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▸ The effectiveness of alcohol screening and brief intervention in emergency departments: a multicentre pragmatic cluster randomized controlled trial.

Drummond C., Deluca P., Coulton S. et al.

PLoS ONE: 2014, 9(6), e99463.

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'Do just the minimum' seems the message of the emergency department arm of the largest alcohol screening and brief intervention study yet conducted in Britain; the proportion of risky drinkers fell no less after a brief warning than after more sophisticated and longer interventions.

SUMMARY The £3.2 million SIPS project funded by the UK Department of Health in 2006 implemented three similar trials of alcohol screening and brief interventions in different settings in England. This account focuses on the emergency department trial; companion trials were in GPs' surgeries and probation offices.

First this account describes (▸ below) the common features of the trials, based primarily on formal accounts of their methodology (1 2 3). Then (▸ below) results from emergency departments are described based on the featured report. Additional to these sources, the commentary draws on preliminary findings in factsheets and conference presentations released on the SIPS web site. These were the basis of an initial Effectiveness Bank analysis of the emergency department trial.

Key points

From summary and commentary

The SIPS trials were the largest real-world trials of brief interventions yet conducted in the UK. This account focuses on the emergency department trial.

In all the trials the expected extra impacts of more extensive advice and counselling did not materialise, and especially in the emergency departments, implementation required aid from research staff.

The trials seem to justify merely offering written information and a warning about the patient's risky drinking, but more was or might have been involved.

Common features of the SIPS trials

The project aimed to evaluate the effectiveness and cost effectiveness of different ways to identify risky drinkers through routine screening, followed by different forms of brief advice to prompt them to reduce risk. Another aim was to assess the feasibility of implementing such procedures in typical practice settings.

The three trials were conducted across three English regions. All three involved random allocation of practices, departments or offender managers to different variants of screening and intervention. Staff seeing adult patients or offenders for usual purposes asked them to consent to screening and basic data collection. Those whose screening results indicated risky drinking and who met other criteria were then asked to join the study. This entailed further assessment (including a version of the AUDIT questionnaire to identify the severity of their drinking and related problems) followed by one of the three interventions. Usually these were to delivered by the same staff after training by the study.

To assess changes in drinking and related problems, patients and offenders were re-assessed six and 12 months later. The main yardstick of effectiveness was the proportion who six months later did not score as hazardous (or worse) drinkers on the AUDIT questionnaire, a figure adjusted (among other factors) for any differences in baseline scores. AUDIT scores are based on alcohol consumption and indicators of alcohol-related problems.

Screening methods

Three quick ways to identify hazardous or harmful drinkers were tested for feasibility and accuracy, the latter defined by how well they duplicated corresponding results from the AUDIT screening questionnaire.

▸ Single question: The simplest and quickest method was to ask,"How often do you have eight (or for women, six) or more standard drinks on one occasion?" Monthly or more was considered a positive screen.

▸ Fast Alcohol Screening Test (FAST): As used in the study, this began with the question above and registered a positive screen if the response was weekly or more often. Otherwise three further questions are asked. Scores in response to the four questions are summed to determine whether to proceed with intervention.

▸ Paddington Alcohol Test (PAT): Used only in the emergency department trial, the study's version of these screening questions developed for this setting first asked the clinician whether the patient is a repeat attendee or has any of nine complaints most often found among alcohol-related emergency attendees. If not, the screen is negative and no further action is taken. If yes, the patient themself is asked the single question above (monthly heavy drinking is considered positive) and also whether they feel their attendance is drink-related (if so, the screen is positive). This form of screening is considered 'targeted' because only selected patients are questioned.

The brief interventions

Patients and offenders identified as risky drinkers by these screening methods were all offered

Patients and offenders identified as risky drinkers by these screening methods were all offered feedback/advice of some kind, so the study could not assess whether these options were better than doing nothing, only how their impacts differed. All were given a standard alcohol information and advice booklet, with a sticker giving contact information for local treatment services. This was supplemented by one of three different types and degrees of advice/feedback.

