



# Alcohol, drugs and the workplace

## The role of medical professionals

A briefing from the BMA Occupational  
Medicine Committee

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# Editorial board

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# Occupational Medicine Committee

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This report was prepared under the auspices of the Occupational Medicine Committee of the British Medical Association, whose membership for 2013/2014 was as follows:

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The Occupational Medicine Committee, a representational committee of the BMA, considers and report on matters affecting the health, safety and welfare of persons at work and the practice of medicine in industry and allied occupations. The committee is charged with advising the Association on the implementation of health, safety and welfare legislation as it affects its members and their working environment.

# Abbreviations

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A&E	accident and emergency
APMS	Adult Psychiatric Morbidity Survey
BAC	blood alcohol concentration
CDI	computer-delivered health promotion interventions
CNS	central nervous system
CoC	chain of custody
DPA	Data Protection Act
DWP	Department for Work and Pensions
DfT	Department for Transport
DVA	Driver and Vehicle Agency
DVLA	Driver and Vehicle Licensing Authority
EAP	employee assistance programme
GP	general practitioner
GMC	General Medical Council
GLS	General Lifestyle Survey
HRA	Human Rights Act
HSE	Health and Safety Executive
PMSU	Prime Minister's Strategy Unit

# Glossary of terms<sup>a</sup>

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## A note on terminology

Various terms are used to describe different patterns of use of alcohol and illicit drugs. These can have similar or overlapping meanings, and can vary, from terms with no standard definition to diagnostic terms.

For the purposes of this guidance, the term 'use' (self-administration of a psychoactive substance) is predominantly used. Other terms are used in this guidance where they refer to a specific pattern of alcohol or illicit drug use, and are defined accordingly.

A unit of alcohol corresponds to 7.9 grams (g) or 10 millilitres (ml) of ethanol. This term is used to provide a measure of the amount of alcohol in a drink. Different methods are used to define standard measurements internationally none of which correspond to the UK unit.

A short Glossary is provided below but we would suggest using the glossaries provided in 'Drugs of dependence – the role of medical professionals' (BMA Board of Science, January 2013) and 'Alcohol misuse: tackling the UK epidemic' (BMA Board of Science, February 2008) for fuller definitions of these terms.

## Addiction

Repeated use of a psychoactive substance or substances, to the extent that the user (referred to as an addict) is periodically or chronically intoxicated, shows a compulsion to take the preferred substance (or substances), has great difficulty in voluntarily ceasing or modifying substance use, and exhibits determination to obtain psychoactive substances by almost any means. The term is often used interchangeably with dependence.

## Controlled substances

Psychoactive substances and their precursors, the distribution of which is forbidden by law or limited to medical and pharmaceutical channels. The substances subject to this control differ between countries. The term is often used to refer to psychoactive drugs and precursors covered by international drug conventions. At international and national levels, controlled drugs are commonly classified according to a hierarchy of schedules, reflecting different degrees of restriction of availability.

## Chain of custody

The process for managing the collection, handling, storage and testing of biological samples, to prevent contamination or interference.

## Dependence

As a general term, dependence is the state of needing or depending on something or someone for support or to function or survive. As applied to alcohol and other drugs, the term includes psychological and physiological aspects. Psychological dependence involves impaired control over drug use and a need (craving) for repeated doses of the drug, to feel good or avoid feeling bad. Physiological or physical dependence is associated with tolerance, where increased doses of the drug are required to produce the effects originally produced by lower doses, and development of withdrawal syndrome when the drug is withdrawn. The term is often used interchangeably with addiction.

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a Adapted from World Health Organization (2004) *Lexicon of alcohol and drug terms*. Geneva: World Health Organization (accessed January 2014); the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) *Online glossary* ([www.emcdda.europa.eu](http://www.emcdda.europa.eu), accessed January 2014) and the United Nations Office on Drugs and Crime (UNODC) ([www.unodc.org](http://www.unodc.org), accessed January 2014).

## **Detoxification**

A controlled process of providing symptomatic relief to assist patients to complete withdrawal from a drug, while minimising the associated adverse effects. In the context of Illicit drug use, the aim of detoxification is to reverse or reduce dependence on and tolerance to a psychoactive drug. As a clinical procedure, the withdrawal process is carried out in a safe and effective manner, such that withdrawal symptoms are minimised.

## **Drug**

In medicine, it refers to any substance with the potential to prevent or cure disease or enhance physical or mental welfare. In pharmacology it refers to any chemical agent that alters the biochemical or physiological processes of tissues or organisms. Hence, a drug is a substance that is, or could be, listed in a pharmacopoeia. In common usage, the term often refers specifically to psychoactive drugs, and often, even more specifically, to illicit drugs, of which there is non-medical use in addition to any medical use. Professional formulations (eg 'alcohol and other drugs') often seek to make the point that caffeine, tobacco, alcohol and other substances in common non-medical use are also drugs in the sense of being taken, at least in part, for their psychoactive effects.

## **Drug use**

Self-administration of a psychoactive substance. This term has been used throughout this guidance rather than drug abuse or drug misuse, as it is non-judgemental.

## **Illicit drug**

A psychoactive substance, the possession, production, sale or use of which is prohibited. Strictly speaking, it is not the drug that is illicit, but its possession, production, sale or use in particular circumstances in a given jurisdiction.

## **Illicit drug use**

In this document the term is used to refer to the use of illicit drugs and the illicit use of legal drugs.

## **Intoxication**

A transient condition following the administration of alcohol or other psychoactive substance, resulting in disturbances in level of consciousness, cognition, perception, affect or behaviour, or other psycho-physiological functions and responses'.

## **Medical review officers**

Physicians who have had specific training to interpret drug test results.

## **Occupational physician**

A doctor who possesses a qualification in occupational medicine recognised by the Faculty of Occupational Medicine and has particular competencies, acquired through postgraduate training and experience and who maintains these through ongoing continuing professional development, and annual appraisal that addresses his/her practice in occupational medicine.

## **Presenteeism**

Attending work whilst impaired by illness or other conditions. This is thought to cause more workplace productivity loss than absenteeism.

### **Post-offer health assessment**

Post-offer health assessments are undertaken after a person has been offered a job and before commencing duties, usually in safety critical work, to ensure that any health condition from which the individual suffers does not present a hazard to themselves or to other persons, e.g. for airline pilots, air traffic control officers, armed forces personnel, seafarers, divers, licensed goods vehicle drivers, etc. In some of these cases, assessment of medical fitness for work may be a statutory requirement.

### **Problem drug use**

There are varying definitions for problem drug use. In its broadest sense, according to the United Nations Office on Drugs and Crime (UNODC), problem drug use is used to describe individuals who inject drugs and/or are considered dependent, facing serious social and health consequences as a result. For statistical purposes, the definitions and methods of calculation differ from country to country. The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) defines problem drug use as *'injecting drug use or long duration/regular use of opioids, cocaine and/or amphetamines'*.

### **Psychoactive substance use disorders**

A shortened version of the term used in ICD-10 – mental and behavioural disorders associated with psychoactive Substance use. The term encompasses acute intoxication, harmful use, dependence syndrome, withdrawal state, withdrawal state with delirium, psychotic disorder, and amnesic syndrome. For a particular substance, these conditions may be grouped together as, for example, cannabis use disorders, stimulant use disorders. Psychoactive substance use disorders are defined as being of clinical relevance; the term 'psychoactive substance use problems' is a broader one, which includes conditions and events not necessarily of clinical relevance.

