

Research Findings

Effective and Cost-Effective Measures to Reduce Alcohol Misuse in Scotland: A Literature Review

Anne Ludbrook, Christine Godfrey, Laura Wyness, Steve Parrott, Sally Haw, Moira Napper and Edwin van Teijlingen

Health Economics Research Unit
University of York
Health Education Board for Scotland
University of Aberdeen

The SEHD undertook to develop a Plan for Action on alcohol problems during 2001. As part of this exercise, various pieces of research were commissioned on aspects of alcohol problems. This research reviews evidence on the effectiveness and cost-effectiveness of interventions aimed at reducing alcohol misuse and considers the quality of the evidence and improvements required.

Main Findings

- The review found effectiveness evidence to support the use of price increases, via taxation, to control consumption of alcohol by the population as a whole, and brief interventions to reduce the number of problem drinkers. Effective screening tools to detect problem drinkers are available (CAGE and AUDIT). Detoxification services and relapse prevention, through appropriate psychosocial and pharmacological treatments, are effective.
- The cost-effectiveness review found evidence to support the cost-effectiveness of brief interventions, home and outpatient detoxification, outpatient treatment for relapse prevention and the use of Acamprosate as an adjunct treatment in relapse prevention.
- The quality of both the effectiveness reviews and the underlying primary studies is variable. The evidence base of economic studies is weak. Policy evaluation is not of high quality and particularly difficult to relate to the UK.
- There has been considerable activity in Scotland in implementing initiatives to reduce alcohol misuse and its consequences. Only some of these have been evaluated in terms of effectiveness.
- In order to improve the evidence base in the UK, more emphasis needs to be placed on evaluating alcohol initiatives and on modelling UK results based on international studies. Evaluations should be planned at an early stage and better methods of policy evaluation are required.
- There is a need for better co-ordination of research effort, with resources concentrated on fewer larger studies with longer term follow up, and better knowledge management in terms of access to relevant research results. An evaluation culture should be fostered amongst those responsible for delivering services, focussed on outcomes and the monitoring of effectiveness. Guidelines for evaluation should be developed to assist in this process.

Introduction

The Scottish Executive has set targets for reducing alcohol misuse and has established the Scottish Advisory Committee on Alcohol Misuse (SACAM). SACAM's remit is "to advise the Scottish Executive on policy, priorities and strategic planning in relation to tackling alcohol misuse in Scotland". The Scottish Executive and SACAM are working together to develop a Plan for Action on alcohol problems. This report has been commissioned by the Scottish Executive to provide information on the evidence available about the effectiveness and cost-effectiveness of alternative measures to reduce alcohol misuse and, hence, to inform the Plan for Action on alcohol problems.

Methods

Effectiveness Literature

This study presents a review of existing reviews of the effectiveness literature. This reflects the sheer volume of literature available and the short time-scale available for the study. A comprehensive and systematic search of electronic databases has been undertaken to identify all relevant reviews. The quality of the reviews has been assessed using various criteria (e.g. whether a systematic search had been undertaken, whether explicit inclusion and exclusion criteria had been employed and whether the review authors had carried out an assessment of the quality of the studies). The main findings are summarised in seven broad categories of intervention.

Cost –Effectiveness Literature

A search of electronic databases for the period 1990-2001 has been conducted for the review of cost-effectiveness literature. The cost-effectiveness literature is smaller than the effectiveness literature and is of variable quality. All economic evaluations have been included, even if they were incomplete in their coverage of costs or benefits. The studies identified have been quality assessed using a standard checklist. Some modelling of results for the UK has been undertaken, based on data from published studies.

Effectiveness review

Policy and legislative interventions

There is good and consistent evidence that fiscal policy (taxation) is effective in reducing total alcohol consumption, although estimates of the size of the effect are variable. Evidence suggests that the alcohol consumption of the heaviest 10% of drinkers is not responsive to price increases but problem drinkers below this level do respond. The evidence relating to under-age and youth drinking is unclear.

A range of legislation has been enacted in the US to reduce drink driving. Inter-state comparisons and general trends suggest that this legislative action has been successful. As with all studies from other countries, the results may not translate directly to the UK because of differences in culture and attitudes to alcohol and alcohol related problems.

Evidence relating to licensing controls is mixed. Some studies from other countries have suggested that longer licensing hours increase alcohol related problems but UK evidence is unclear. Studies of advertising and alcohol consumption over time have failed to find a significant association, although this may be due to the limited variation in advertising expenditure. There is stronger evidence to support the effect of advertising on children.

Enforcement

The best evidence of effectiveness relates to random breath testing, which has been shown to be effective in both Australia and the US. The evidence relating to the effectiveness of mandatory licence suspension is mixed and ignition interlock devices appear to be effective but only while fitted.

Prevention

Most of the effectiveness evidence relates to school-based interventions and provides relatively weak evidence of effects on improving knowledge rather than behaviour. Characteristics of programmes which appear to contribute to success are interactive delivery, parental or community involvement and peer involvement. Mass media campaigns relating to alcohol, tobacco or illicit drugs show some effects on knowledge and attitudes but little on behaviour.

Screening and detection

For general screening purposes, AUDIT (Alcohol Use Disorders Identification Test) is more effective in detecting at risk, hazardous or harmful drinking whilst CAGE (Cut down Annoyed Guilty Eye-opener) is superior for detecting alcohol abuse and dependency. Other screening tests may be useful with specific population groups. Laboratory tests do not perform well as screening instruments.

Brief interventions

The majority of studies have shown brief interventions to be effective in changing drinking behaviour and reducing alcohol consumption for at least 12 months in patients who are not alcohol dependent. The evidence from these research studies is consistent but there are concerns about generalising these results outwith the research setting.

