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**► A randomized controlled trial of a brief intervention for illicit drugs linked to the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) in clients recruited from primary health-care settings in four countries.**

**Humeniuk R., Ali R., Babor T. et al.**

**Addiction: 2012, 107(5), p. 957–966.**

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*Orchestrated by WHO, across all four countries this rare attempt at screening and brief intervention for problems arising from illegal drug use identified at front-line health care centres found modest reductions in use/risks, but there was a puzzling opposition between particularly positive results from Australia and seemingly negative ones from the USA.*

**Summary** Results of the featured study are also available in a research report [previously analysed](#) by Findings. Both this and the featured journal article are drawn on in the following account.

There is good evidence that brief interventions (usually one or two face-to-face counselling sessions) can reduce tobacco and alcohol use identified by screening tests in primary health care settings, particularly when they capitalise on the results of the test. However, there is only suggestive evidence of similar effects in respect of illicit drug use, only recently has a culturally neutral screening questionnaire for all psychoactive substances, including illicit drugs, been available for use in primary care, and most studies were conducted in the USA, UK or Australia, limiting the international generalisability of the findings.

To address these gaps the World Health Organization (WHO) developed the [Alcohol, Smoking and Substance Involvement Screening Test](#) (ASSIST). Through a series of interview questions it screens for problem or risky use of tobacco, alcohol, cannabis, cocaine, amphetamine-type stimulants, sedatives, hallucinogens, inhalants, opioids like heroin, and "other drugs". It first asks whether the patient has ever used these substances, then for those they have, how often in the past three months. Further questions in relation to each used substance ask about adverse consequences, urges to use, whether the individual has tried but failed to cut down, and whether others have shown concern over their substance use. Finally the patient is asked if they have injected drugs, if so when, and if recently, how often.

A risk score is calculated for each substance and categorised as low, moderate (harmful but not dependent use) or high (actually or probably dependent), in turn indicating whether no intervention is needed, a brief intervention to encourage the patient to cut back, or a brief intervention encouraging them to seek further and/or specialised treatment. ASSIST was primarily intended to identify patients at moderate risk who may otherwise go undetected and deteriorate.

To test this strategy, in 2003 to 2006, 845 potentially suitable patients were assessed by researchers and/or clinicians at health centres and other front-line [medical care settings](#) in Australia, India, the United States and Brazil. After completing the ASSIST interview, 731 adults were found to meet the study's criteria and agreed to join the study; another 51 refused. To join they had to have scored as at moderate risk due to their use of either cannabis, cocaine, amphetamine-type stimulants, or opioids, but not at [high risk](#) from any substance except tobacco. Two thirds of study participants were men and 72% were employed. They averaged about 31 years of age.

Following assessment patients were randomly allocated to wait for three months before intervention (the [control](#) group), or to participate (they all did) in a single brief advice session offered by the same clinician/researcher who had conducted the assessment, focused on the drug which posed the greatest risk to the patient and/or over which they were most concerned. In a motivational interviewing style, during this session patients were offered written feedback on their ASSIST scores and the implications (eg, health risks) were explored. They left with a self-help guide on reducing substance use. On average ASSIST screening took eight minutes and the brief intervention 14 minutes.

86% of the patients were followed up about three months later when the ASSIST test was re-applied. At issue was whether the risk scores of those who participated in the brief intervention three months before had decreased relative to the control group. How they might have scored at the follow-up was estimated for the patients who could not be re-assessed.

### Main findings

In general across all countries and in each separately, the brief intervention resulted in greater risk reduction, particularly in respect of the substance on which the intervention had focused.

Total ASSIST risk scores for substances other than alcohol and tobacco fell for both sets of patients, but significantly more so for patients who had been allocated to the brief intervention. Their scores fell from an average 36 to just under 30, while those of the control group fell from 36 to 32. In % terms this meant a fall of 18% compared to 11%. This global picture was replicated in each of the countries (most sharply in Australia) except the USA, where control patients actually reduced their risk more than brief intervention patients, though not to a statistically significant degree. Patients who scored in the upper half of the moderate risk range reacted about as well to the intervention as those who scored lower; when the sample was divided in this way, neither intervention effect was statistically significant, though both neared this criterion.