- Brief feedback: At its most basic, the booklet was accompanied only by very brief feedback from the practitioner who did the screening that the results showed the patient or offender was drinking "above safe levels, which may be harmful to you".
- Brief advice: The next level supplemented booklet and feedback with five minutes of advice closely related to the booklet. This was based on a leaflet which the worker left with the drinker after working through it with them according to a set protocol which included comparing their drinking to typical drinking levels across the population. Though not always the case, ideally this would be seamlessly delivered by the person who did the screening and handed over the booklet.
- Brief lifestyle counselling: The longest of the interventions added what was intended to be about 20 minutes of lifestyle counselling to the brief advice described above. This too was based on a leaflet, but practitioners could adapt the intervention to the needs of the drinkers and their willingness to think about changing their drinking. Staff were trained to use techniques from motivational interviewing and health behaviour change counselling to lead the drinker to consider the pros and cons of their drinking and their readiness to cut down, before (if appropriate) formulating a plan for doing so. This counselling was done at an appointment made after the brief advice phase of the intervention.

The emergency department trial

About a third of the yearly 20 million attendances in English emergency departments are related to drinking [and others involve risky drinkers], offering a substantial opportunity to intervene. The study aimed to tested whether trying to seize this opportunity in circumstances which approximated routine practice would have the desired impacts, despite the busy emergency department environment and high staff turnover. It involved randomly assigning three departments to each of the three screening methods, then within these trios randomly allocating each department to follow screening with a different intervention.

Additional to the project's general aims, the trial tested a 'targeted' screening approach (the Paddington Alcohol Test) developed for emergency departments. Another feature was that emergency department clinicians were not intended to deliver the most intensive intervention, brief lifestyle counselling. Instead they were to make an appointment (usually for the next day) for the patient to see an appropriately qualified and specially trained alcohol health worker recruited for the study and based at the department. The five-minute brief advice option might also be delivered by the alcohol health worker or by usual clinical staff after training. The minimal brief feedback option was reserved to usual clinical staff; no alcohol health worker was available in these units.

Main findings

Due to low levels of participation by staff, only three of the nine departments could implement screening and intervention as intended using their own staff. In the remaining six, staff hired by the research project had to help.

The result was that over the period from March 2008 to April 2009, 5899 patients were assessed for the study, of whom 3737 were eligible to participate. Of these, 1491 (4 in 10) screened positive and 1204 agreed to join the study. Typically white men, they averaged about 35 years of age, half were single, and at the start of the study they averaged an AUDIT score of 12–13, a medium severity of drinking problems, though about a quarter scored as high severity. Around 70% were followed up six and 12 months later.

Virtually all positive-screen patients allocated to brief feedback or brief advice received the intended interventions. This was not the case for those allocated to brief lifestyle counselling; though nearly all received the five-minute brief advice and booklet delivered immediately after screening, only half attended an appointment for further counselling.

Despite all screening positive for risky drinking, at the start of the study 22% of the patients scored as non-hazardous drinkers on the AUDIT questionnaire. Among those who could be followed up, six and 12 months later the proportions of non-hazardous drinkers were 34% and 40% respectively. Neither on this measure nor on the other main outcomes (average drinks per day; average AUDIT score; alcohol-related problems; readiness to change drinking pattern; and health-related quality of life) had there been significantly greater changes after one type of intervention than another. The expected extra impacts of more extensive advice and counselling had not materialised. Tested at the six-month follow-up, this was also the case when the analysis was restricted to patients who had actually received their intended interventions, including the counselling.

The authors' conclusions

These findings bolster evidence suggesting the emergency department is a less useful setting for alcohol screening and brief intervention than primary care. This accumulating evidence does not support widespread implementation in emergency departments beyond screening followed by simple clinical feedback and alcohol information.

Such findings might be related to differences between settings. Primary care staff are likely to have more effective and ongoing therapeutic relationships with patients, which may provide a better context for screening and intervention. Primary care also has a more established role in providing preventive interventions on issues such as diet and smoking, which may heighten the legitimacy of alcohol screening and brief intervention for both practitioners and patients. Patients often present to emergency departments in crisis which may be accompanied by distress and/or alcohol intoxication, possibly limiting receptiveness to lifestyle interventions. Also emergency patients may themselves make the connection between their drinking and having to attend the department, without it needing to be pointed out by clinical staff, generating motivation to reduce drinking without the need for and (limiting the potential impact of) alcohol screening and brief intervention.

