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By
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and Lawrence Doi

ABSTRACT

Alcohol and crime, especially violent crime, are linked. Many prisoners are incarcerated because of alcohol-related crime. Alcohol is not permitted in prisons except for a very few exceptions, and illicit use of alcohol in prison is not a major problem. Imprisonment does, however, give an opportunity to tackle alcohol problems in prisoners, with the potential for positive effects on their families and friends and a reduction in the risk of re-offending, the costs to society and health inequalities.

Keywords

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Foreword

Since 1995, the WHO Regional Office for Europe has had a special programme on prison health with the aim of integrating the topic into the overall public health agenda. Substance abuse is one of the main problems among prisoners and illicit drugs are frequently used in prisons. Alcohol use, however, is less of a problem, although there is a strong link between alcohol and crime, in particular violent crime. Alcohol does not easily pass through prison walls, but studies show that 18–30% of men and 10–24% of women either abuse alcohol or are dependent on it before they are sent to prison.

Most prisons address the use of and dependence on illicit drugs, but only to a lesser degree the use and abuse of alcohol. The prison setting is an opportunity to detect, intervene or refer for treatment prisoners who have alcohol problems and who are often hard to reach by health services in the community. Prisoners are predominantly young males and many have a problem with binge drinking. Binge drinkers have been found to be more likely to offend.

Prisoners often come from disadvantaged areas and backgrounds where alcohol mortality can be disproportionately high. Tackling alcohol abuse/dependence in prison has the potential to reduce prisoners' alcohol problems, which in turn can have positive effects on their families and friends. It can also reduce the risk of re-offending and the costs to society and tackle health inequalities.

This publication is based on a literature review. It gives information on different initiatives prison authorities can take to focus more closely on prisoners with alcohol problems and thus prevent them from re-offending after release. It is designed primarily for prison staff, policy-makers working with prisoners, and those in the community who are helping prisoners to re-integrate themselves into society after their release.

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Summary

Alcohol problems are best detected through the use of a validated screening tool. There is, however, limited evidence of the effectiveness of screening tools in prison populations, with alcohol problems often subsumed into wider substance misuse and with heterogeneity across studies. Nevertheless, the WHO Alcohol Use Disorders Identification Test (AUDIT) screening tool would appear to be the most promising option in busy settings, given its increasing use in criminal justice settings both for research and practice and its ability to differentiate between different patterns of drinking behaviour.

The evidence base for effective alcohol interventions in prison populations has also been limited. There has been conflation with other substance misuse as well as issues of heterogeneity and the poor quality of studies. An increasing amount of high-quality research has, however, recently been published, particularly relating to women prisoners and young offenders. Overall, the strongest evidence to date is for brief interventions and motivational interviewing relating to alcohol, although the variability in length and content of these interventions across studies makes it difficult to be specific about recommendations for implementation. The essence of a brief intervention is that it is a short, opportunistic intervention delivered in an empathic manner, with motivational elements, by a suitably trained member of staff. This would make brief interventions a suitable option for prisoners who may not have time to access other prison-based alcohol services, either because of the short length of their stays or the nature of their problems. Recent research on brief interventions in other criminal justice settings (such as probation) has shown reductions in alcohol consumption and re-offending. Although there are caveats in generalizing these findings to the overall prisoner population, it does suggest that brief interventions are promising.

The review of the evidence has highlighted the need for more robust studies across the range of potential interventions for alcohol problems in prisoners. There are notable gaps in research concerning the prevention of relapse, “throughcare” and cost–effectiveness. It would also be valuable for research to address associated problems such as violent offending, mental health problems or drug use. The coordination and cooperation of future research in this area on a European basis would be useful and welcome.

Drawing extensively from work in the United Kingdom, particularly in Scotland, an integrated model of care for alcohol problems in prisoners is described together with elements for best practice. The model is built on the principle that health care in prisons should be equivalent to that in the community, and proposes three levels of assessment. Firstly, screening (with AUDIT) followed by triage which helps to direct individuals into the most appropriate tier for intervention. Triage should determine the presence of other co-occurring health or social problems as well as risk, and it can also prioritize those most in need of intervention in the context of high demand. Those who are drinking at hazardous or harmful levels (AUDIT scores of 8–19) would generally be offered one or more tier 1 and 2 interventions, as appropriate. These could include brief interventions and motivational interviewing. Those with AUDIT scores of 20+ have a higher likelihood of alcohol dependence and should undergo a comprehensive assessment. They can then be offered more intense interventions at tiers 3 or 4, such as psychological therapies.

The third, important, level is to assess each person's alcohol problem individually, taking into account the nature of the problem and discussing with the person what his or her treatment goals are as well as identifying the wider health and social needs. It is equally crucial to ensure that there is continuity of treatment in the community for those who have begun treatment in prison, or referral to community-based services for those who have been identified with a problem but for whom there are constraints (such as length of incarceration) on the delivery of interventions.

There are issues to consider in the implementation of an integrated model of care. The model presented in this publication has been designed from Scottish research and is based on a United Kingdom model of care for the community population. There may, therefore, be questions of translatability to address when considering its implementation in other cultural contexts. Adequate resources are needed (such as staff, both for delivery and to enable accessibility) at a time of widespread financial constraint.