For just over half the patients their main problem substance was cannabis, and this was the focus of the brief intervention for those allocated to this procedure. Among these patients, risk reduction in relation to the targeted drug (cannabis) was significantly greater among patients allocated to the brief intervention. In each country too risk reduction was greater among intervention patients, except again for the USA, where the order was reversed. Only the results for Brazil and India were statistically significant. For cannabis, only patients at the higher end of the moderate risk spectrum further reduced their ASSIST scores following intervention.

Across all countries, patients whose primary problem substance was a stimulant (cocaine or amphetamine-type drugs) also reduced their risk related to these substances more if they had been through the brief intervention. None were recruited in India and the country-specific statistically significant results were from Brazil and Australia. In respect of these drugs, only patients at the lower end of the moderate risk spectrum further reduced their ASSIST scores following intervention.

Only in India were there appreciable patients whose main problem substances were opioids. Opioid-related risk reduction was significantly greater among brief intervention patients than among control patients.

Finally the analysts explored whether there was any evidence that while on average patients reduced their cannabis use in response to the cannabis-specific brief intervention, they 'compensated' by increasing use of other substances. No statistically significant effects on other substances were found, and there was actually some reduction in risk related to drinking. Similarly, when the intervention targeted substances other than cannabis, cannabis use was unaffected.

## The authors' conclusions

This study has shown that a brief intervention lasting on average a quarter of an hour and linked to the results of the ASSIST screening test reduced illicit substance use and associated risk significantly among non-dependent patients identified across a range of countries in different types of front-line health care settings. Risk related to the target drug was reduced without patients 'compensating' by increasing their risky use of other substances. Except for the USA, the pattern of extra risk reduction after brief intervention was maintained in each of the four countries. It was also apparent in patients with both a moderately high and a moderately low risk.

In both developing and developed countries, there is a compelling need for a comprehensive approach capable of addressing use of a range of illicit drugs and of tobacco and alcohol in primary care settings. The findings from this project indicate that the ASSIST screening test and linked brief intervention can at least partly meet this need, promising to help reduce the burden of disease associated with substance use and substance use disorders.

Why results differed in the USA is unclear. Possibly the relatively lengthy (10–15 minutes) interview required to establish the patient's consent to join the study 'overwhelmed' the intervention. Possibly too the patients, around 30% of whom had been treated for drug or alcohol problems, were less responsive to a brief intervention. The authors also point out that screening and intervention was generally conducted by specially trained clinical research staff rather than the centres' usual staff, and that these same staff also generally conducted initial and follow-up assessments, raising the possibility of bias.

**FINDINGS** The **puzzling divide** between the prominence of research on brief interventions for drinkers, and the lack of similar investigations among users of other drugs, makes this rare large-scale study particularly welcome. Especially in the Australian (so perhaps too in the UK) context, it holds out the prospect that this divide is not due to differing efficacy, but a prospect clouded by questions over real-world applicability and impacts on health.

Though the study recorded statistically significant reductions in drug use severity after research procedures and screening, and significant extra reductions from the intervention, questions have **been raised** about the *clinical* significance of the findings. After the entire package overall illicit drug use risk fell by 6.6 points on a scale whose maximum was 336, only 2.6 points greater than the decline in the control group. Similarly for cannabis, on a scale reaching 39 the overall reduction was 3.1, just 1.4 greater than in the control group. Among patients whose drug use **may or may not** have put them at risk of health problems, the impact of such small reductions on their future health **is unclear**. The study excluded the highest risk patients most likely to be identified by doctors and of greatest concern, so could say nothing about how well the **recommended** brief intervention plus referral procedure works among these priority patients.

As in some alcohol studies (1 2), a very minimal intervention, such as **handing over the booklets** used in the current study, may have led to as great a reduction in drug use/problems as the motivational-style interview.

The fact that patients usually saw the same person for intervention and follow-up assessment means not only could the assessors know whether the patient had been in the brief intervention group (ie, they were not 'blinded' as recommended in such trials), but also that often they were assessing the results of their own work. No biochemical tests were conducted to objectively test for substance use. This raises the **serious possibility** that both parties had the opportunity and the motivation to amplify the impacts of their interaction. Given the overall small impact of the intervention, this **could account** for an appreciable part of its apparent effectiveness. In the USA about half the participants were instead re-interviewed by a different person, perhaps one reason why their responses did not indicate extra risk reductions from the intervention.