### **Safety-critical roles**

Jobs that can present risk to the individual concerned or to others should the employee be impaired mentally or physically e.g. vocational driving, working on, or in the vicinity of, electrical and mechanical systems, working at height or in confined spaces, managing safety-critical systems at major-hazard sites.

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## Background

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There are many different types of psychoactive drugs in common-use that have the potential to cause harm to health and wellbeing. The extent of harm depends on the type of drug, how it is used, and the social context within which it is used. Through its Board of Science, the BMA has developed substantial policy on the use of alcohol, which has resulted in several publications.<sup>b</sup> In January 2013, the Board published '*Drugs of Dependence – the role of medical professionals*', which aims to encourage debate on the most effective approach to preventing and reducing the harms associated with illicit use of drugs, how to make best use of illicit-drug control policies, and examines the role of the medical profession in relation to illicit drug use.

This guidance supplements the work published by the Board of Science on alcohol and the use of illicit drugs, and aims to provide practical advice to medical professionals to help them understand and support working patients and employers to address the use of alcohol and illicit drugs in people who work.

While aimed primarily at medical professionals, this booklet may also assist other health care professionals, managers, human resources specialists and employee representatives.

While employers and workers may turn to occupational health professionals for advice and support where such support exists, only about one in seven of the workforce has access to a qualified occupational physician.<sup>1</sup> Many workers will rely on their general practitioner (GP) or hospital specialist for advice relating to fitness for work and employers may request reports from these doctors. For these reasons it is important that all doctors understand employment aspects of the use of alcohol and illicit drugs.

Medical professionals should be aware that some prescribed medication may cause side effects that can impair a patient's performance at work. This is outside the scope of this guidance. Nevertheless medical professionals should always consider a patient's occupation when prescribing medication that might affect their fitness for specific types of occupational activity, particularly those patients who drive, operate machinery, or work at heights.

Doctors may also work as managers or as employers. While this guidance does not aim to act as guidance for employers, some content (eg legal background and workplace policies) may prove helpful to doctors who have such responsibilities.

Core guidance from the General Medical Council (GMC) set out in *Tomorrow's Doctors*<sup>2</sup> maintains that medical school graduates need to be able to 'identify appropriate strategies for managing patients with dependence issues and other demonstrations of self-harm'.

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<sup>b</sup> Board of Science publications relevant to alcohol include: *Under the influence – the damaging effect of alcohol marketing on young people* (BMA, 2009), *Alcohol misuse – tackling the UK epidemic* (BMA 2008).

## Executive summary

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- Alcohol use increases the risk of problems in the workplace, such as absenteeism, presenteeism, and inappropriate behaviour. Use of alcohol or illicit drugs can impair a person's performance at work through poor decision making and impaired reaction times causing lost productivity, inferior goods/services, errors and accidents.
- It is evident that alcohol and illicit drug use is prevalent in those who are in work and as such is a significant issue for the workplace and is a growing concern for employers. Individuals in employment are more likely to drink frequently compared to those who are unemployed. Individuals in managerial and professional occupations drink more frequently than those in routine and manual occupations.
- Certain working situations and conditions are associated with use of alcohol and illicit drugs (ie shift or night work, travel away from home, working remotely, business meals, poor communications and job stress, etc). There are many factors within the workplace culture that present an increased risk for the use of substances including availability, work/ peer-group pressures, lack of supervision, physical danger and interface with a demanding or aggressive public. International evidence also indicates that longer working hours are significantly associated with higher rates of alcohol use and related problems.
- Use and possession of illicit drugs falls under several criminal laws. Employers have a general duty under the *Health and Safety at Work etc Act 1974* to ensure, as far as is reasonably practicable, the health, safety and welfare at work of their employees.
- Workplaces provide venues and captive audiences for health education and opportunities to identify individuals who have problems with alcohol and illicit drug use. Medical professionals who support workplaces are well placed to offer health education for workers, and training for managers and supervisors about how to recognise and deal with alcohol and illicit drug use issues.
- Alcohol and illicit drug use is associated with a range of physical, psychological and social harms, which inflict an economic burden on employers, governments and society. The burden that alcohol and illicit drug use places on organisations makes it, at the very least, advisable for employers to have an alcohol and drug (substance use) policy. These policies are more successful when conceived as a component of health and welfare policy rather than primarily a disciplinary matter.
- Where a medical professional is asked for advice by an employer they must establish the capacity in which they are being asked for advice and make clear to patients their professional role. Medical professionals should seek to understand the employer's alcohol and drug use policy (eg does it apply to all employees or just those in safety critical roles? what support is available to employees?).
- Managers and supervisors should be trained to recognise the signs of problems with alcohol and illicit drug use. They should know what to do if they suspect an employee has a problem or if they are approached by an employee who declares a problem and arrange a referral to Occupational Health Services.<sup>c</sup>

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c. The BMA believes that all employees should have access to quality, specialist-led Occupational Health Services.

# Chapter 1 – Introduction

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The scale of alcohol and illicit drug use in the UK represents a significant cause of medical, psychological and social harm. Both are associated with preventable premature ill health and mortality – in 2011, there were 8,748 alcohol-related deaths reported (12.6 per 100,000 population)<sup>3</sup> and 1,785 deaths related to illicit drug use (3.10 per 100,000)<sup>4</sup> in the UK. The true figure is likely to be higher; drug/alcohol misuse contributing to more deaths than those identified by certification.

The harms associated with the use of these psychoactive substances extend beyond the direct impact on the individual user to the impact on children, families, communities and society as a whole. These harms are associated with substantial economic and social costs that can be divided into four broad categories:

- healthcare;
- crime, disorder and anti-social behaviour;
- workplace; and
- impact on family and social networks.

This guidance focuses on the workplace. The importance of the workplace setting in preventing and managing the use of alcohol and illicit drugs reflects the fact that approximately 65 per cent of the UK population is of working age.<sup>5</sup> As over 70 per cent of this age group are in employment<sup>6</sup> the impact of the use of alcohol and illicit drugs in the workplace is substantial. The impact includes lower productivity through sickness-related absence, inappropriate behaviour, accidents and poor performance, as well as shorter working lives. The workplace setting also provides venues and captive audiences for health education and opportunities to identify individuals with substance use problems. Medical professionals who support workplaces are well placed to offer health education for workers and training for managers and supervisors about how to recognise and deal with substance use problems.

## 1.1 Substance use as an issue in the workplace

Alcohol and illicit drug use is a concern when it affects the performance of a person in the workplace, or when it puts at risk the safety of that individual, other workers or the general public. Contrary to popular belief, the majority of people who have an alcohol use problem are in work.<sup>7</sup> In the workplace, alcohol use can increase the risk of problems such as absenteeism, presenteeism and inappropriate behaviour. Workplaces and certain jobs, themselves, can also increase the risk of alcohol use disorders and alcohol dependence (see **Chapter 4**).