Detoxification

The literature supports the use of benzodiazepines as the first choice therapy on the basis of safety and effectiveness but the quality of studies is not very high. Outpatient treatment is safe and effective for patients with mild to moderate symptoms. Where inpatient treatment is required, longer stays have not been demonstrated to increase effectiveness.

Relapse prevention

Despite a lack of randomised-controlled trials, psychosocial interventions are considered to be effective. In a large US study, the total percentage achieving abstinence or controlled drinking was 56% to 60% compared with an estimated spontaneous remission rate of 33%. Pharmacological treatments are effective as adjuncts to psychosocial interventions. Both Naltrexone and Acamprosate have been shown to delay a return to drinking.

Cost-effectiveness review

Enforcement

A modelling study of the costs and benefits of random breath testing using US data provides evidence to suggest that this intervention is cost-effective. A cost-benefit study of a training programme in the US for those serving alcohol showed benefits in excess of costs. As with all studies based on US cost data, these results are not directly transferable to a UK setting. Avoided use of health care services forms a large part of the benefits and service usage in the US is likely to be higher in both volume and price.

Prevention

An Australian study of the cost-effectiveness of thiamine-supplementation alternatives in preventing the Wernicke-Korsakoff (WK) syndrome found that the most cost-effective strategy for preventing WK encephalopathy was fortifying full strength beer, rather than wine or bread-making flour. The cost per case averted was AUS\$662 (£235).

Screening and detection

There is little evidence about the cost-effectiveness of screening. A study of alternative staff carrying out screening in a UK general hospital, concluded that a specialist worker was most cost-effective but noted that nurses could be used more flexibly.

Brief interventions

Three economic studies have shown brief interventions to be relatively cost-effective, due to fairly high levels of effectiveness and low costs. Modelling results using UK cost data suggests that the cost per life saved is in the range £1446-£2628 if no savings in resource use are taken into account. If resource savings are considered then the benefits exceed the costs of the intervention.

Detoxification

Economic studies have shown home detoxification and outpatient detoxification to be cost-effective but these were small and rather limited studies.

Relapse prevention

The health care cost savings for psychosocial interventions are dependent upon the key patient characteristics of alcohol dependence, psychiatric severity and the level of network support for drinking. Two studies in Belgium and Germany have modelled the cost-effectiveness of Acamprosate as an adjunct and found a cost saving to the health care provider and a cost saving to society, respectively. Modelling the results using UK data confirms that a resource saving of over £600 per patient will result. Two studies of inpatient versus outpatient care after detoxification found outpatient care to be more cost-effective.

Scottish evaluations

There has been considerable activity in Scotland in implementing initiatives to reduce alcohol misuse and its consequences. Not all have been evaluated in terms of effectiveness or cost-effectiveness. The most useful findings relate to brief interventions by health visitors and home detoxification services. Counselling services are clearly effective but research is required to establish whether the current pattern of provision is more effective than a briefer intervention. The role of complementary therapy requires larger studies to be carried out. A culture of evaluation that is focussed on outcomes needs to be fostered at all levels from policy making to service delivery.

Conclusions

Summary of available evidence

There is a strong and relevant evidence base to show that the use of price increases, via taxation, and brief interventions will reduce the number of problem drinkers, effective screening tools to detect problem drinkers are available (CAGE and AUDIT), and detoxification services and relapse prevention, through appropriate psychosocial and pharmacological treatments, are effective.

The cost-effectiveness review found evidence to support the cost-effectiveness of brief interventions, home and outpatient detoxification, outpatient treatment for relapse prevention, and the use of Acamprostate as an adjunct treatment in relapse prevention.

Quality, coverage and relevance of the evidence

The quality of both the effectiveness reviews and the underlying primary studies is variable. The evidence

base of economic studies is weak. The best evidence of effectiveness, in terms of both quality and coverage, relates to brief interventions and relapse prevention. There are a number of economic studies in these areas, of reasonable quality, but of limited relevance to the UK. Prevention, particularly in schools, has been widely researched but the poor quality of many of the studies means that the evidence base remains weak. Policy evaluation is not of high quality and particularly difficult to relate to the UK.

Lessons about methods of evaluation

In order to improve the evidence base in the UK, more emphasis needs to be placed on evaluating alcohol initiatives and on modelling UK results based on international studies. Evaluations should be planned at an early stage in the development of an initiative to ensure that the data required to conduct a meaningful evaluation are available. Better methods of policy evaluation are required to provide robust evidence where there is no access to random controls and these methods need to be developed and applied in a UK context to provide relevant information.

This Research Findings and Effective and Cost-Effective Measures to Reduce Alcohol Misuse in Scotland: A Literature Review, the research report summarised in this Findings are available from the Scottish Executive website at www.scotland.gov.uk/health/alcoholproblems.

Further copies of the Research Findings may also be obtained from the alcohol action team at the:

Scottish Executive Health Department
St Andrew's House
Regent Road
Edinburgh
EH1 3DG
e-mail alcoholaction@scotland.gsi.gov.uk

If you wish a copy of "Effective and Cost-Effective Measures to Reduce Alcohol Misuse in Scotland: A Literature Review", the report which is summarised in this Research Findings, please send a cheque for £5.00 made payable to The Stationery Office to:

The Stationery Office Bookshop
71 Lothian Road
EDINBURGH
EH3 9AZ
Tel: 0870 606 5566
Fax: 0870 606 5588
<http://www.tsonline.co.uk>
Quote ISBN No: 0 7559 3280 3

This Research Findings was developed for the Plan for Action on alcohol problems and is published alongside a number of other reports. Further information about these is available from the Scottish Executive website or from the alcohol action team at the above address.



SCOTTISH EXECUTIVE