Alcohol services have generally been under-resourced both in prisons and in the community, despite overwhelming evidence for their effectiveness. They are one of the recommended areas of effective alcohol policies in the WHO European action plan to reduce the harmful use of alcohol 2012–2020.[1] The prison regime itself can be both a help and a hindrance. The (general) policy in prison of no alcohol enforces an environment of abstinence. It is, however, artificial and does not, for example, enable prisoners to practise their newly acquired knowledge about drinking in moderation or coping skills for preventing relapse. In addition, the production of illicit alcohol can be harmful to health and result in disorder and unrest. While some prisoners may be unwilling to admit that they have an alcohol problem, for others it is a welcome opportunity to do so.

In conclusion, despite the limited evidence base on effective interventions to date, the very high prevalence of alcohol problems in the prison population is in itself an opportunity with the potential to deliver a wide range of positive outcomes in addressing alcohol problems in prisoners.

[1] *European action plan to reduce the harmful use of alcohol 2012–2020*. Copenhagen, WHO Regional Office for Europe, 2012 (http://www.euro.who.int/en/what-we-do/health-topics/disease-prevention/alcohol-use/publications/2012/european-action-plan-to-reduce-the-harmful-use-of-alcohol-20122021, accessed 10 December 2012).

An integrated model of care to tackle alcohol problems among prisoners

This model has been drawn from a *Prison health needs assessment for alcohol problems (1)*, which in turn drew from the *Models of care for alcohol misusers (MOCAM) (2)*.

Equivalence of care

An overarching principle of prison health is that health care in prison should be equivalent to that delivered in the community *(3)*.

Level of screening and assessment

Three levels of assessment should be used, as follows.

Screening

A brief assessment should be carried out to determine whether a person has an alcohol problem, preferably with a validated screening tool. Some screening tools (such as AUDIT) are able to indicate what type of intervention may be appropriate: for example, an AUDIT score of 8–19 can indicate those who might benefit from a brief intervention *(4)*.

Triage

The next step is a fuller assessment of a person's alcohol problems with the aim of determining their seriousness and urgency, including risk factors and the most appropriate type of intervention. It can also indicate the person's motivation for undergoing treatment. The stages of change model proposes that a person will go through four main stages in connection with health-related behaviour change: pre-contemplation (including relapse), contemplation (including determination), action and maintenance *(5)*. Two versions of a readiness to change questionnaire have been developed from the stages of change model. These can help identify the appropriate stages of change for service users and are both widely used *(6)*.

Comprehensive (specialist) assessment

The full risk assessment is targeted at those with more complex needs and those who may require structured alcohol treatment interventions. It is the process that determines the exact nature of the problem, other problems with substance use, co-existing mental and physical health problems, social functioning, offending and legal problems. A comprehensive assessment may need to be carried out by different members of a multidisciplinary team and is best viewed as a continuing process than a single event.

Accessible services

Where screening on admission is not part of routine practice in prisons, referral to alcohol services is often based on a self-referral model. Prisoners may not want to be referred on admission but may ask for it later. Pre-release is often an anxious time. Referral pathways should be clear to both staff and prisoners and take account of the high levels of literacy problems among prisoners.

Drinking goals

Acceptance of an individual's preference regarding his or her drinking goal (abstinence or moderation) is likely to result in a more successful outcome. Raistrick and colleagues *(6)* suggest that the goal of moderation should be reserved for service users with less severe problems, for example those identified as hazardous and harmful drinkers. One advantage of recommending

the goal of drinking in moderation is that it may attract people who may be deterred by a focus on abstinence. Generally, unless moderation is contraindicated due to medical problems related to alcohol dependence or because of circumstances such as pregnancy, specific drinking targets should be negotiated with each individual. The goals of the individual may change during the treatment process.

Goals of treatment

Alcohol interventions should be connected to other areas of a person's life alongside his/her drinking habits when planning and evaluating treatment. Considerations of, for example, physical health, vocational ambitions, social networks and friendships, living arrangements and offending behaviour should be integrated into the treatment plans.

Additional needs

People with alcohol problems may have other complex needs such as mental health and drug use problems. Such co-morbidities are common in prison populations. Many of those with alcohol problems have committed offences linked to violence and, therefore, interventions that tackle alcohol and violence should also be considered.

Differential population needs

Different subgroups within the prisoner population have different characteristics. These differences can be based on factors such as age, gender, ethnic group or religious belief. For example, women offenders often have multiple and complex needs for which services should be tailored *(7)*.

Involvement of service users

Service users should be involved in choosing the form of treatment or intervention they receive for a range of reasons, including improving the prospects of successful outcomes.

Family/care involvement

Family members and close friends of people with drinking problems can be helpful in engaging them in interventions and treatment and bringing about more favourable outcomes. Rather than a focus purely on the individual, his/her social environment (including social networks and families) needs to be considered as an integral part of treatment goals. This links in to paying greater attention to a broader set of positive outcomes from treatment. Natural recovery is a term used to describe recovery that is not dependent on formal treatment input and which is often mediated through mutual aid groups, peer support, family and friendships. While these issues have been considered important aspects of treatment, it is recognized that in the context of people in prison the potential for including such approaches may be limited or unfeasible.

Prevention of relapse

This usually refers to work done with an individual after detoxification or treatment, aimed at preventing a return to harmful drinking. It is a goal of treatment rather than a modality. Prevention of relapse approaches emphasize the ability to recognize risk factors, the development of coping skills and self-efficacy. They augment psychosocial functioning and help with alcohol-specific goals. These approaches are compatible with other interventions such as pharmacological treatment and mutual support programmes. The principles of relapse prevention should be incorporated into all specialist treatments for alcohol problems in a variety of settings.