The use of illicit drugs can be a serious problem not only for the user but also for the business where they work. The possession of some drugs is illegal, exposing the user to the risk of criminal charges as well as causing harmful effects to their health. Employers could be breaking the law if they knowingly allow drug-related activities in the workplace and fail to act.<sup>8</sup>

## 1.2 The legal framework for alcohol and illicit drugs and the workplace

The principal UK legislation for controlling the use of illicit drugs is the *Misuse of Drugs Act 1971*. The Act makes the production, supply and possession of these controlled drugs unlawful except in certain specified circumstances (eg when they have been prescribed by a doctor). If an employer knowingly permits the production, supply or possession of any controlled drugs, or the smoking of cannabis to occur on their premises they could be committing an offence.<sup>8</sup>

Employers have a general duty under the *Health and Safety at Work etc Act 1974* to ensure, as far as is reasonably practicable, the health, safety and welfare at work of their employees. Employers also have a duty under the *Management of Health and Safety at Work Regulations 1999* to assess the risks to the health and safety of their employees. An employer could be prosecuted if they knowingly allow an employee to work under the influence of a drug where his or her behaviour places that employee or

others at risk. Employees are also required to take reasonable care of themselves and others who could be affected by what they do at work.<sup>8</sup>

The *Transport and Works Act 1992* makes it a criminal offence for some workers to be unfit through alcohol and/or drugs while working on railways, tramways and other guided transport systems. The operators of the transport system would also be guilty of an offence unless they had demonstrated due diligence in attempting to prevent such an offence being committed. The *Railways and Transport Safety Act 2003* extends these requirements to aviation and maritime workers, making it a criminal offence for these workers to have impaired ability to function because of alcohol and/or drugs or if the proportion of alcohol in breath, blood or urine exceeds the prescribed limit established by the Act.

The *Road Traffic Act 1988* makes it clear that anyone who is unfit to drive through alcohol or drugs and is in charge of a motor vehicle, or who drives or attempts to drive a motor vehicle on a road or other public place, is guilty of an offence. This Act specifies that it is an offence to drive or be in charge of a motor vehicle with an alcohol concentration above a prescribed limit. The Department for Transport (DfT) is currently considering proposals to amend the Road Traffic Act 1988 to create a new offence for driving with a specified controlled drug in the body above a specified limit for that drug.

The *Work in Compressed Air Regulations 1996* place duties on compressed air contractors to ensure that no person works in compressed air where the compressed air contractor has reason to believe said person to be under the influence of alcohol or a drug to such an extent that his capacity to carry out any task for which he is responsible is impaired. These Regulations also state that no person shall consume alcohol or possess any alcoholic drink when in compressed air. The compressed air contractor needs to establish appropriate management procedures, supported by site supervisors and lock attendants, to prevent access to compressed air working of anyone considered to be under the influence of alcohol or drugs, and to prevent the taking of alcohol into compressed air.

### 1.3 Summary

- The impact of alcohol and illicit drug use is often noticeable in the workplace, where it is associated with an increased risk of problems such as absenteeism, presenteeism, accidents, poor performance and inappropriate behaviour.
- Workplaces provide venues and captive audiences for health education and opportunities to identify individuals who have problems with alcohol and drug use. Medical professionals who support workplaces are well placed to offer health education for workers and training for managers and supervisors about how to recognise and deal with substance use problems.
- The use of alcohol and drugs falls under several different areas of legislation. Individuals face potential criminal prosecution. Employers have a general duty under the *Health and Safety at Work etc Act 1974* to ensure, as far as is reasonably practicable, the health, safety and welfare at work of their employees.

## Chapter 2 – The scale of the problem

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In establishing the scale of the problem at a workplace level, it is first important to consider the levels of alcohol and illicit drug use at a population level. This reflects the strong relationship between the total use at a population level, and the level of use in sub-populations (eg the working population). The prevalence of alcohol and illicit drug use in the general population varies temporally, demographically, and geographically.

Despite a slight overall decline in recent years, alcohol consumption in the UK remains at a historically high level.<sup>9</sup> Since 1990, the average amount drunk each year by adults (aged over 15) in the UK increased from 9.8 litres of pure alcohol per head to a peak of 11.5 litres in 2004, and subsequently declined to 9.8 litres in 2012.<sup>9</sup> Survey data have found that a significant proportion of the UK adult population consume alcohol above recommended amounts<sup>d</sup> – every week in Great Britain, 26 per cent of men and 17 per cent of women drink enough to risk suffering physical or psychological harm.<sup>10</sup>

Recent years have seen an overall long-term decline in illicit drug use in the UK.<sup>4</sup> According to survey data, between 2006-07 and 2010-11, recent use (in the last year) declined from 10.2 per cent to 8.8 per cent, and current (in the last month) use declined from 6.0 per cent to 4.8 per cent.<sup>4</sup> This decline was driven mostly by a decrease in cannabis use.<sup>4</sup> Over the same period the use of almost all individual illicit drugs (e.g. opioids, ecstasy, amphetamine, hallucinogens, and cocaine) has remained relatively stable or declined slowly.<sup>4</sup>

### 2.1 The scale of substance use in working populations

It is difficult to quantify the scale of substance use accurately in working populations, there being little community based research designed to establish the prevalence of, and characteristics associated with, alcohol and illicit drug use among workers.<sup>11</sup> The following provides an indication of the scale of substance use in working populations through data on prevalence and patterns of use in people of working age and in employment, as well as comparable international data.

#### 2.1.1 Prevalence and patterns of use in people of working age

##### Alcohol

The General Lifestyle Survey (GLS) provides various measures of alcohol consumption among families and people living in private households in Great Britain. GLS data is based on self reporting to a large extent and may underestimate alcohol/drug burdens. GLS data shows considerable variation in drinking patterns between age groups:

- In 2010, average levels of weekly alcohol consumption were about a third lower among adults aged 65 and over than they were in the other age groups. Average consumption was 11.1 units a week in the 16 to 24 age group, 12.2 units in the 25 to 44 age group and 13.1 units in the 45 to 64 age group.<sup>12</sup>
- In 2011, the age group with the highest proportion of people not drinking at all in the last week was the 16 to 24 group (50%). The proportion of adults who drank every day increased with each age group; one per cent of the 16 to 24 age group had drunk every day during the previous week, compared to four per cent in the 25 to 44 group, nine per cent in the 45 to 64 age group, and 13 per cent in the 65 and over age group.<sup>13</sup>
- In 2011, the proportions of men and women exceeding recommended guidelines on at least one day (exceeding 4/3 units) in the last week were: 32 and 31 per cent (16 to 24), 39 and 34 per cent (25 to 44), 38 and 33 per cent (45 to 64), and 20 and 12 per cent (over 65) respectively. Similar patterns were evident for heavy drinking (exceeding 8/6 units) and very heavy drinking.<sup>13</sup>

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<sup>d</sup> Guidelines set by the UK Government recommend that men should not regularly drink more than three to four units of alcohol per day, and women should not regularly drink more than two to three units of alcohol per day. In terms of weekly limits, men are advised to drink no more than 21 units per week and women no more than 14 units per week.

- Those aged 16-24 were more likely to have drunk very heavily (more than 12 units for men and 9 units for women) at least once during the week (27%), with similar proportions for men (26%) and women (28%). Only 3% of those aged 65 and over were very heavy drinkers.<sup>14</sup>

Key conclusions from these GLS data are that those in the youngest and oldest age groups (16 to 24 and 65 and over) are less likely than those in the other age groups to report drinking alcohol during the previous week; among men and women, those across the working age population are much more likely to drink enough to risk suffering physical or psychological harm.

