style of [motivational interviewing](#), which also included feedback on screening results;
- **boosted motivational intervention:** as above, but followed a month later by an average 28-minute 'booster' phone call. During this the counsellor who conducted the initial intervention compared the patient's drinking to sex-specific national norms and summarised their alcohol-related risks and adverse consequences as reported by the patient during their baseline research interview. In advance the patient had been sent a feedback report to have in front of them during the call. After feedback, the counsellor tried to elicit statements from the patient indicative of motivation and ability to change, and reinforced any positive progress. They ended by asking about the patient's plans and summarising the session.

Counsellors were social workers or graduate students in helping professions who had demonstrated their competency in motivational interviewing after three days of training. Experts from the research team provided both training and weekly supervision.

To test the impact of the interventions, patients were re-assessed by research staff three, six and 12 months later. Of the 596 who started the study, 445 completed the final follow-up, a third of the risky drinkers identified through screening.

Main findings

The general picture was that regardless of intervention, there were on average significant overall reductions in drinking three months later which then non-significantly bounced back, but not to pre-

Key points
From summary and commentary

Compared to emergency units, US trauma centres dealing with serious and often alcohol-related injuries are thought to offer a conducive environment for briefly counselling patients about their drinking.

This major US study tested whether in this environment a brief intervention based on motivational interviewing (with or without a 'booster' phone call a month later) would be more effective than minimal advice.

Without the booster there was little evidence of extra impact, but with it there were significant reductions in drinking but not in related problems.

Extra benefits were relatively small and generally did not persist to the final 12-month follow-up. It remains unclear whether doing more than the minimum is sufficiently well supported to justify extra cost.

reductions in drinking three months later which then non-significantly bounced back, but not to pre-intervention levels. Relative to minimal advice, reductions were fairly consistently greater among patients allocated to the boosted motivational intervention, but effects were small compared to overall reductions. Details follow.

Drinking over the past three months was assessed at baseline and then for the entire intervening periods (either three or six months) before or between each follow-up. Measures were:

- **weekly consumption:** average number of standard US drinks containing 14g alcohol consumed per week;
- **heavy drinking days:** proportion of days on which men consumed over 4 standard US drinks or women over 3 in a single drinking episode;
- **peak consumption:** maximum number of standard US drinks consumed in a single drinking episode;
- **average drinking-day consumption:** average number of standard US drinks consumed on days when the patient had drunk any alcohol.

Each motivational intervention had 12 opportunities to prove superior to minimal advice – three follow-ups at each of which four indicators of drinking were recorded. Without boosters, at 10 of these 12 opportunities there was at least some reduction in average drinking levels. However, on just one measure at one follow-up was this sufficiently strong and consistent to meet the study's criterion for a statistically significant result unlikely to have occurred by chance – about **14%** fewer heavy drinking days at the final 12-month follow-up, equivalent to about a day a week.

In contrast, at all 12 opportunities the boosted motivational intervention had been followed by greater drinking reductions than minimal advice, and **seven** of these differences were statistically significant. However, relative reductions were **generally small** and were not consistent across all measures and follow-up points. Relative to minimal advice, on none of the measures was reduced drinking recorded at all three follow-ups. By the final assessment, **only peak consumption** was significantly reduced – by about 2½ UK units.

Experience of alcohol-related problems was re-assessed at the last two follow-ups. Problems were significantly reduced across all patients, but on neither occasion were they reduced significantly more after a motivational intervention than after minimal advice.

Which of the three trauma units patients had been seen at, and whether they had been identified for the study on the basis of having been drinking **shortly** before admission, or by being screened for risky drinking patterns, made no difference to the impacts of the interventions. Just over half the patients scored as at least moderately severe drinkers at the start of the study. Among these, on average patients with the more severe drinking patterns responded best to the motivational interventions, making **greater reductions** in drinking relative to minimal advice.