Brief intervention

WHO developed the Alcohol Use Disorders Identification Test (AUDIT) as a simple method of screening for excessive drinking and to assist in brief interventions *(8)* (Annex 1). It can help in identifying excessive drinking as the cause of the presenting illness. It also provides a framework for intervention to help hazardous and harmful drinkers reduce or cease their alcohol consumption and thereby avoid its harmful consequences.

Building a model of care

An integrated model of care is a dynamic map of how a range of effective alcohol interventions can be well-timed and delivered to those who have been identified with alcohol problems according to their needs. Table 1 summarizes the full range of evidence-based alcohol interventions that can be organized into tiers of increasing intensity.

Table 1. The model of care for alcohol misusers: tiers of intervention

Tiers	Interventions
1	Alcohol-related information and advice; screening; simple brief interventions; referral
2	Open access, non-care-planned, alcohol-specific interventions
3	Community-based, structured, care-planned alcohol treatment
4	Alcohol specialist inpatient treatment and residential rehabilitation

Source: adapted from *Models of care for alcohol misusers (MoCAM) (2).*

Once an individual's needs have been identified (including through the use of a validated screening tool), the appropriate intervention(s) can be delivered in a stepped care approach; that is, the lowest level of intensity required is delivered first but can be stepped up if required. One such model of care has been developed in line with the categories of alcohol problem as defined by WHO, namely hazardous, harmful and dependent drinking *(2)*. This describes the quality of care, workforce competence and service capacity which should also be considered in developing a model of care. Once designed, a model of care needs to be made dynamic, ensuring optimum integration not only with other services and interventions within the prison setting (such as mental health services) but also with community services so as to ensure continuity of care after release (for example, "throughcare"). This can be assisted by developing an alcohol care pathway, a locally agreed template which maps out what should happen at the various stages of an individual's treatment. Fig. 1 shows a high-level integrated alcohol care pathway which has been produced for prisoners in Scotland *(1)*.

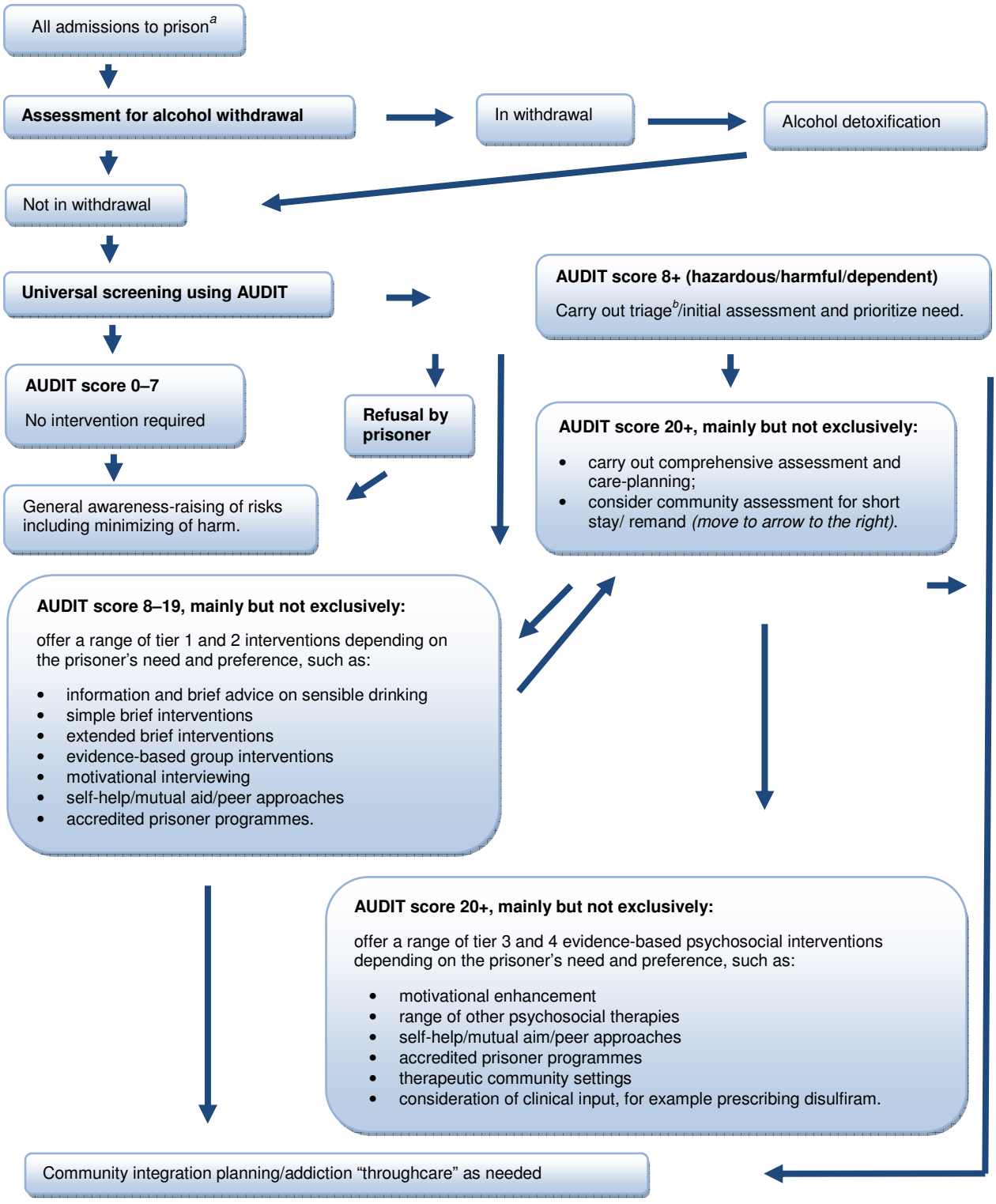
Issues and challenges for implementation

The implementation of an integrated model of care for alcohol problems in prisoners will need to take account of certain key issues.