Other data provide some information on other significant patterns of alcohol consumption. According to the 2007 Adult Psychiatric Morbidity Survey (APMS) for England, the highest levels of alcohol dependence<sup>e</sup> were identified in men between the ages of 25 and 34 (16.8%), and women between the ages of 16 and 24 (9.8%).<sup>15</sup>

### Illicit drugs

According to the UK Focal Point on Drugs,<sup>f</sup> it was estimated that in 2010-11, 35.6 per cent of 16 to 59 year olds in the UK had used illicit drugs in their lifetime (ever), while 8.8 per cent had used drugs in the last year (recent use), and 4.8 per cent had used drugs in the last month (current use).<sup>4</sup> Among young adults:

- 43.4 per cent of 16 to 34 year olds and 39.6 per cent of 16 to 24 year olds had ever used drugs
- 15.6 per cent of 16 to 34 year olds and 20.2 per cent of 16 to 24 year olds had used drugs recently
- 8.4 per cent of 16 to 34 year olds and 10.7 per cent of 16 to 24 year olds were current drug users.<sup>4</sup>

In 2012, it was estimated that there were 383,534 people affected by problem drug use<sup>g</sup> in the UK, equivalent to a rate of 9.38 per 1,000 population aged 15 to 64 years, and representing approximately 10 per cent of all UK drug users.<sup>4</sup> In the same year, it was estimated that there were 133,112 people using illicit drugs (primarily users of opioid drugs or crack cocaine).<sup>4</sup>

Data from various surveys provide a more detailed picture of illicit drug use in the UK:

- cannabis continues to be the most commonly reported drug across all recall periods, with cocaine and ecstasy the next most popular drugs in terms of recent and current use
- men are more likely to report drug use than women, across all age groups
- the extent of frequent use varies between drugs, with cannabis users most likely to report frequent use (more than once a month in the past year)
- those who consume alcohol frequently have higher levels of recent drug use than those who consumed alcohol less frequently.<sup>16,17,18</sup>

While these data show that a smaller proportion of the UK working age population use illicit drugs compared to alcohol, it is clear that illicit drug use is a significant problem – approximately three million people (aged 16 to 59) have used illicit drugs recently, and over one million are current users.<sup>h</sup>

e Alcohol dependence syndrome is classified by the World Health Organisation (WHO) International Classification of Diseases 10th revision (ICD-10) as a cluster of behavioural, cognitive, and physiological phenomena that develop after repeated alcohol use and that typically include a strong desire to consume alcohol, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to its use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.

f The UK Focal Point on Drugs is the national partner of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). It provides comprehensive information to the EMCDDA on the drug situation in England, Northern Ireland, Scotland and Wales.

g The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) defines problem drug use as 'injecting drug use or long duration/regular use of opioids, cocaine and/or amphetamines'.

h Calculations based on data from the 2011 Census population estimates for the UK.

## 2.1.2 Prevalence and patterns of use among the employed

### Alcohol

The link between alcohol consumption and socio-economic factors is an important consideration. According to the 2011 GLS, men and women aged 16 to 64 and in employment were more likely to have consumed alcohol in the previous week compared to individuals who were unemployed and who were economically inactive.<sup>13</sup> Similar patterns were found in relation to drinking on five or more days in the previous week, drinking heavily and binge drinking (see **Table 1**).

Among adults working full time, drinking behaviour was related directly to earnings from employment and household income. More adults in the highest earnings quintile consumed alcohol (82%), and had consumed it on five or more days in that week (21%), compared to the lowest earnings quintile (60% and 13%).<sup>13</sup>

**Table 1: comparison of drinking patterns between individuals aged 16 to 64 in employment and those unemployed/economically inactive, 2012, Great Britain**

	Employed	Unemployed/economically inactive
<b>Drunk alcohol in last week</b>		
Women	60%	39%/42%
Men	69%	53%/55%
<b>Consumed an alcoholic drink on five or more days in the previous week</b>	10%	10%/13%
<b>Heavy drinking on any one day:</b>		
Women > 3 units (up to 6 units)	31%	32%/25%
Men > 4 units (up to 8 units)	25%	21%/23%
<b>Binge drinking on any one day:</b>		
Women > 6 units (up to 9 units)	11%	8%/6%
Men > 8 units (up to 12 units)	16%	12%/8%

Source: Office for National Statistics (2013) *Opinions and lifestyle survey, drinking habits amongst adults, 2012*.  
Newport: Office for National Statistics

The type of occupation also has an impact on drinking patterns and levels of consumption. Individuals in managerial and professional occupations, especially those working for large employers, are more likely to have drunk alcohol in the previous week and to drink more frequently than those in routine and manual occupations (see **Table 2**).

**Table 2: comparison of drinking patterns between individuals aged 16 to 64 in different occupations, 2011, Great Britain**

	Managerial and professional	Routine and manual
<b>Drunk alcohol in last week</b>		
Women	64%	43%
Men	75%	59%
Consumed an alcoholic drink on five or more days in the previous week	16%	9%
<b>Heavy drinking on any one day:</b>		
Women > 3 units	39%	20%
Men > 4 units	43%	31%
<b>Binge drinking on any one day:</b>		
Women > 6 units	16%	8%
Men > 8 units	24%	16%

Source: Office for National Statistics (2013) *General Lifestyle Survey overview – a report on the 2011 General Lifestyle Survey*. Newport: Office for National Statistics.

Surveys of employers and business across the UK have found that many employees are affected by alcohol consumption during working hours. A survey performed in December 2007 for Norwich Union Healthcare<sup>19</sup> found a third of employees admitting to attending work with a hangover. 15 per cent reported having been drunk at work. One in 10 employees reported hangovers at work once a month, and one in 20 once a week. Work problems resulting from hangovers or being drunk at work included difficulty concentrating, reduced productivity, tiredness, and mistakes. The majority (77%) of employers interviewed for this survey identified alcohol as a major threat to employee wellbeing and a factor encouraging sickness absence. A 2006 PruHealth survey found that over 200,000 people go to work in Britain with a hangover on any given day, and that one-in-five 18-25 year olds go to work with a hangover once a fortnight or more.<sup>20</sup> A survey undertaken in 2004 by reed.co.uk suggested that workers turn up at work with a hangover on an average of two and a half days per year.<sup>21</sup>

### Illicit drugs

Various surveys provide an indication of the level of illicit drug use among people in employment. A questionnaire survey published by the Health and Safety Executive (HSE) in 2004 reported that:

- 13 per cent of working respondents of all ages reported drug use in the previous year, the rate varying with age
- 29 per cent of workers under the age of 30 years reported drug use in the previous year
- Working drug users were more often smokers, heavy drinkers, male, under 25, single, well educated, resident in a more affluent urban area, and scored highly on a neuroticism scale.<sup>11</sup>

The HSE research was based on data from a postal community survey in Cardiff and Merthyr Tydfil, and a survey of people attending accident and emergency (A&E) departments in Wales. A total of 4,620 people in employment completed the community survey, and 1,994 people in employment completed the A&E survey. Among the 4,620 workers who completed the community survey, 38 per cent reported ever having used drugs, 13 per cent reported using drugs in the last year, and seven per cent in the last month.<sup>11</sup> Cannabis was the most commonly reported drug used in the last year (11%), followed by ecstasy (2.5%), amphetamines (2.3%), and cocaine (2.2%).<sup>12</sup> Among the 1,994 workers who completed the A&E survey, 51 per cent reported ever having used drugs, 21 per cent reported using

drugs in the last year, and 12 per cent in the last month.<sup>12</sup> Cannabis was the most commonly reported drug used in the last year (19%), followed by amphetamines (6%), ecstasy (5%), and cocaine (4%).<sup>12</sup>

