

Investing in alcohol treatment

Part one: screening & assessment

Out of **Australia** has come an **impressive** new review of the effectiveness of drug and alcohol treatment. **FINDINGS** gained permission to serialise parts of the alcohol section, starting with how to recognise there is a problem.



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Assessment for alcohol problems can range from brief *screening* interviews to in-depth *assessment* of a broad range of psychosocial functioning. Typically the first are intended to identify candidates for brief or early interventions, the latter to plan and evaluate longer term treatment for patients already identified as in need of help.

Screening

Because excessive alcohol use is so pervasive and creates significant health care and other social costs, it is widely agreed that screening should occur routinely, at least in primary care.¹² Routine screening in settings where excessive drinkers are most likely to be seen paves the way for interventions with the potential to realise significant cost savings and health benefits. The following settings have been highlighted, starting with those likely to have the highest rate of identification of excessive drinkers.

- ▶ In developed countries most of the population consult their GPs at least once a year. GPs are ideally situated to detect drug and alcohol problems and to offer advice and help to at-risk patients, but concerns such as time and patient privacy mean many are reluctant to take on this role.¹³
- ▶ General hospitals should undertake screening for excessive alcohol use and to provide appropriate advice and referral. Accreditation schemes should routinely assess whether such procedures are in place.⁵
- ▶ In workplaces with high rates of drink-

ing, detection and treatment would improve health and safety and should be regarded as a cost-saving exercise by employers.

- ▶ Excessive drinking is likely to have contributed to presenting problems at welfare and general counselling services; routine screening and follow-up should increase the chances of a good outcome overall.

Standard tests

Tests for a condition are evaluated on their ability to discriminate those who have it from those who do not. A test's *sensitivity* is the proportion of subjects *with* the condition who are correctly identified; its *specificity* is the proportion *without* who correctly test negative ▶ **figure**. The 'condition' in question here is not only alcohol dependence; costs to the community from alcoholism are far outweighed by those associated with people neither dependent on nor consuming large amounts of alcohol.⁵ Hence the realisation that screening for hazardous but non-dependent drinking is a legitimate exercise which (if effective interventions follow) could reap considerable benefits.

Standardised screening methods for excessive drinking include clinical examinations, testing for biological signs of heavy drinking, and validated questionnaires.

Standard clinical examinations involve identifying physical symptoms of excessive alcohol use such as dilated blood vessels in the face, bloodshot eyes, and coating of the tongue. While these accurately detect dependence, they are not sufficiently sensitive to hazardous, non-dependent drinking.⁴ The most widely used biological marker for alcohol abuse is serum gamma glutamyltransferase (GGT), a liver enzyme commonly detected in 55–80% of people with alcohol disorders. Detection rates are lower for hazardous non-dependent drinkers.

Research reviews have generally concluded that standard questionnaires most

accurately screen for both hazardous use and dependence.^{4,6} Instruments such as the 24-item *Michigan Alcoholism Screening Test* (MAST),⁷ its short 13-item version, and the four-item CAGE,⁸ are known to validly identify dependence in men, but their abilities to detect dependent and non-dependent hazardous drinking in women and alcohol problems across a broad ethnic mix have yet to be established.⁹ TWEAK is a five-item version of CAGE amended for pregnant women.¹⁰ The *Alcohol Use Disorders Identification Test* (AUDIT) was developed within a WHO brief intervention study in six countries. Comprising only 10 questions, it measures alcohol consumption, drinking behaviour, and related problems during the past year and retains validity in different countries ▶ **illustration on page 7**.

Latest research

- ① A recent account describes AUDIT's development from a 150-item schedule administered to primary health care attenders in Australia, Bulgaria, Kenya, Mexico, Norway and the USA.¹¹ On the basis of a structured interview, the 1888 subjects were classified as *non-drinkers* (under four drinks a year), *drinkers* (at least four drinks a year but never treated for alcohol problems) and *alcoholics* (diagnosed and treated for alcoholism in the past or now seeking treatment). Responses from drinkers were used to select items for AUDIT while the other two groups were used to validate the instrument. Using a cut-off score of 8 (the maximum is 40) to identify hazardous and harmful alcohol use, the resulting instrument was found to have a sensitivity of 0.92 and specificity of 0.94. The authors argued that AUDIT is superior to the alternatives because:
 - it detects people at risk of dependence as well as those already dependent;
 - assessing behaviour over the past year means it is more relevant to *current* drink-

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ing than instruments which refer to behaviour over a lifetime;

- asking about frequencies rather than just permitting yes/no responses means respondents do not have to identify themselves as problem drinkers;
- being short, its purpose can be disguised by placing it within a general clinical survey so that respondents do not feel threatened;
- it has been found valid across several nations and cultures.