The prison regime

Health care in prisons has to take place within the context of the prison regime where custody and order are crucial. Prisons are often busy and overcrowded places, with prisoners moving between prison and the community (and vice versa) as well as between prisons. This "churn" makes access to, and continuity of, care all the more challenging. The consumption of alcohol is prohibited in most, if not all, prisons, although illicit production can and does take place which can not only cause unrest and disruption but also be hazardous to health. The absence of alcohol

Fig. 1. Integrated alcohol care pathway for prisoners



Note. The pathway is broadly suggested by the AUDIT score but judgement is needed to take into account other issues, such as co-morbidity.
[a] At any point in a prisoner's stay, if he/she/others think he/she has an alcohol problem, he/she can enter the start of the process.
[b] Triage is a critical part of the decision-making process and includes determining whether the prisoner has other social and health problems, and the prioritization of those that most need interventions in the context of high demand.
Source: Parkes et al. *(1)*.

can have both positive aspects, such as enforced sobriety and the absence of drinking cues, and negative ones in that brief interventions, prevention of relapse and other measures cannot be put into practice effectively.

Resources

In recent years, alcohol problems in prisons, as in the community, have been in the shadow of drugs. They have been considered less of a priority and given fewer resources, resulting in considerable unmet needs in some general populations *(9)*. Increasingly, however, in Europe there has been a focus on the scale of alcohol problems and on effective policies to address them both at international level *(10)* and country levels *(11)*. Both prisoners and prison staff recognize that alcohol services in prisons have been under-resourced *(1)*. A needs assessment of alcohol problems in prisons is a first step to identify the nature and scale of the problems and the resources needed to meet them. The evidence from such work can also be a powerful tool in arguing the case if more resources are required.

Timing of assessment

Detection of alcohol problems with a validated screening tool is best carried out on admission to prison, particularly as some prisoners (those on remand) may be released directly from court at little or no notice. However, as such assessments can involve a degree of self-reporting and take place at a time of competing demands, the true prevalence of alcohol problems can be under-reported *(12)*.

Willingness to admit problem and seek help

Some prisoners may be unwilling to admit to having an alcohol problem or not want to deal with it *(1)*. Others, on the other hand, may recognize that they do have an alcohol problem and wish to take the opportunity to tackle it. Nearly half (48%) of Scottish prisoners said that if they were offered help in prison for their alcohol problem, they would take it *(13)*. The provision of a good level of service is likely to raise expectations among staff and prisoners and motivate them to seek help.

Including users' views

It is good practice to seek the views of service users, either at the level of the individual regarding his/her own personal care or more widely. A study by focus groups with Scottish prisoners found that they wanted more involvement by outsiders, such as community "in-reach" staff and people who had experienced alcohol problems themselves, in the delivery of alcohol interventions. They also wished to have former prisoners involved in the delivery of care *(1)*.

Addressing individual needs

It is important to identify the alcohol-related needs of each individual and to tailor the delivery of appropriate alcohol interventions accordingly. It is also important to look at their wider needs such as mental health problems, drug use or literacy or housing needs. Referral to other relevant services is an important feature of an integrated model of care which is person-centred and holistic.

Throughcare

Throughcare can be described as the coordinated and integrated approach to the provision of a range of services to address the needs of alcohol problems in prisoners, from the time of sentence

or remand throughout their imprisonment and after their release. An essential part is partnership working between services based both in the prison and the community.

Rapid review of alcohol problems in the criminal justice system

Methods

The rapid review undertaken for the *Prison health needs assessment for alcohol problems (1)* was updated for the purposes of writing this report.

Only English-language studies and reviews were included which had been undertaken or updated between January 1995 and August 2009 for the original review and between September 2009 and February 2012 for the updated review. Studies or evaluations published before 1995 may not reflect current approaches to the identification or treatment of alcohol problems. In addition to searches of specific databases, some broad-based internet searches were undertaken to identify policy documents, evaluations or reviews which contribute to the evidence base. Screening studies included in both reviews were those that assessed the reliability and validity of one or more alcohol screening tools for use in the prison population. The evaluation studies included were those which assessed the following:

- *population:* offenders in the prison setting (including short sentences and young offenders) and those on remand;
- *interventions:* interventions for those identified with alcohol problems;
- *study designs:* effectiveness studies (randomized controlled trials, controlled clinical trials, interrupted time series, before and after studies), other types of evaluation that include data on effectiveness, and qualitative studies that focus on barriers or facilitators to treatments in this group;
- *outcomes:* reduction of alcohol consumption, abstinence, reduction in recidivism or other outcomes as defined in individual studies such as quality of life.