Previous work suggested that the rates of use among workers may be lower than those of the unemployed, however, the gap between the two groups narrowed in the late 1990s.<sup>22</sup>

In 2010-11, 59 per cent of clients presenting for treatment for problems with illicit drug use in England, Scotland and Northern Ireland were unemployed. Only 15 per cent reported being in regular employment, with men (16%) more likely to be employed than women (11%). A higher proportion of clients presenting to treatment for the first time were in regular employment (18%).<sup>4</sup>

As is the case for alcohol use, for individuals in employment, there is some evidence that illicit drug use is affected by the type of occupation. According to the Scottish Crime and Justice Survey for 2010-11, among adults aged 16 and over, those working in routine and manual occupations (9.6%) were significantly more likely to report using illicit drugs in the last year than those in managerial and professional occupations, those who were not working or who were long-term unemployed (each 4.8%), and those in intermediate occupations (5.9%).<sup>23</sup>

### 2.1.3 International perspective

According to the US Census Bureau, small businesses with fewer than 500 employees are particularly disadvantaged by worker substance use, and about half of all US workers are employed by small and medium sized businesses. Approximately 90% of the US workforce who are heavy drinkers, current illicit drug users or who have alcohol or illicit drug dependence, work for small and medium size firms.<sup>24</sup>

#### Alcohol

National survey data from the USA in 2012 revealed that:

- full-time employed adults are more likely to drink (64.8%) compared to the unemployed (54.9%)
- the rate of binge drinking among unemployed persons (32.0%) was higher than among full-time employed persons (29.9%)
- most binge and heavy alcohol users were employed – 43.6 million adult binge drinkers were in employment (75.4% of all binge drinkers) and 12.5 million persons reporting heavy alcohol use were in employment (74.7% of all heavy drinkers).<sup>25</sup>

In New Zealand in 2004, almost 48 per cent of all those in full-time employment are classified as binge drinkers.<sup>26</sup> In Australia in 2001, more than 40 per cent of the workforce was found to consume alcohol at risky or high-risk<sup>i</sup> levels at least occasionally.<sup>27</sup> This level of consumption was also found to be more prevalent among particular occupational groups, including young workers, workers in blue-collar occupations, and workers employed in the hospitality, agriculture, manufacturing, construction, and retail industries.<sup>27,28,29</sup>

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i The 2001 Australian Alcohol Guidelines defined consumption levels associated with risk of short- and long-term harms. For risk of short-term harm: 'Risky' drinking is consuming seven to 10 standard drinks on any one day for men, and five to six for women; 'High risk' drinking is consuming 11 or more on any one day for men, and seven or more for women. For risk of long-term harm: 'Risky' drinking is consuming five to six standard drinks per day for men, and three to four for women; 'High risk' drinking is consuming seven or more per day for men, and five or more for women.

### **Illicit drugs**

National survey data from the USA in 2012 for drug use and health revealed that:

- the rate of current illicit drug use was higher for the unemployed (18.1%) than for those employed full time (8.9%), employed part time (12.5%), and students, carers, retired or disabled persons, etc (6.3%)
- substance dependence or abuse was more prevalent among unemployed adults aged 18 or older (16.9%) than full-time employed adults (9.1%) or part-time employed adults (10.3%)
- Of the 20.7 million adults classified with dependence or abuse, 10.7 million (51.9%) were employed full time.<sup>25</sup>

For 2004, it was reported that eight per cent of New Zealanders had used three or more illegal drugs in the last year; and about 15 per cent were current cannabis users.<sup>26</sup>

## **2.2 Summary**

- Although there is insufficient data to know precisely the extent of the problem, it is evident that alcohol and illicit drug use is prevalent in those who are in work and as such is a significant issue for the workplace and a growing concern for employers.
- Individuals in employment are more likely to drink frequently compared to those who are unemployed.
- Individuals in managerial and professional occupations are likely to drink more frequently than those in routine and manual occupations.
- Data suggests that the rates of illicit drug use among workers may be lower than those of the unemployed, however, the gap between the two groups appears to be narrowing and it is clear that a significant proportion of working respondents use illicit drugs.

## Chapter 3 – The burden of the problem

Alcohol and illicit drug use is associated with a range of physical, psychological and social harms, which inflict an economic burden on employers, governments and society. There is little quality evidence of the impact of the harm associated with alcohol and illicit drug use in the workplace,<sup>30</sup> and the financial and other costs are difficult to measure. Many costs are hidden by general absenteeism or illnesses, unnoticed lack of productivity, or inability or reluctance to link substance use directly with causes of accidents. **Table 3** provides an overview of the effects of alcohol and illicit drug use and associated costs to employers.

**Table 3: overview of the effects of alcohol and illicit drug use and associated costs to employers**

Effects of alcohol and drug use	Associated employer costs
Absenteeism (days off; lateness; long lunch breaks; sleeping on the job)	Lost time Lost productivity Lower profits
Presenteeism (Impaired workplace performance (deterioration in quantity and quality of work; poor concentration; impaired judgement and decision-making; reduced reaction times and efficiency; increased error rates)	Lower productivity, reduced product and service quality, lower profits Potentially reduced company reputation, corporate image and competitive strength Health issues
Sick pay Private medical plans (where employer-provided)	Workplace injuries
Legal fees/fines Increased insurance costs	Inappropriate behaviour
Management time	Job loss
Management time Recruiting and training Employment appeals/Tribunals	Co-worker relationships
Lost performance, production and quality	Theft to support a drug habit
Management time Replacement costs Security staff	

Adapted from: Accident Compensation Corporation, Alcohol Advisory Council of New Zealand & New Zealand Drug Foundation (2008) *Alcohol and other drugs in the workplace – an employers guide*. Wellington: Accident Compensation Corporation.

### 3.1 Physical, psychological and social burden to workers

#### Alcohol

Alcohol is a central nervous system (CNS) depressant; it impairs balance, co-ordination, perception, reaction time and reasoning. These effects compromise the ability to drive and operate machinery, which can lead to accidents and injuries. Many skills and cognitive processes begin to decline at levels lower than the prescribed blood alcohol concentration (BAC) in the *Road Traffic Act 1967* (80mg/dl).<sup>31</sup> Drivers who have a BAC of 30-60 mg/dl have impaired ability to negotiate a test course with artificial hazards; a BAC of 50mg/dl may disturb memory transfer from immediate recall to permanent storage; and impaired performance can be demonstrated at a BAC as low as 11mg/dl in pilots in flight simulators.<sup>31</sup>

Alcohol is causally related to over 60 different medical conditions,<sup>32,33</sup> and its chronic consumption can cause dependence, liver cirrhosis, alcoholic psychoses, alcoholic cardiomyopathy, polyneuropathy and gastritis.<sup>32,33,34</sup>

It is clear that acute and chronic effects of alcohol consumption can have a direct impact on a worker's health and wellbeing, as well as an indirect impact through inability to work through ill-health.

### **Illicit drugs**

There are well documented links between illicit drug use and impairments in cognition, perception, and motor skills.<sup>11</sup> Much of the evidence is based on laboratory based studies showing that motor coordination, perceptual abilities, and cognitive function are lowered among drug users, or after particular drugs have been taken.