2 AUDIT and MAST were among the tests validated on 65 known alcoholics and 187 general medical patients by comparing the results with a diagnostic interview, physical examination and laboratory tests.^{12,13} AUDIT scores correlated significantly with scores on the other tests, with questionnaire and physical measures of recent heavy drinking, with indicators of vulnerability to alcoholism such as sociopathy or alcoholism in the family, and with physical and psychological signs of drinking. Its ability to distinguish between hazardous and non-hazardous drinkers was superior to that of MAST.

3 Using a random sample of 1330 emergency room patients, results from CAGE, the short MAST, AUDIT and TWEAK were compared with scores on the *Composite International Diagnostic Interview* (CIDI)¹⁴ to assess their performance in identifying harmful drinking and dependence.⁹ CIDI is a standardised interview administered by trained personnel to assess alcohol and related disorders. Adopting standard cut-off points, overall TWEAK and AUDIT performed best, but their relative performance varied across sub-groups, depending on the cut-off scores used. The various assessments were always made in the same order, making the results vulnerable to bias due to this ordering. Asking questions about drinking behaviour before a screening test (as occurred in this study) can reduce the sensitivity of the test.⁹

4 832 US offenders in compulsory treatment after being arrested for alcohol-impaired driving were administered a 112-item computerised questionnaire.¹⁵ Within it

were screening tests including CAGE, AUDIT and the short MAST, plus sociodemographic measures and questions about frequency of substance use. Where the latter were presented was randomly varied, eliminating the possibility that asking such questions before screening would bias the results. However, the order of the other questions was not varied. With only four items, response time was fastest for CAGE, but it was also least reliable. AUDIT and MAST were also more valid indicators of drinking behaviour and only take a minute or two longer. MAST was most sensitive to long-term drinking patterns, while (as intended in its development) AUDIT was most sensitive to recent drinking.

5 AUDIT scores were validated against CIDI scores from 482 primary care patients in Italy.¹⁶ AUDIT performed as well as other instruments such as MAST and CAGE in detecting dependent drinking, and had higher sensitivity and specificity for detecting hazardous, non-dependent drinking. AUDIT's other desirable features were said to be that it is short, easy to administer, and can be applied by health workers with no formal training. A shortened five-item version showed acceptable accuracy and had potential for screening in busy medical practices.

6 AUDIT's was tested in a sample of 1333 US primary care patients randomly selected in such a way as to ensure sufficient numbers of both dependent and non-dependent drinkers who were of African or Mexican descent and/or women.¹⁷ Scores were compared with diagnoses based on the *Alcohol Use Disorders and Associated Disabilities Interview Schedule* (AUDADIS). AUDIT performed at roughly the same high level across all sub-groups. Differences in the proportions identified were due to real differences in the prevalence of alcohol problems in the groups. The researchers argued that cut-off points may need to be varied to optimise use of AUDIT as a screen for a different levels of alcohol use or to reflect varying prevalence levels in different populations.

Methodology and key sources

The approach taken by the original report and by this article is to build on existing reviews of the evidence. For the alcohol chapter two of the most extensive reviews drawn on were:

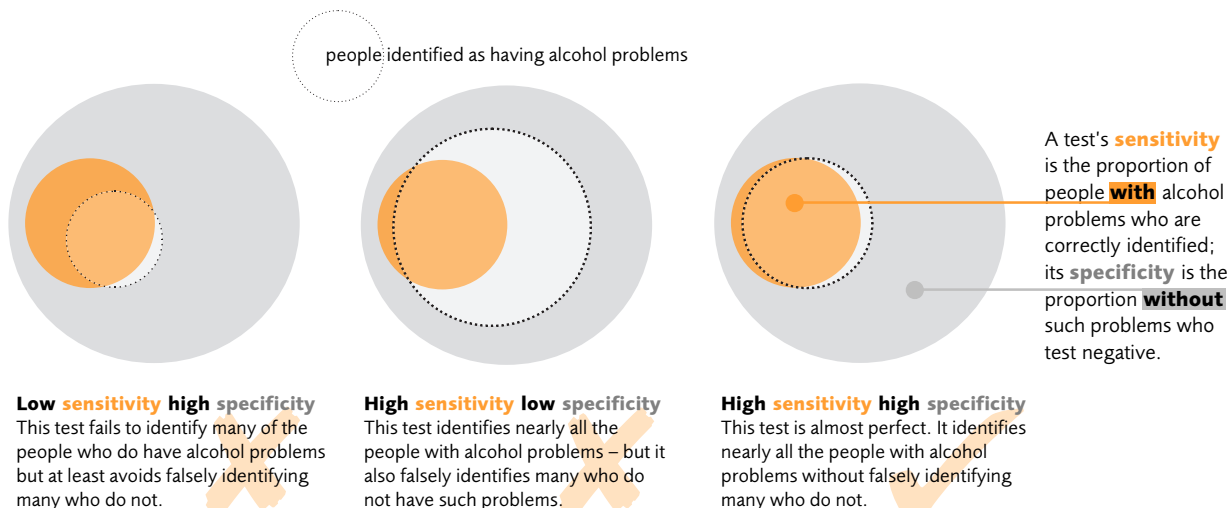
- Heather N., Tebbut J., eds. *An overview of the effectiveness of treatment for drug and alcohol problems*. National Campaign Against Drug Abuse Monograph Series number 11. Australian Government Publishing Service, 1989.
 - Mattick R.P., Jarvis T., eds. *An outline for the management of alcohol dependence and abuse*. Quality Assurance Project. National Drug Strategy Monograph, 1993.
- Conclusions from these and other reviews are first synthesised then, one by one, research reports since 1993 are outlined and assessed.

7 Two random surveys each of 1000 US university students, (both suffered from only a 1 in 2 response rate) compared the ability of CAGE to identify problem drinkers against a measure incorporating self-reports of amount drunk, frequency of drinking and adverse effects.¹⁸ CAGE's validity against this benchmark was generally poor and poorer still for women.

8 Japanese translations of AUDIT and CAGE were tested against an assessment of alcohol abuse derived from a semi-structured interview completed by 93 people attending for health checks in Japan. AUDIT had good sensitivity and specificity for detecting alcoholics and problem drinkers and was superior to CAGE in discriminating between these two groups. Confidence in the results is lessened by the small sample size.¹⁹

9 An investigation of AUDIT's usefulness in a sample of 82 patients dependent on other drugs found it equivalent to MAST in identifying current alcohol dependence, but better at identifying hazardous drinking.²⁰

10 Whilst most reviews and studies cited above judge AUDIT preferable to the alternatives, a recent review noted that the US National Institute of Alcohol Abuse and Al-



The search for a benchmark

To evaluate the validity of any assessment instrument it is essential to have a benchmark accepted as a reliable arbiter of whether the individual really does have the problem being assessed. The degree to which the instrument duplicates the benchmark's assessments is the measure of its validity. These benchmarks take the form of lengthy diagnostic interviews which effectively translate accepted diagnostic criteria into concrete questions or symptoms. Among them are the CIDI,¹⁴ WHO's *Schedules for Assessment in Neuropsychiatry* (SCAN)²⁹ and AUDADIS-ADR, the alcohol/drug-revised version of AUDADIS.³⁰ These in turn have been developed on the basis of criteria for mental disorders specified by the American Psychiatric Association's DSM-IV²⁵ and WHO's *International Classification of Diseases* (ICD-10).³¹ However, a major new WHO study has found all three less good at assessing non-dependent hazardous substance use than dependence.³² Hence the need for caution when interpreting studies which assessed the validity of screening instruments such as AUDIT and CAGE for detecting hazardous alcohol use using CIDI as their benchmark.

coholism has recommended CAGE for routine screening in general practice.⁶ The Institute argued that while, like MAST, CAGE does not distinguish past from current problems, with only four items it is easy to administer. The review also quoted studies in which AUDIT was found only moderately sensitive among US outpatients and one study of college students which found low specificity. This apparent conflict with other evaluations is at least partly due to the review omitting the WHO study¹¹ and others cited above which found AUDIT had broader applicability and greater reliability and validity than MAST or CAGE.