Screening results

In the literature search for the original rapid review, 11 articles were identified and included as well as 2 articles from hand searching. In the literature search for the updated review, only one additional paper was found but could not be retrieved in time for inclusion. One further paper was identified after the search was undertaken in May 2012 and has therefore been included *(14)*. Overall, 14 screening papers have been drawn upon for this report.

Intervention results

In the literature search for the original rapid review, 29 papers were identified and included. For the updated review, a further 11 papers were identified and included. Overall, 40 intervention papers were drawn upon for this report.

The problem

Alcohol is a psychoactive, toxic and potentially addictive substance *(15)*. It is a causal factor in over 60 types of disease and injury and accounted for 6.4% of all deaths in the WHO European Region in 2004 *(16)*. Both the volume of lifetime alcohol use and a combination of drinking frequency and amount drunk per occasion increase the risk for a wide range of health and social harm, largely in a dose-dependent manner *(17)*. Some consequences, such as intoxication or injury, are acute while others, such as liver disease and certain cancers, are the result of longer-term consumption. The impact of alcohol consumption may result in harm to others as well as

the individual *(11)*. Alcohol-related harm can also contribute to health inequalities by disproportionately affecting those in more disadvantaged groups *(18)*. For example, in 2009, those living in the most deprived areas of Scotland were over six times more likely to die from an alcohol-related cause than those in the least deprived areas *(19)*.

In most European countries, the consumption of alcohol is common among the adult population (aged 15 years and over), with 80–95% drinking at least occasionally *(10)*. The WHO European Region is the heaviest drinking region in the world, with an adult per capita alcohol consumption in the European Union (EU) more than twice the amount consumed globally. In 2009, the average adult per capita consumption in the EU (plus Norway and Switzerland) was 12.5 litres of pure alcohol, which corresponds to more than two standard drinks of 12 g pure alcohol per day *(20)*. Although the adult per capita consumption of alcohol in the EU has remained relatively constant over the past decade, this is due to changing regional consumption trends *(20)*. More specifically, in southern and western Europe, average adult consumption has been decreasing (France and Italy), while in eastern Europe, the Nordic countries and the United Kingdom , it has been rising *(10,20)*.

Average adult consumption is linked to the number of heavy drinkers and also to the level of alcohol-related harm *(15)*. Trends in European countries have followed the recognized pattern whereby changes in levels of alcohol-related harm in a country are linked to adult per capita consumption *(21)*. The European Region has the highest proportion of total ill health and premature deaths due to alcohol of all the WHO regions. In 2004, the one-year prevalence of alcohol use disorders[2] in the European Region was 1 in 20 (5.5%), with a higher proportion in men (9.1%) *(16)*. Alcohol consumption and drinking patterns have consequences for health and wider society. In 2004, 11.8% of all deaths among men and women aged 15–64 years were from alcohol related causes *(20)*. In addition, alcohol consumption was responsible in the EU (plus Norway and Switzerland) for more than four million disability-adjusted life-years (DALYS – corresponding to the number of years lost due to either premature mortality or disability), with 15% of all DALYs in men and 4% of all DALYs in women. The economic burden of alcohol-related harm is also substantial. In 2003, the tangible costs for the EU were estimated at €125 billion, with intangible costs estimated at a further €270 billion *(22)*.

Alcohol and crime

There is a strong link between alcohol and crime, in particular violent crime, which is evident in all European countries. Alcohol-related crimes are both common and expensive: in 2003, such crimes were estimated to cost €33 billion in Europe *(22)*. Alcohol-related crime is associated with a wide range of social offences, including antisocial behaviour causing social nuisance, vandalism, drink–driving, robbery, sexual offences, assaults and homicide. Alcohol consumption leads to an increased risk for the individual of being both a perpetrator and a victim of violent crime *(23)*.

Table 2 provides an overview of all alcohol-related crimes and violent crime in selected European countries. As there is no standard definition of alcohol-related crime, caution should be taken in drawing comparisons between different countries.

Studies in individual countries further illustrate the relationship between alcohol and crime. For example, in the United Kingdom (Scotland) between 2010 and 2011, alcohol was a known factor in more than two thirds of homicides (69%) where the drink status of the accused was known

[2] Alcohol use disorders, or alcohol problems, can be defined as hazardous drinking, harmful use or dependence *(8)*.

(23). According to the Scottish Emergency Department Alcohol Audit *(25),* approximately 70% of assaults presenting to accident and emergency departments were alcohol-related. In addition, 50% of adult prisoners reported being drunk at the time of their offence, as did 75% of young offenders *(13,26)*. In one study, 50% of prisoners imprisoned for violent crimes believed that alcohol was a contributory factor in their offences *(27)*.

Table 2. Alcohol-related crimes in selected EU countries (%)

Country (year)	Alcohol-related crimes (%)	Alcohol-related violent crimes (%)
Belgium (2001)	20	40
Finland (1990 and 1995)	47	66
Germany (2002)	7	24
United Kingdom (England and Wales) (2003)	25	48

Source: Anderson & Baumberg *(22).*

Alcohol-related crime can be described in three broad categories *(28)*:

- *direct causal relationship:* alcohol-specific offences such as drink–driving and drunkenness;
- *contributory factor:* alcohol as a trigger or facilitator to offend (for example, assaults, antisocial behaviour);
- *co-existent relationship:* crimes unrelated to perpetrators' alcohol consumption.