Cannabis can have an adverse effect on any complex learnt psychomotor task and can cause temporal disorganisation with disruption of correct sequencing of events in time; a single 'joint' can cause measurable impairment of cognitive skills for more than 10 hours due to its half-life of 36 hours.<sup>31</sup> The knowledge base on how this impairment affects safety in the workplace remains relatively small.<sup>31</sup> Research conducted for the HSE – using a community based questionnaire survey and a cohort study of workers carrying out cognitive performance tasks – showed a significant negative impact of illicit drug use on work performance.<sup>11</sup> Illicit drug users had slower reaction times during concentration and attention tasks, performed less well at reasoning and memory tasks, and had lower alertness and hedonic tone scores.<sup>11</sup> Users were just over half as likely again as non-users to report quite or very frequent cognitive failures, and more likely than non-users to report minor injuries at work (but only among those with higher levels of other associated risk factors). The study found no evidence for an association between illicit drug use and workplace accidents. Overall, the study data provided little evidence for any significant impact of illicit drug use on work-related road traffic accidents, except perhaps among those reporting only cannabis use in the last year together with high levels of other risk factors. The very small numbers of workers reporting such accidents mean that these findings must be interpreted with caution.<sup>11</sup>

Although a possible impact on work seems intuitively obvious, few studies have specifically examined this relationship, and the evidence relating to accidents at work is somewhat contradictory.

As with alcohol use, illicit drug use is associated with various acute and chronic primary and secondary harms that can directly and indirectly affect an individual's health and wellbeing.<sup>35</sup>

## **3.2 Burden to employers**

### **Alcohol**

Use of alcohol or illicit drugs can impair a person's performance at work through poor decision making and impaired reaction times causing lost productivity, inferior goods/services, errors and accidents. There are no precise figures on the number of workplace accidents where alcohol is a factor.<sup>7</sup>

90 per cent of personnel directors from top UK organisations surveyed in 1994 stated that alcohol consumption was a problem for their organisation. Most considered alcohol to affect only a small number of employees, however, 17 per cent of personnel directors described alcohol consumption as a 'major problem' for their organisation. A UK study published in 1981 estimated that alcohol caused three to five per cent of all absence from work, equating to about eight to 14 million working days in the UK each year.<sup>36</sup> Alcohol consumption has increased since the early 1980s, and a study undertaken in 2001 across the UK workforce calculated that over 176 million working days were lost due to sickness and absenteeism, with six to 15 per cent (ie about 11-17 million days) attributed to alcohol-

related sickness.<sup>37</sup> In 2010, the National Institute for Health and Clinical Excellence estimated that the cost of alcohol-related employee absenteeism in England was £1.7bn.<sup>38</sup>

### **Illicit drugs**

While it is reasonable to consider that illicit drug use may lead to increased sickness absence and performance problems, the evidence on the links between drug use and accidents at work, absenteeism, low productivity and poor performance is inconclusive.<sup>39</sup> Apart from a few exceptions, there is a lack of evidence for a strong link between illicit drug use and accidents in safety critical industries, such as transport, engineering, quarrying and mining. Evidence suggests that alcohol is probably a greater cause for concern in the workplace than illicit drugs.<sup>39</sup>

## **3.3 Burden to society**

Various data show that the cost of alcohol and illicit drug use on society is substantial. These range from estimates of the total economic and social costs, to data on the impact on the benefits system.

### **Alcohol**

The Prime Minister's Strategy Unit (PMSU) study of 2003 estimated the workplace and wider economy costs of alcohol-related harm in England to be £5.2-6.4billion (£1.2-1.8 from alcohol-related absenteeism, £2.3-2.5 billion from alcohol-related deaths, £1.7-2.1 billion from lost working days).<sup>40</sup> A 2007 study by the National Social Marketing Centre suggested that cost to employers was slightly higher than the PMSU study, at £7.3 billion.<sup>41</sup>

The estimated cost to the productive capacity of the Scottish economy in 2007 – related to foregone productive capacity by workers due to absenteeism, presenteeism, unemployment and premature alcohol-related mortality – was between £725.2-1,006.1 million (mid-point £865.7million). The cost of absenteeism was estimated to be between £109.4 million-£273.5 million and the cost of presenteeism was estimated to be between £177.0 million-£193.1 million. The larger cost is not that attributable to absenteeism (ie measurable lost days of work), but from presenteeism (ie impaired productivity while on the job).<sup>j,21</sup>

A study looking at the costs of alcohol-related harm across Scotland in 2009-10 estimated that the labour and productivity costs (which covered presenteeism and absenteeism, unemployment and premature mortality) were between £866 million-£1,062 million (mid-point £964 million).<sup>42</sup> The 2004 reed.co.uk survey noted previously found that works turning up to work with a hangover thought that they were 27 per cent less efficient on these days. This led the Info.Scotland.com website to suggest that the productivity lost to hangovers could therefore account for an additional 1.62 million lost days, at a cost of £154 million.<sup>21</sup>

Approximately 400,000 benefit claimants (around 8% of all working age benefit claimants) in England are dependent on drugs or alcohol, with benefit costs of approximately £1.6 billion per year.<sup>43,44</sup> Approximately 160,000 individuals in receipt of one or more 'main benefits' are estimated to be experiencing physical and social problems (including, possibly, problems maintaining employment) due to their excessive alcohol consumption. Approximately 100,000 of this group are in receipt of incapacity benefit, 90,000 in receipt of income support, just under 30,000 in receipt of disability living allowance, and 25,000 in receipt of jobseekers allowance.<sup>44</sup>

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j Due to methodological and measurement concerns, presenteeism is not considered in all of studies of the costs of alcohol-related harm.

### Illicit drugs

There is very limited information on the workplace economic cost of illicit drug use in the UK. According to Scottish Government Social Research, the total cost of absenteeism, lost productivity and lost output associated with illicit drug use in Scotland in 2006 was estimated at £ 818.9 million.<sup>45</sup> Data from the Department of Work and Pensions (DWP), in the UK in February 2011, 34,490 people were claiming incapacity benefit/severe disablement allowance, and a further 10,140 were in receipt of employment and support allowance, with their primary medical condition recorded as 'drug abuse'.<sup>4</sup>

### 3.4 International Perspective

In the USA, the financial loss attributed to alcohol and drugs in the workplace has been found to occur mainly for the following reasons:

- workers compensation – 38 to 50 per cent of all claims are related to substance use, with users filing three to five times as many claims
- medical costs – substance users incur 300 per cent higher medical costs than non-users
- absenteeism – substance users are 2.5 times more likely to be absent eight or more days a year
- lost productivity – substance users are a third less productive
- employee turnover – it costs a business an average of \$7,000 to replace a salaried worker.<sup>46</sup>

### Alcohol

Lost productivity costs feature as the dominant element in social costs studies arising from the harm caused by alcohol use. Alcohol is a significant risk factor for absenteeism and presenteeism at work, largely in a dose response manner, with a relationship between societal and individual level of alcohol consumption and sickness absence.<sup>47</sup> A Finnish study reported that the direct relationship between alcohol consumption and sickness absence is particularly pronounced for low-educated males.<sup>48</sup> Studies suggest that alcohol consumption may have more effect on productivity on the job than on the number of workdays missed.<sup>49</sup> Estimates for the costs of lost productivity attributable to alcohol include: Canada \$7.1 billion in 2002,<sup>50</sup> Australia A\$3.6 billion in 2004-05,<sup>51</sup> India 70,000-80,000 million rupees in 1997,<sup>52</sup> and the USA \$134.2 billion in 1998 (the last year for which costs were estimated).<sup>53</sup>