Assessment for treatment

Though brief screening devices are useful in general health care settings, specialised treatment services for alcoholics need more comprehensive assessment procedures. In this context, the assessment interview is seen as serving two functions: to obtain information on client problems as a basis for planning treatment; and to establish rapport between therapist and client. Although the interview procedure should not be rigid, it should be semi-structured, at least in the form of a checklist of important areas to be covered, ensuring the required information is collected without significant digression. The tone should be non-threatening and non-judgmental and the therapist should aim to instill a sense of optimism.⁴

Among the variables considered important to assess is the individual's *motivation for change*. If inadequate, treatment may involve clarifying the benefits of change to prepare the drinker to move forward. Prochaska and DiClemente's stage model of motivation suggests that before successfully overcoming dependence addicts must traverse stages known as precontemplation, contemplation, action and maintenance. The implication is that (if not already there) clients must be progressed to the contemplation stage before attempting to change behaviour.^{21,22}

Gaining a rounded picture of the client's *alcohol use* requires an approach from several

angles. Among them is the client's drinking history and their daily routine, including level of drinking and its antecedents and consequences. Careful probing of drinking pattern including quantity and frequency is needed to distinguish daily from binge drinking. This can be done by asking the client to keep a diary or through a questionnaire. *Other drug use* (including nicotine²³) is best assessed at the same time.

Assessing *level of dependence* permits the setting of realistic treatment goals. Conventionally, seven features are seen as symptomatic of dependence: narrowing of drinking style or repertoire; importance of drinking; awareness of a compulsion to drink; increased tolerance to alcohol; repeated withdrawal symptoms; relief or avoidance of these by further drinking; and return to dependent drinking after abstinence.

Research suggests that while less dependent drinkers may achieve controlled drinking, those severely dependent should aim for abstinence.⁴ Leading protagonists in the 'controlled drinking' debate have recently argued that, irrespective of formal treatment goals or the amount of drinking skills training received by the client, for low dependence drinkers the most likely positive treatment outcome is controlled drinking,

for highly dependent drinkers, abstinence.²⁴ It has also been pointed out that dependence severity may be less important in deciding treatment aims than factors such as lack of social support and a poor vocational history; degree of dependence may itself be a function of these other life circumstances.

Scales to assess level of dependence have generally been based on an attempt to operationalise the criteria in versions DSM-III-R and later DSM-IV²⁵ of the internationally accepted *Diagnostic and Statistical Manual of Mental Disorders* published by the American Psychiatric Association. Such scales include the *Severity of Alcohol Dependence Questionnaire Form C* (SADQ-C),²⁶ the *Severity of Alcohol Dependence Data* (SADD),²⁷ and the *Alcohol Dependence Scale* (ADS).²⁸ While no test or measure should on its own determine the shape of treatment, such measures can serve as useful guides to progress, to the amount of attention the individual may require, and to the length of treatment or its focus.⁴

Physical well-being indicated by liver function, blood pressure, withdrawal symptoms and organic brain damage, should be included in the overall assessment. Results may prove a useful motivator in counselling against continued hazardous drinking. Cognitive dysfunction should also be assessed using neuropsychological tests.

Comorbid psychiatric conditions such as depression influence treatment outcome and may need to be addressed through referral to specialists or as part of the treatment programme; it is important that these are assessed early. Brief psychiatric screening devices such as the *Beck Depression Inventory* (BDI),³³ the *Beck Anxiety Inventory* (BAI)³⁴ and the SCL-90³⁵ can be used as the basis for further assessment. Childhood sexual abuse and sub-clinical emotional problems can be probed through non-threatening discussion, though it may be prudent to wait until the client is settled into the therapeutic relationship before broaching such issues.

Family issues may have an important bearing on treatment compliance and outcome. Such factors as how the individual's drinking affects family relationships, the quality of these relationships, presence of violence and abuse, and the commitment of the family to the drinker's rehabilitation, all bear heavily on outcomes. Interviews with significant family members may help clarify levels of dysfunction, expectations and/or commitment. Other problems (such as at work, in social situations, or financial) should also be assessed.