The relationship between alcohol and crime is, therefore, not a simple causal one. For instance, with regard to violence, alcohol is recognized as both a causal *(29)* as well as a contributory factor *(23)*. Specific pharmacological effects can affect an individual's behaviour and judgement *(30)*. Not all alcohol consumption, however, leads to violence and not all violence is due to alcohol. There is a complex interplay between the quantity of alcohol consumed, drinking patterns, and individual and contextual factors. Links between alcohol and violence appear to be stronger in countries where drinking is characterized by acute intoxication, such as in northern European countries *(23)*. Theoretical models based on empirical evidence have grouped factors into the following four broad areas (adapted from *(31)*):

1. physical and psychological effects of alcohol on the individual:
    - reduced impulse control and impaired motor function;
    - impaired cognition, self-awareness and ability to process multiple cues and solve problems ;
    - alcohol-induced "myopia" (short-sighted focus on immediate situation);
    - greater willingness to take risks;
2. personal characteristics:
    - impulsiveness;
    - frustration;

- anxiety;
- drinking patterns;

3. situational context within which alcohol is consumed:
    - poor layout of bars with increased likelihood of crowding;
    - low staff to patron ratio;
    - encouragement to drink large quantities;
4. cultural context:
    - acceptance of public drunkenness;
    - acceptance of violence;
    - unstructured drinking ;
    - beliefs about personal responsibility when drunk.

Measures to tackle alcohol-related crime should include interventions at the individual level as well as broader interventions to address the social, physical and cultural environments.

Alcohol problems in prisoners

Prisoners' alcohol problems often go in tandem with other co-morbidities such as drug misuse and mental health problems, making diagnosis and treatment of these complex needs challenging *(32,33)*. Prisoners with alcohol problems have also been shown to be subject to high rates of social exclusion factors such as unemployment, low educational achievement and limited social support *(1)*. It is equally important to address these factors so as to ensure optimal outcomes.

A systematic international review found that 18–30% of men and 10–24% of women had alcohol problems defined as "alcohol abuse/dependence" *(34)*, with a study in the Unites States reporting the prevalence in the prisoner population to be higher than in the general population. It was noted that the studies were heterogeneous and influenced by factors such as variations in diagnostic criteria, time of screening/assessment and cultural differences *(34)*.

In countries where alcohol consumption has risen, it would be expected that the prevalence of alcohol problems among prisoners would also have increased. For example, in Scotland there has been an 11% rise in alcohol consumption since 1994 *(35)*. In 2011, 50% of Scottish prisoners self-reported being drunk at the time of their offence, an increase of 10% over the previous five years *(13)*. According to a longitudinal Scottish study of young offenders, the proportion of those who considered that alcohol had played a part in their offence had risen from 48% in 1979 to 58% in 1996 and 80% in 2007 *(36)*. Although not all alcohol problems in prisoners are directly linked to their offences, many are, in particular to violent offending *(27)*. Interventions to tackle such offending behaviour should be available alongside alcohol treatment for prisoners.

Detection, identification and screening

In order to address prisoners with alcohol problems, the first step is to be able to identify them. The routine taking of a clinical history can be augmented by the use of a validated alcohol screening tool. A wide range of screening or identification tools has been developed to examine different dimensions of alcohol problems *(37)*. There is, however, limited evidence of the testing of such tools (see Table 3) in prisoner populations, although they have been used to identify alcohol problems in various offender populations (juveniles, women, men, mixed adults).

Table 3. Main screening tools identified in reviews

Acronym	Meaning/description
AUDIT	Alcohol Use Disorder Identification Test
CAGE	Cut down, Annoyed, Guilty, Eye opener
FAST	Four-item, two-stage Screening Tool
MAST	Michigan Alcohol Screening Test
M-SASQ	Single question "How often do you have 6/8 (F/M) or more standard drinks on one occasion?"
SASSI	Substance Abuse Subtle Screening Inventory
TCUDS	Texas Christian University Drug Screen
MMPI	Minnesota Multiphasic Personality Inventory
UNCOPE	Have you continued to **U**se alcohol or drugs longer than you intended? Have you ever **N**eglected some of your usual responsibilities because of alcohol or drug use? Have you ever wanted to stop using alcohol or drugs but **C**ouldn't? Has your family, a friend, or anyone else ever told you they **O**bjected to your alcohol or drug use? Have you ever found yourself **P**reoccupied with wanting to use alcohol or drugs? Have you ever used alcohol or drugs to relieve **E**motional discomfort, such as sadness, anger or boredom?

The screening tools that were considered most effective were AUDIT, MMPI and TCUDS, with TCUDS II reported to have good validity and reliability in prisoners in one study. A derivation of MMPI, MMPI-A, had good validity for use in juvenile offender settings.

AUDIT was found to be effective in both male and female populations, and the brief, easy-to-use AUDIT-C was shown to be a reliable tool to detect hazardous drinking in women *(1)*. A recent study *(14)* tested the performance of shorter screening tools in criminal justice settings, including prisons, and found that both FAST and M-SASQ had acceptable screening properties when compared with AUDIT.

In contrast to the effectiveness of AUDIT, SASSI was found to be ineffective in successfully identifying prisoners with alcohol problems. The tendency of SASSI-A to misclassify high numbers of non-users of substances makes it undesirable for use in juvenile offenders. In male prisoners, the performance of SASSI could be deemed average compared to the other screening tools tested *(1)*.