In Australia, high-risk drinkers are up to 22 times more likely to be absent from work due to their alcohol use compared to low-risk drinkers.<sup>54</sup> Short-term high-risk drinkers were also significantly more likely to be absent from work due to any illness or injury than employed low-risk drinkers.<sup>54</sup> Young employees and males were more likely to report alcohol-related absenteeism compared to older workers and females.<sup>54</sup> Data from the 2004 National Drug Strategy Household Survey revealed that: 4.4 per cent of Australians went to work affected by alcohol the workplace was the usual place of consumption of alcohol for over six per cent of participants.<sup>30</sup> Alcohol has been found to be a contributing factor in an estimated four per cent of work-related fatalities.<sup>55</sup>

Studies from Australia, Canada and USA estimate the fraction of occupational and machinery injuries attributable to alcohol to range between seven and 25 per cent.<sup>56</sup> In India, 15 to 20 per cent of absenteeism, and 40 per cent of accidents at work, are due to alcohol consumption.<sup>56</sup> In Costa Rica, it has been estimated that 30 per cent of absenteeism and workplace accidents were caused by alcohol dependence.<sup>56</sup> In Chile, 20 to 22 per cent of work-related accidents have a direct or indirect relationship with recent alcohol use, and in France alcohol is the cause of 10 to 20 per cent of work accidents.<sup>56</sup> Two Scandinavian studies reported that a one litre increase in total alcohol consumption was associated with a 13 per cent increase in sickness absence among men, but not among women.<sup>57,58</sup>

### **Illicit drugs**

Estimates for the costs of lost productivity attributable to drug use include: Canada \$4.7 billion in 2002<sup>50</sup> and Australia A\$1.6 billion in 2004-05.<sup>51</sup> In Australia it is estimated that two per cent of people attended work affected by illicit drugs,<sup>30</sup> and that drugs contribute to two per cent of work-related fatalities.<sup>55</sup>

### **3.5 Summary**

- Alcohol and illicit drug use impacts on cognitive performance which leads to cognitive failures affecting performance efficiency and safety at work. There are also hidden costs in general absenteeism or illnesses, errors, unnoticed lack of productivity and accidents.
- The limited data and lack of accurate or standardised methodologies for measuring presenteeism and accidents linked to alcohol or illicit drug use makes it difficult to accurately estimate these costs. However, the burden is substantial to workers, business, society and to economies as a whole.

## Chapter 4 – Occupational influences

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Certain working situations and conditions are associated with alcohol and drug problems (ie shift or night work, travel away from home, working remotely, business meals, poor communications and job stress, etc).<sup>59</sup> Factors within the workplace culture that present an increased risk for the use of substances include availability, work pressures, peer group pressure, co-worker collusion, lack of supervision, physical danger, and interface with a demanding or aggressive public. Many wider factors have also been documented such as domestic pressures, financial independence and financial hardship.<sup>60</sup>

### 4.1 Occupations at risk for alcohol use

Using mortality data among men and women aged 16-74 years in England and Wales during 1991-2000, the highest mortality from alcohol-related diseases and injuries was observed in publicans and bar staff (both sexes), and in male caterers, cooks and kitchen porters, and seafarers.<sup>61</sup> Data for 2001-05 showed that for both sexes, those working in the drinks industry, including publicans and bar staff, were at high risk, while low indicators of alcohol-related deaths were found for men who worked as farmers and drivers, and women who worked with children.<sup>62</sup> Male doctors were among the occupations with the highest indicators of alcohol-related deaths through the 1960s to the 1980s. In 2001-05, male doctors had a premature mortality rate of only 58, suggesting that there was a significant change in alcohol-related mortality among this group. This may be similar to the situation with smoking where, once the hazards were recognised, doctors gave up smoking earlier than the general population. Trends in alcohol consumption within the medical profession are not readily available, although figures from the GHS for 1988 and 1990 indicated that the proportion of male doctors drinking at levels which exceeded weekly recommended units of alcohol was lower than the population as a whole.<sup>62</sup>

A stressful psychosocial work environment is a risk factor for alcohol dependence. Analysis of the Whitehall II cohort of London-based civil servants study found a clear grade gradient for women, with those in the highest two grades having the highest proportion of problem drinkers, which was not the case for men.<sup>63</sup> Effort-reward imbalance at work is associated with alcohol dependence in men, while low decision latitude is associated with alcohol dependence in women, particularly in higher occupational grades.<sup>63</sup>

### 4.2 Occupations at risk for illicit drug use

Using mortality data among men and women aged 16-74 years in England and Wales during 1991-2000, the highest mortality from illicit drug dependence and accidental poisoning by illicit drugs was among the literary and artistic occupations and construction industry trades (male painters and decorators, bricklayers and masons, plasterers, and roofers and glaziers).<sup>61</sup>

### 4.3 International perspective

#### Alcohol

In the USA between 2002-04, the major occupational groups with the highest prevalence of past month heavy alcohol use were construction and extraction occupations (17.8%), and installation, maintenance, and repair occupations (14.7%). Community and social services occupations (2.8%) had the lowest prevalence of past month heavy alcohol use of the major occupations. The prevalence of alcohol dependence or abuse is highest among construction and extraction occupations (16.9%), and food preparation and serving related occupations (14.7%).<sup>64</sup>

Swedish census-linked deaths registry data (from 1980 and 1990 censuses) show that for both sexes, manual workers, lower non-manuals and entrepreneurs had significantly higher alcohol-related mortality than did upper non-manual workers, whereas male farmers had significantly lower such mortality.<sup>65</sup> Women in male-dominated high-risk occupations also often showed increased relative risks. Stable and newly recruited employees in the same occupation showed very similar relative risks.<sup>66</sup>

A 2011 longitudinal study of a New Zealand birth cohort indicated that longer working hours were significantly associated with higher rates of alcohol use and related problems.<sup>67</sup> For men and women, working more than 50 hours per week was associated with 1.8 to 3.3 times higher rates of problems compared to those who were not employed. The authors hypothesised that alcohol might be used to cope with stress associated with long hours, and longer working hours being associated with workplaces more socially conducive to drinking. A Canadian report also noted that longer working hours were linked to an increased likelihood of being identified as a risky drinker.<sup>68</sup>

### **Drugs**

In the USA between 2002 and 2004, the highest rates of past month illicit drug use were found among food service workers (17.4%), construction workers (15.1%), and those working in the arts, entertainment and media (12.1%). The major occupational groups with the highest prevalence of illicit drug dependence or abuse in the past year were food preparation and serving related occupations (6.5%), and construction and extraction occupations (6.2%).<sup>64</sup>

## **4.4 Summary**

- Certain working situations and conditions are associated with alcohol and drug problems (ie shift or night work, travel away from home, working remotely, business meals, poor communications and job stress, etc). International evidence also suggests that longer working hours are significantly associated with higher rates of alcohol use and related problems.
- Factors within the workplace culture that present an increased risk for the use of substances include availability, work pressures, peer group pressure, co-worker collusion, lack of supervision, financial hardship, financial independence, physical danger, and interface with a demanding or aggressive public.
- Those working in the drinks industry (both sexes) are at high risk of alcohol-related deaths, while those working as farmers and drivers, and women who worked with children, are lower risk. Male doctors were among the occupations with the highest indicators of alcohol-related deaths through the 1960s to the 1980s but appear to be less at risk nowadays.
- The highest mortality from illicit drug dependence and accidental poisoning by illicit drugs was among the literary and artistic occupations and construction industry trades.