Some of the biggest effects were seen among opioid users in India, where nearly 10 points were sliced from opioid use severity scores (maximum 39) by the whole package, over twice the decline in the control group. Half the patients targeted for their opioid use were daily or near daily users and all but a few were recruited in India. Where, as in parts of that country, regular opioid use is normalised among socially included populations with family and work responsibilities, it seems that in certain cultures it is susceptible to even quite brief intervention. It seems possible however that participants were motivated to deny continuing drug use (especially in the case of brief intervention patients, to their counsellors), which compared to other countries they **tended to see** as contravening personal and family responsibilities.

As the authors hint, screening of this kind will probably be reserved for medical and other settings likely to attract unusually many illegal drug users. How willing they will be to own up to their use is unclear. In the **validation studies** for the ASSIST screening questionnaire, patients were interviewed by researchers and assured of confidentiality, even in respect of their doctors – important to at least some of the patients. In routine practice these doctors or their colleagues would be the ones asking the screening questions. Another departure from routine practice was that the study largely relied on specially trained clinical research staff rather than the centres' usual staff, meaning the results may not apply where clinical research staff are not available.

Assuming the results do translate to everyday practice, there remains the issue of which type of practice. Among the settings were sexually transmitted disease clinics, a health centre associated with a drug treatment programme, a dental clinic primarily seeing poor patients in an emergency, as well as primary health and community health clinics. At best pooling these results reveals the impact of the intervention at settings with the characteristic they shared – being front-line medical services. At worst it jumbles apples with pears, perhaps one reason why there was a highly significant variation in results from different countries.

## Puzzling opposition in results from Australia and USA

British readers may be most interested in the somewhat opposing results from the two westernised developed nations in the study, Australia and the USA. It should be stressed however that results from individual countries are subject to the idiosyncrasies of the study site, population and procedures in that country, variations partly ironed out in the amalgamated results. Results from Australia were particularly promising, but derived from STD clinics rather than generic primary care, and the unexplained variation between these two countries closest to UK conditions makes it impossible to predict what the consequences might be of a similar study in the UK, especially in GP surgeries and emergency departments, where brief intervention work is concentrated. Details below.

In Australia, three quarters of the largely young single population recruited at clinics for sexually transmitted diseases were identified as primarily having problems with what seems to have been mainly **recreational** stimulant use. Despite of all the nations averaging the highest risk score in relation to illegal drug use and the shortest intervention (typically just eight minutes), this country also recorded the strongest intervention effects. Possibly this was a particularly health-conscious population not representative of usual primary care patients in Britain.

The USA was the other westernised developed nation, and here results were at the opposite end of the scale – in the 'wrong' direction for illicit drugs in general and for cannabis and stimulants, in each case nearly to a statistically significant degree. This could simply be chance variation but the consistency of the findings suggests otherwise. If it did reflect a real and counterproductive effect, this pattern does not square with the intervention being overwhelmed by the consent procedure or by the patients' previous experiences of treatment, influences which would have merely nullified the intervention. Adding to the puzzle is that according to their own accounts at the follow-up interviews, the US patients' feelings about the brief intervention do not seem to explain why they failed to react to by reducing their substance use risks. For example, almost 80% who received the brief intervention reported attempting to cut down as a result, similar to other countries.

For more see the **WHO ASSIST web site** where you can download the research report on the featured evaluation, manuals for the screening tool and the brief intervention, and the written self-help guide given to patients in the study.

*Thanks for their comments on this entry in draft to research author Rachel Humeniuk of Drug and Alcohol Services South Australia and to Richard Saitz of the Boston Medical Center in the USA. Commentators bear no responsibility for the text including the interpretations and any remaining errors.*

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[Screening, brief interventions, referral to treatment \(SBIRT\) for illicit drug and alcohol use at multiple healthcare sites: comparison at intake and 6 months later](#) STUDY 2008

[Alcohol screening and brief intervention in emergency departments](#) STUDY 2012

[Alcohol screening and brief intervention in primary health care](#) STUDY 2012

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[Brief intervention for drug-abusing adolescents in a school setting: outcomes and mediating factors](#) STUDY 2012

[Randomized controlled trial of a brief intervention for unhealthy alcohol use in hospitalized Taiwanese men](#) STUDY 2011

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

[The impact of screening, brief intervention and referral for treatment in emergency department patients' alcohol use: a 3-, 6- and 12-month follow-up](#) STUDY 2010

[Routine alcohol screening and brief interventions in general hospital in-patient wards: acceptability and barriers](#) STUDY 2010