Latest research

While the appeal of Prochaska and DiClemente's stage model is not in doubt, there is little research indicating that it is clinically useful. Among the criticisms recently voiced are: people who overcome addiction do not always seem to proceed in

Golden Bullets

Essential practice points from this article

- ▶ Routine screening for alcohol abuse in primary care settings could gain considerable health benefits.
- ▶ Standard screening measures such as AUDIT should be used for screening.
- ▶ Assessment for treatment for alcohol dependence should measure: level of drinking; dependence; physical effects of alcohol; and psychiatric comorbidity.
- ▶ Reliable and valid assessment instruments exist and should be used in assessing treatment clients.

OFFCUTS

A summary of available **alcoholism treatment assessment instruments** is one very useful offering at the web site of the US National Institute on Alcohol Abuse and Alcoholism (NIAAA). A **tabular summary** of their applicability for different populations and purposes forms the gateway to more detailed information on each. Also provided is an overview article on the role, uses and methodology of assessment. The information comes from the NIAAA's handbook *Assessing alcohol problems: a guide for clinicians and researchers*, also available through the site. Visit www.niaaa.nih.gov/publications/assinstr.htm.

order through the stages, and are often not aware of passing through earlier stages before being ready for change; outside the USA, there is a singular lack of support for its key variables; it is more logical to think of relapse as a part of the change process, not as a stage; there is little evidence that matching interventions to stages improves outcomes.^{22 36}

② WHO has mounted a major collaborative study involving 12 centres in different countries to assess the reliability and validity of standard interviews to diagnose drug use disorders **► The search for a benchmark.**³² Samples were enriched to ensure adequate numbers using different substances, of women as well as men, and of respondents in and out of treatment. The three instruments tested in the study – SCAN, CIDI and AUDADIS-ADR – reliably diagnosed alcohol and drug dependence and agreement between them indicated that the diagnostic criteria in psychiatric manuals had successfully been translated into practical assessment procedures. Repeated on the same subjects, test results remained largely the same, an important reliability indicator. However, as opposed to dependence, reliability was poor (and sometimes very poor) when the interviews were used to assess harmful use and abuse.

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Table 4 THE AUDIT QUESTIONNAIRE

Circle the number that comes closest to the patient's answer.

1. How often do you have a drink containing alcohol?

(0) NEVER (1) MONTHLY OR LESS (2) TWO TO FOUR TIMES A MONTH (3) TWO TO THREE TIMES A WEEK (4) FOUR OR MORE TIMES A WEEK

2.* How many drinks containing alcohol do you have on a typical day when you are drinking? [CODE NUMBER OF STANDARD DRINKS]

(0) 1 OR 2 (1) 3 OR 4 (2) 5 OR 6 (3) 7 OR 8 (4) 10 OR MORE

3. How often do you have six or more drinks on one occasion?

(0) NEVER (1) LESS THAN MONTHLY (2) MONTHLY (3) WEEKLY (4) DAILY OR ALMOST DAILY

4. How often during the last year have you found that you were not able to stop drinking once you had started?

(0) NEVER (1) LESS THAN MONTHLY (2) MONTHLY (3) WEEKLY (4) DAILY OR ALMOST DAILY

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

(0) NEVER (1) LESS THAN MONTHLY (2) MONTHLY (3) WEEKLY (4) DAILY OR ALMOST DAILY

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

(0) NEVER (1) LESS THAN MONTHLY (2) MONTHLY (3) WEEKLY (4) DAILY OR ALMOST DAILY

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

(0) NEVER (1) LESS THAN MONTHLY (2) MONTHLY (3) WEEKLY (4) DAILY OR ALMOST DAILY

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

(0) NEVER (1) LESS THAN MONTHLY (2) MONTHLY (3) WEEKLY (4) DAILY OR ALMOST DAILY

9. Have you or someone else been injured as a result of your drinking

(0) NO (2) YES, BUT NOT IN THE LAST YEAR (4) YES, DURING THE LAST YEAR

10. Has a relative or friend or doctor or other health worker been concerned about your drinking or suggested you cut down?

(0) NO (2) YES, BUT NOT IN THE LAST YEAR (4) YES, DURING THE LAST YEAR

* In determining the response categories it has been assumed that one "drink" contains 10g alcohol. In countries where the alcohol content of a standard drink differs by more than 25% from 10g, the response category should be modified accordingly. Record sum of individual item scores here _____.

WHO's AUDIT questionnaire is one of the best of the available instruments at identifying hazardous or harmful alcohol use. Unlike most others, it is relevant to current drinking and has been validated across several different nations and cultures. Download from www.who.int/substance_abuse/docs/audit2.pdf