The authors' conclusions

This study suggests that rather than simple advice/information and single-session interventions, brief interventions in trauma centres should feature motivational interviewing plus a telephone booster based on feedback on the patient's assessment results. Provision of these services should not be limited to patients who had been drinking at the time of the injury or with less severe drinking problems: injured patients with a recent history of heavy drinking, or with more severe alcohol problems, also benefited from the boosted intervention. These results were achieved despite the fact that the minimal-advice option bettered by the boosted motivational intervention was itself a viable intervention, the minimum recommended for US trauma centres.

Importantly, the impacts of the interventions did not significantly differ between the three centres, despite substantial differences in the types of patients they recruited. The implication is that, when adequately standardised through rigorous training and supervision, brief motivational interventions can have robust effects across a range of patient populations. The study was one of the few such trials to include participants with more severe alcohol problems probably amounting to dependence, a feature which perhaps partly accounted for impacts on drinking not seen in some other trials.

Substantial reductions in drinking and related problems seen across all three sets of patients suggest that trauma centre admission may significantly influence subsequent drinking, and constitutes a window of opportunity to successfully engage at-risk drinkers whether or not they were drinking at the time, and even if their drink problems are severe.

Among the limitations which might affect the generalisability of the results to all adult trauma patients are that many injured patients did not meet criteria for joining the study, and many who met these criteria refused to join.

FINDINGS COMMENTARY Unlike the fleeting contacts typical in emergency departments dealing mainly with minor conditions, US trauma centre patients have suffered life-changing events and injuries often associated with drinking. Typically they are admitted for several days to the centre, which organises ongoing care. More so than in an emergency department, the situation might in any event prompt a rethink about drinking, and **offers opportunities** for effective alcohol interventions and for building therapeutic relationships with staff which may affect drinking. These influences seemed evident in the plummeting consumption of all three sets of patients in the three months after admission – from drinking around 18 UK units a week to around 5 – and in their much greater restraint when they did drink, peaking at around 7 UK units at a sitting compared to nearly 18 before admission.

Despite the relatively conducive setting and some positive findings, the study's results do not offer a consistent vindication of doing more than minimal advice ► details **below**. A well crafted, single-session motivational intervention from relatively intensively trained and supervised counsellors essentially made no significant difference to drinking or related problems. Extra drinking reductions due to the boosted intervention were minor compared to the overall reductions and generally not significantly present at the final follow-up, and there were no indications that they fed through to affect related problems. The gains the study did find resulted from an intervention unlikely to be matched in normal practice, perhaps representing the maximum to be expected in ideal circumstances, and can only be assumed to apply to the minority of injured drinkers who completed the study.

Though the authors saw their results as supporting the most extended intervention they tested, they may also be seen (like the English SIPS **emergency department trial**) as supporting the least extended, least expensive and least sophisticated of the interventions. Since un-boosted motivational counselling improved little if at all on minimal advice, it seems possible that had minimal advice also been boosted a

improved little if at all on minimal advice, it seems possible that had minimal advice also been boosted a month later, it would have proved just as effective as the boosted motivational intervention.

More about the featured study

Compared to the apparent impact of injury, trauma centre admission and brief advice (and even without advice, drinking reductions among such patients **can be** substantial), the motivational interventions added little extra value and this generally did not persist to the final 12-month follow-up. By then, there was just one measure on which drinking had been reduced significantly more by the boosted intervention than by minimal advice, though this was (for injury prevention) the important one of maximum drinks at one sitting, a major determinant of how incapacitated a drinker will become. However, had the criterion for statistical significance been adjusted to account for the **multiple outcomes** tested in the study, it is unclear whether this and some other results would have remained significant.

The **pre-specified** primary outcomes to be assessed by the trial were drinking, alcohol-related problems, and incidence of new injuries. Only in respect of the first were the expected extra impacts of the motivational interventions found, and only with any consistency when these were followed by a booster call. Alcohol-related problems were unaffected and injuries **were not reported** in the featured article, but since they formed part of the problem score, seem likely also to have been unaffected.