Due to low staff participation, the study team had to deliver screening and brief intervention in six out of nine departments. Although there is some enthusiasm among staff for alcohol interventions, it will probably be difficult to implement screening and brief intervention in the typical department without

significant external support from specialist alcohol staff. Only 50% of patients referred for counselling

significant external support from specialist alcohol staff. Only 50% of patients referred for counselling actually received it. Though better than in previous trials, this suggests non-attendance at subsequent outpatient appointments may limit the impact of such interventions in typical practice.

As this aimed to be a relatively 'real-world' trial, little attempt was made to monitor how well and how faithfully the interventions were delivered, meaning the lack of difference in outcomes may have been due to unsuccessful implementation. In six out of nine departments the clinical protocols were implemented by study staff rather than the intended emergency department staff. However, these limitations would probably also apply outside a research context, when specialist alcohol health workers may also be required to deliver screening and brief intervention. Without a no-intervention comparison group, it is not possible to attribute the reductions in hazardous and harmful drinking seen in all three conditions to the interventions rather than to reactions to be being assessed, or the statistical phenomenon of a sample selected because they are in some way out of the ordinary (in this case, risky drinkers) tending over time to normalise their behaviour.

FINDINGS COMMENTARY This commentary first offers more information on the emergency department study, before setting it in context by exploring common themes across all three settings. Comments on the trials as a whole and their policy implications are expanded on elsewhere in the analysis of the primary care trial.

The emergency department trial

The trial suggests alcohol screening in emergency departments is unlikely ever to be universally applied. Even with the help of study personnel, on average just 11 or 12 patients per week in each department were approached for screening and trial entry, seemingly a very low number for departments located in some major hospitals. Almost as many patients (1416) were excluded from the trial for reasons which might have ruled out routine screening as were screened and scored as risky drinkers.

In 2015 the UK's Royal College of Emergency Medicine issued a toolkit offering guidance on handling alcohol-related issues in the emergency department including screening and brief intervention. Realistically in light of the SIPS trial, it envisaged screening being undertaken by usual clinical staff, but even the briefest of brief interventions being undertaken by the department's specialist alcohol nurse. Only in their absence would the treating clinician offer what the document termed 'brief advice' rather than a 'brief intervention', which "may be as simplistic as giving the patient an advice leaflet with phone numbers of walk in alcohol community services".

The trial's key finding was that the expected extra impacts of more extended and sophisticated advice and counselling did not materialise. Strikingly, this was the case even when the analysis was restricted to patients motivated enough to attend for follow-up counselling. At the six-month follow-up, a slightly lower proportion of these patients scored as non-hazardous drinkers than those who did attend. Since both figures were adjusted for initial drinking severity, this cannot have been due to attendees being more problematic drinkers at the start of the study – a strong indication that it was not non-attendance which undermined the most extended intervention, but that *even when delivered*, it did not significantly further reduce drinking and related problems.

Though the authors appealed to differences between emergency departments and primary care as one explanation for their findings, in the SIPS primary care trial too there were on drinking outcomes no differences between the three interventions, and the increases in the proportions of patients who scored as non-hazardous drinkers after the interventions were very similar to those in the featured trial. The implication is that it was not the emergency department setting which neutralised the longer interventions, but that in the UK context these simply do not add value to a simple warning.

Additional findings

Additional findings presented at conferences and in factsheets were summarised in the initial Effectiveness Bank analysis of the featured study. These are subject to confirmation in formally published work.

Among these, a conference presentation has documented that though staff were keen, implementation of screening and brief intervention was "limited" in most emergency departments due to workload pressures, lack of time, perceived lack of importance of alcohol in the emergency department, high staff turnover, competing priorities, and feeling forced to take on extra work.

In terms of identifying people who tested positive for hazardous (or worse) drinking on the AUDIT, the single question was best followed by the Fast Alcohol Screening Test and finally the Paddington Alcohol Test. The single question method was significantly better than the Paddington Alcohol Test at identifying people whose AUDIT scores indicated a medium severity of alcohol problems, the range often thought most appropriate for brief interventions. These findings offer no rationale for implementing anything more extensive than one-question screening, even if a positive screen is followed by longer tests to determine severity. Adding weight to this conclusion is that the screening method through which the patient had been identified made no difference to their later drinking.