UNCOPE, although not as extensively used in prison settings as the other screening tools, may be useful in that it is brief and has high predictive values. The ability of UNCOPE to produce these values in different population subgroups makes it potentially attractive for use with a multicultural prison population. More evidence is, however, required in order to make a definitive statement about its effectiveness *(1)*.

Some factors affect the possibility of generalizing from the previous results. Firstly, the number of studies is limited. Secondly, many studies do not examine alcohol alone but subsume it within

substance misuse more generally. Also, the heterogeneous nature of the studies with different subpopulations and different tools is worth noting. These complexities, taken together with a lack of European studies, make it difficult to be certain when making definitive statements. Given the increasing use of the AUDIT screening tool in criminal justice settings for both research and practice, however, together with its ability to differentiate between different drinking behaviour patterns, it would appear to be the most promising tool, with shortened versions an option in busy settings.

AUDIT

AUDIT is a screening tool developed by WHO to identify individuals with alcohol consumption problems *(8)*. Drinking behaviour can be defined according to the classification of alcohol use disorders, which lists consumption patterns in three categories of increasing risk and harm as measured using AUDIT.

- *Hazardous drinking* is a pattern of alcohol consumption that increases the risk of harmful consequences for the user or others. Hazardous drinking patterns are of public health significance despite the absence of any current disorder in the individual user.
- *Harmful use* refers to alcohol consumption which results in consequences to physical and mental health. Some would consider social consequences among the harms caused by alcohol.
- *Alcohol dependence* is a cluster of behavioural, cognitive and physiological phenomena that may develop after repeated alcohol use. Typically, these include a strong desire to consume alcohol, impaired control over its use, persistent drinking despite harmful consequences, a higher priority given to drinking than to other activities and obligations, increased tolerance of alcohol and a physical withdrawal reaction when alcohol use is discontinued.

Alcohol problems in prisoners, as with the wider population, differ in nature ranging from drinking to excess, perhaps intermittently, to chronic dependence. A 2011 Scottish-based study showed that of those scoring 20+ on AUDIT (indicating possible dependence), younger drinkers were less likely to show habitual and addictive behaviour *(27)*. This demonstrates the importance of further clinical assessment beyond the use of a screening tool and of offering a range of appropriate interventions.

In a survey of prisoners in Australia *(38)*, hazardous and harmful drinking levels were reported to be 57% and 18%, respectively, among male prisoners compared to 49% and 13%, respectively, among females according to AUDIT scores. In another study of a relatively small sample (n = 47), it was found that up to 60% of French male prisoners were positive for alcohol problems (scoring 8+ on AUDIT), with a higher prevalence when screening was conducted two weeks into their sentences rather than at the start *(12)*.

A survey of substance misuse among prisoners in the United Kingdom (England and Wales) *(39)* found high proportions of both male and female respondents reporting hazardous or harmful drinking on the AUDIT. For men, 58% of remand and 63% of sentenced prisoners reported hazardous or harmful drinking, with 30% in both sample groups reporting either harmful drinking or possible dependence. For women, 36% of remand and 39% of sentenced prisoners reported hazardous or harmful drinking, including 14% and 11%, respectively, indicating harmful drinking and dependency. More recently, Newbury-Birch et al. *(40)* reported similar findings with 59% of male prisoners indicating levels of hazardous or harmful drinking, around a

third of whom (36%) were at levels of possible dependence. Their findings in relation to female prisoners were, however, notably higher than before, with 63% identified as drinking at hazardous or harmful levels and 42% possibly dependent. Parkes and colleagues *(1)* screened 259 new male Scottish prisoners using AUDIT and found that 73% had scores indicating a degree of alcohol problems, including 36% who were possibly dependent, with higher scores among those serving shorter sentences. For remand prisoners, 68% overall had an alcohol use disorder, with 34% possibly alcohol-dependent.

Effective interventions for alcohol problems

Following a positive screening result and triage, further assessment is required to determine the individual's need and tailor interventions accordingly. Interventions can include brief interventions for hazardous drinking, cognitive behavioural approaches for more harmful and dependent drinkers to pharmaceutical treatment for acute alcohol withdrawal or prevention of relapse.

Possible interventions that could be delivered for alcohol problems are summarized below. The interventions described do not include all interventions that could be delivered but are based on those reported in the literature and as categorized by Parkes et al. *(1)*.

Psychosocial behavioural interventions

Alcohol brief interventions and motivational interviewing

Alcohol brief interventions are practices that aim to identify a real or potential alcohol problem and motivate an individual to do something about it *(41)*. They include motivational interviewing, which is carried out only once or twice with individuals. In prison-based studies, motivational interviews had modest success, including a reduction in drink–driving, a decrease in substance use, treatment contact at 60 days post-release (alcohol treatment not reported separately) and greater post-test contemplation scores. Evaluation of the delivery of alcohol brief interventions has only been reported in the (non-prison) custody settings. One high-quality study reported no difference in alcohol use or offending, but did find a reduction in injury and an increase in readiness to change at three months. Another found a decrease in both offending and drinking, again at three months follow-up (reviewed in *(1)*).