Though this is presumed, nowhere did the featured report explicitly test whether the boosters added significantly to the impacts of the motivational intervention without boosters. Finding the boosted intervention more often preferable to minimal advice is **not enough** to conclude it was also significantly superior to the non-boosted intervention.

As might be expected from an exclusively injury-based caseload, when they drank patients in the study seem to have drunk heavily, but on average their daily consumption was below UK safer drinking limits. This makes the study most relevant to intervening with young male 'binge' drinkers. Just a third of the drinkers identified through screening were re-assessed at the final follow-up, leaving it unclear how most patients who might have benefited from brief intervention would have reacted.

Apart from the booster phone call from the same counsellor – not a usual feature in emergency or trauma unit interventions – the boosted intervention departed from normal practice in its use of data from baseline research interviews to provide feedback during the call. Both motivational interventions were conducted by personnel dedicated to the intervention rather than the trauma units' medical staff. Counsellors had been expertly trained, achieved competence, and were regularly supervised in respect of their brief intervention work, probably reaching and maintaining quality levels rarely attained in normal practice.

Related studies

Booster calls – at least those not from the original counsellor – **do not necessarily** reinforce drinking reductions following brief interventions in emergency departments. Extra reductions were also absent in a **US trauma unit study**, though in this study the boosted intervention did reduce drink-related problems, including injuries. But like the featured study, this earlier study conducted no direct test of whether adding a booster improved outcomes relative to the initial motivational session alone. Also like the featured study, it found the interventions worked no better when patients had been drinking at the time of the injury than when they had not.

Arguably the most convincing study to find drinking reductions from a practically feasible intervention among injured patients was a **UK study** conducted in Cardiff in circumstances similar to that of a trauma unit – a jaw and face clinic to which patients had been referred from a local emergency department. The distinctive set of patients were mainly young men facially injured in assaults. The study seems to suggest that when the setting is relatively conducive (a clinic insulated from the disruptions of an emergency service and whose patients attend for lengthy periods) and the patients relatively receptive (recently reminded that drinking can result in serious injury, but not distracted by the immediate aftermath of that injury), intervention can not just be effective but also practical, being in this study conducted by the clinic's own nurses while they treated the patient's injuries. It may be relevant that the study did not even offer minimal advice to comparison patients, that all the patients had been drinking heavily immediately before admission, and that it seems very likely that drinking had contributed (and was seen as having done so) to the incident which led to emergency care.

Like the featured study, the major **UK emergency department trial** to date from the SIPS study found no added benefits from adding a motivational intervention to minimal advice. Despite some benefit in the featured trial from adding a booster session, together these trials may be seen as justification for doing just the minimum, though in both cases this also included consenting to join a study, screening, and baseline and follow-up research assessments.

Though the authors of the featured study stress the quality of the intervention as a determinant of desired outcomes, an emergency department **study** of how closely staff implemented the motivational style and techniques of a brief alcohol intervention found no relation to later drinking.

As mentioned **above**, emergency departments seem a less conducive setting for brief interventions than trauma units. Apart from **patchy evidence** of efficacy in conditions approximating normal practice, emergency department alcohol interventions are **difficult to implement** in the department, and appointments made for later intervention are **often not kept**. Together these limitations raise doubts over whether emergency department brief interventions – though they *can* work – **actually will work** in normal practice and be implemented widely enough to appreciably improve public health.

For more on brief interventions and UK policy see this Effectiveness Bank **hot topic**. The US government has provided a **guide** for trauma departments on how to plan, implement and monitor a programme to identify risky drinking among their patients and to offer appropriate advice and referral.

Thanks for their comments on this entry in draft to Dr Cheryl Cherpitel of the Alcohol Research Group at the Public Health Institute in California, USA. Commentators bear no responsibility for the text including the interpretations and any remaining errors.

Last revised 06 October 2015. First uploaded 28 September 2015

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