As well as not being able to separate the interventions in overall effectiveness, it also seems one could not be shown more effective than the others for particularly heavy drinkers. Where there was a clear difference was in costs, reportedly averaging £1.75 for brief feedback, £10.27 for brief advice, and £33.87 for lifestyle counselling. But compared to the minimal intervention, the longest intervention was also followed by greater savings in health care plus criminal justice costs and greater gains in quality-adjusted life years than, so on these yardsticks might yet prove to have gained more per £ spent.

Messages from all three trials

Across the three settings, the general picture from formally published and from preliminary reports is that implementation often required specialist support, there were no great differences between how well the screening methods identified hazardous drinkers, and no significant differences (▸ below) between how well the interventions prompted them to reduce drinking and related problems.

These findings cast doubt over the potential for screening and intervention in these settings to make a significant contribution to public health; numbers reached may simply be too low and effectiveness too uncertain.

While the results seem to argue for offering no more than screening plus a booklet and a few sentences of feedback, they did not prove this is all it takes to get whatever benefits are available. Additionally patients and offenders had for research purposes been quizzed about their drinking and related problems and their readiness to do something about these, possibly thought-provoking interventions in

problems and their readiness to do something about these, possibly thought-provoking interventions in themselves. The one seemingly definite implication about the brief interventions is that *having gone through* such procedures, more extended advice and counselling do not add further value to a minimal warning – but even that is uncertain, since it not known whether brief feedback really was as terse as intended.

For these reasons the message taken from the studies that only the very briefest contact is needed may be misleading. But with no convincing reason to spend more money and time, hard-pressed staff and austerity-hit commissioners will be tempted to do the least seemingly justified by trials on which the government itself said it would base its policy decisions.

Minimal or extended advice – it doesn't matter; each is equally (in?)effective

Across the three settings there was a remarkable uniformity in trends in drinking among the risky drinkers who agreed to join the trials. Compared to pre-intervention figures, six months later the proportions of non-hazardous drinkers had fallen by 11–13%, 12 months later, by 18%. With one minor and possibly chance exception, on this primary yardstick an alcohol advice booklet plus a few sentences of feedback alerting someone to their risky drinking was not improved on by adding more extended and individualised interventions. Intended as a 'control' condition against which scientifically developed and longer interventions could shine, brief feedback, turned out instead to be the best option; subsequent clinical gains were just as great but it cost the least in money and time.

For the authors it suggested that "beyond the provision of simple clinical feedback and an alcohol information leaflet, more intensive interventions do not add significant clinical benefit." Setting the seal on this conclusion was the fact that in all three settings, even when the analysis was confined to people who had actually received their alloted intervention, still the extra 20 minutes of counselling made no significant difference to the proportions of risky drinkers. In these analyses, not only did counselling have the intended advantage of time and its supposed active ingredients, but also the presumed advantage of being applied to self-selected patients/offenders concerned enough to return for counselling, while the other two interventions were delivered to nearly all intended recipients.

As the researchers have acknowledged, this does not necessarily mean the interventions were equally effective; they may have been equally *in*effective. Without a no-intervention comparator, there is no way of knowing whether the interventions played any hand in the outcomes. Even before the interventions, 28% of emergency patients, 38% in primary care, and 57% of offenders in the probation study, said they were trying to reduce their drinking or had decided to do so. Reinforcing doubts over the impact of the interventions is the general finding (1 2) that many control groups in alcohol brief intervention studies who received no or minimal intervention on average reduced their drinking by amounts equal to or greater than AUDIT score reductions in the SIPS trials.

Set against this is the overall positive record of brief interventions in previous primary care trials. However, this record left considerable doubt over whether such reductions (internationally and in Britain in particular) would survive once intervention was 'scaled up' to practices in general, and applied by the general run of doctors to the general run of patients.

Cost may be decisive

Some data on costs and benefits can be found in preliminary reports, subject to confirmation when these results are formally published. Even if equally effective, it seems the interventions differed greatly in cost, likely to be a persuasive factor given equivocal or no evidence that spending more gained more. Not only did the briefest intervention directly cost least, but on the health service's primary yardstick – quality-adjusted life years – in both probation and primary care, it gained most years for each £ of social costs incurred by the drinkers. Only in emergency departments did the longest intervention have the edge, but this was minimal, and may have been partly due to these patients starting the study with the lowest quality of life of the three intervention groups and catching up somewhat in a natural levelling process.

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