More recently, brief interventions and motivational interviewing in prison settings have been reported in American studies, particularly among women and young offenders. Begun et al. *(42)* conducted a randomized controlled trial of a motivational interviewing intervention in women prisoners before their release (n = 729). A significant decrease in AUDIT scores was observed at two months post-release. In another randomized control trial of motivational interviewing in female prisoners (n = 245), however, no reduction in drinking was found at one, three and six months *(43)*. In a randomized control trial in Sweden, 296 drug-using prisoners were randomly allocated to standard pre-release planning (which includes strategies for reducing drug use), motivational interviewing or motivational interviewing with enhanced training (for the counsellors) *(44)*. All three interventions showed a decrease in alcohol use at 30-day follow-up, with no significant difference between the study arms. Additionally, 55% reported alcohol sobriety at 30 days compared to 12% at admission. A randomized control trial of 162 young male prisoners compared motivational interviewing to relaxation training to reduce alcohol and marijuana use. Those who had received motivational interviewing had significantly lower levels of alcohol (and marijuana) use at three-month follow-up *(45)*. A second paper from this study did not find that the effects of motivational interviewing were moderated by depressive

symptoms *(46)*. A qualitative study in young prisoners found motivational interviewing to be an acceptable approach *(47)*.

The only study of brief interventions (as opposed to motivational interviewing) in the prison setting was a randomized control trial in women prisoners (n = 245) of a brief intervention before their release and at one month after release, with each intervention lasting 30–45 minutes. The number of days abstinent at three months after release was statistically significant, but by six months this difference had disappeared *(48)*.

Cognitive behavioural counselling or psychological interventions

Positive outcomes have been reported following cognitive behavioural counselling or psychological interventions which include reduced re-offending and, where reported, reduced alcohol consumption or abstinence *(1)*. More specifically, the Holistic Intervention for At-Risk Teenagers (HEART), which included cognitive behavioural approaches, resulted in positive changes in psychosocial functioning for young female offenders *(49)*. A systematic review of effective interventions for women offenders conducted by McMurran and colleagues *(50)* included four studies delivering psychosocial interventions and concluded that there was insufficient evidence as to which method was most effective. It noted that women prisoners tend to have more psychological health problems than men, and that this should be taken into account when interventions are designed and delivered.

Spiritual interventions

In Parkes et al. *(1)*, 12-step facilitation was concluded to be effective in treating alcohol (and drug) dependence. Vipassana meditation was also shown to offer positive results after release and in reducing cravings. This would suggest that interventions with a spiritual element can be of benefit, although they would need to be implemented with sensitivity to both cultural and individual considerations.

Family interventions

Two studies based in the United States evaluated family interventions for young offenders (reviewed in *(1)*). In one study, participants were randomized to receive either a family empowerment intervention or an extended service intervention. Although follow up at 36 months showed no significant difference between the interventions, it was noted that those who completed the family intervention course reduced their alcohol consumption. A second pilot study was non-controlled. However, at six months, the recidivism rate for those who underwent the family intervention was lower (44%) than the national norm (65–85%). These findings suggest that these interventions show promise but need further, robust study, also in other countries.

Victim impact panels

In a randomized controlled trial based in the United States, a 28-day victim impact panel for prisoners convicted of drink–driving had no significant difference on alcohol consumption, drinking and driving behaviour or recidivism within two years (reviewed in *(1)*).

Therapeutic communities

There is some limited evidence to suggest that therapeutic communities may have positive outcomes which include the reduction of alcohol use and of re-offending. Groups studied have included young offenders and women as well as general prisoner populations. Most of the studies were not, however, confined to prisoners with alcohol problems alone: some had concurrent drug use or mental health problems (reviewed in *(1)*). The recent study of young female prisoners with both drug and alcohol problems receiving the HEART intervention *(49)* also employed a therapeutic community approach. Positive changes were seen in psychosocial

functioning but changes in alcohol use were not reported separately. Although they may be effective, therapeutic community interventions can be costly and time-intensive to provide.

Recently, an increasing amount of high-quality research on alcohol interventions for prisoners has been published, especially for women and young offenders. Most of it has studied motivational interviewing/brief interventions with mixed success within and across subgroups. Overall, the positive findings from this research of the effectiveness of motivational interviewing/brief interventions for the prisoner population are promising. Set alongside research showing the effectiveness of brief interventions in community justice settings (probation) on reducing alcohol consumption and re-offending *(51)* (albeit with caveats about the possibility of generalizing them to the prisoner population), these are the most evidence-based interventions. It should be noted that across studies, the interventions are of varying length. No studies were identified in either review on the cost–effectiveness of interventions.

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Annex 1

The WHO Alcohol Use Disorders Identification Test (AUDIT): interview version

1. How often do you have a drink containing alcohol? (0) Never *[Skip to questions 9–10]* (1) Monthly or less (2) 2–4 times a month (3) 2–3 times a week (4) 4 or more times a week	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
2. How many drinks containing alcohol do you have on a typical day when you are drinking? (0) 1 or 2 (1) 3 or 4 (2) 5 or 6 (3) 7, 8 or 9 (4) 10 or more	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
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 *[Skip to questions 9 and 10 if total score for questions 2 and 3 = 0]*	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
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	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
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	10. Has a relative or friend or a doctor or another 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

Scoring AUDIT

Scores for each question range from 0 to 4, with the first response for each question scoring 0, the second scoring 1, the third scoring 2, the fourth scoring 3, and the last scoring 4. For questions 9 and 10, which only have three responses, the scoring is 0, 2 and 4 (from left to right).

A score of 8 or more is associated with harmful or hazardous drinking, a score of 13 or more in women and 15 or more in men is likely to indicate alcohol dependence.

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Alcohol problems in the criminal justice system: an opportunity for intervention

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