## Chapter 5 – Driving for work

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Driving vehicles is an activity inherently associated with employment. Individuals may drive vocationally, or may be employed for their professional driving skills – such as taxi drivers, driving instructors, chauffeurs, bus drivers, lorry drivers, delivery drivers. Driving may be intrinsic to working activities, such as sales representatives, warehouse and fork lift truck work, driving emergency services vehicles, working in construction and farming industries. Many individuals will choose to drive when travelling between business locations and, indirectly, many will drive as part of their daily commute.

### 5.1 Driving and accidents

Driving is also one of the biggest risks that many workers will face in their occupation. It has been estimated that up to one third of all road traffic accidents involve somebody who is at work at the time.<sup>69</sup> Driving in work is associated with 25-35 per cent of all fatal accidents on public roads, and is far in excess of any other fatal accidents in the workplace.<sup>70</sup> Driving 25,000 miles per year occupationally carries an annual mortality risk of 1: 8,000 – higher than that of working in the construction, or mining and quarrying industries, and similar to that of working in the deep sea fishing industry.<sup>69,71,72</sup> Despite this, the general perception of driving is often that of a relatively benign, low risk activity,<sup>73</sup> when in reality the cumulative risk of injury over a lifetime of transport is comparatively high.<sup>74</sup>

The dangers of mixing driving with illicit drugs and/or alcohol are well known. Alcohol and illicit drugs are significant contributory factors in road traffic crashes, directly and potentiating other factors such as fatigue, low arousal, and effects of medication, leading to increased risk taking and impairment to co-ordination, visual perception, tracking and vigilance. Alcohol and illicit drugs in combination potentiate the effects of each other. Incident investigation data suggest that illicit drugs or alcohol cause approximately 17 per cent of fatal and 12 per cent of serious road traffic crashes.<sup>70</sup> Other evidence suggests that the incidence of illicit drug detection in fatal accidents in 2001 had increased 3-7 times over that found in the mid-1980's, and in 2006 1 in 5 drivers admitted taking to the road in the UK under the influence of illicit drugs.<sup>75</sup>

### 5.2 Medical standards for driving licences

The principal legislation governing driving in the UK are the *Road Traffic Act 1988* and the *Motor Vehicles (Driving Licence) Regulations 1999*. To drive on public highways requires a licence. For most driving a group one licence suffices, and requires a self declaration of health and a vision test. Driving vehicles greater than 3.5 tonnes or carrying more than eight passengers (large goods vehicles and passenger carrying vehicles respectively) requires a group two licence, with more stringent medical requirements and regular, age dependent health assessments. The body responsible for granting licences, and for setting medical standards for each, is the Driver and Vehicle Licensing Authority (DVLA) (Driver and Vehicle Agency (DVA) in Northern Ireland). These standards, and the impact upon each license of specific medical conditions, are set out in the DVLA document "*At a glance Guide to the current Medical Standards of Fitness to Drive*"<sup>76</sup> produced for medical practitioners. This guide is reviewed and updated regularly, and is thus best accessed via the internet.

The law requires:

- drivers must not drive while impaired by alcohol or drugs
- and in any case, drivers must not drive with blood, breath or urine alcohol levels in excess of statutory limits (the DfT is currently consulting on regulations to enact a similar requirement for drugs).

### 5.3 Driving, declaration and disclosure

The law also places a statutory duty upon drivers to inform the DVLA if they have, or develop, a “prescribed” or “relevant” disability, or if they have been diagnosed with a condition likely to progress to becoming a prescribed or relevant disability – a “prospective” disability. Specified within the list of conditions is “persistent alcohol misuse or dependency” and “persistent drug use or dependency”. What is not often appreciated is that both conditions are considered prospective as well as prescribed. “*At a Glance Guide to the current Medical Standards of Fitness to Drive*” gives further definition on notifiable conditions.<sup>76</sup>

Recognising that few individuals with drug or alcohol problems will self-declare to the DVLA, the GMC has advised doctors:

- to advise patients with a relevant or prospective disability of their obligation to inform the DVLA
- if the condition renders the patient unfit or unsafe to drive, to advise him or her to cease driving.

If the patient continues to drive when they may not be fit to do so, and if attempts to persuade the patient to stop are unsuccessful, the doctor must disclose relevant medical information directly to the DVLA in the public interest. These requirements are set out by the GMC in the document *Good Medical Practice: Confidentiality*.<sup>77</sup> More detail on, and suggestions on how to approach this difficult ethical situation is available from the DVLA and in explanatory guidance from the GMC.<sup>78</sup>

### 5.4 International perspectives

Regulatory requirements, for example the maximum permitted blood ethanol concentration for professional drivers, vary considerably between countries and this paper does not intend to review the many relevant regulations. In some countries for some occupations testing is mandated by law (eg the Federal Motor Carrier Safety Administration’s Regulations in the USA require alcohol and drug testing of drivers, who are required to have a commercial driver’s license). The US Department of Transportation rules include procedures for urine drug testing and breath alcohol testing.

Increases similar to those mentioned above in the incidence of illicit drug detection in fatal accidents for a similar period have been recorded internationally, and the prevalence of drivers under the influence of illicit drugs in the European Union has increased significantly since the late 1990’s.<sup>75</sup> A systematic review of psychoactive substance use in truck drivers noted that most studies were performed in countries with large land areas eg Brazil, the USA and Australia.<sup>79</sup> The prevalence of the use of substances varied greatly possibly influenced by the methodologies used to obtain data and the different populations studied: alcohol (0.1–91.0%); amphetamines (0.2–82.5%), cannabis (0.2–29.9%), cocaine (0.1–8.3%). The use of these substances was associated with indicators of poor working conditions eg longer trips, driving in the night shift, fewer hours of rest.<sup>79</sup>

### 5.5 Summary

Given the numbers of people in employment with illicit drug or alcohol problems described earlier in this paper, as well as the strong association between driving and employment, it is inevitable that the two will overlap. Alcohol and illicit drug use are significant contributory factors in serious and fatal road traffic crashes. Workers with illicit drug or alcohol problems who drive (or their doctors) have a duty to declare these to the DVLA.

## Chapter 6 – Workplace policies

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The burden that the alcohol and illicit drug use places on organisations makes it, at the very least, advisable for employers to have a substance use policy. This should form part of an organisation's overall proactive commitment to health and safety in order to safeguard individual employees, co-workers, customers and the public. Alcohol and illicit drug use policies and programmes should promote the prevention, reduction and management of alcohol- and illicit drug-related problems in the workplace.<sup>80</sup>

Where a medical professional is asked for advice by an employer they must establish the capacity in which they are being asked for advice and make clear to patients their professional role. Medical professionals should seek to understand the employer's alcohol and illicit drug use policy, and the support that is available to employees. Medical professionals who are also employers (eg GPs) should ensure that their workplace policies include cover alcohol and illicit drug use.

### 6.1 Principles

A workplace alcohol and illicit drug use policy will normally define what is meant by use, and include statements on why the policy exists, to whom it applies, the rules regarding alcohol and illicit drugs, and the support available to employees who have a drug problem.<sup>7,8</sup> The policy should incorporate a statement encouraging those with a problem to seek help voluntarily. The following are common principles that are generally addressed within workplace alcohol and illicit drug use policies:

- alcohol and illicit drug problems should be considered to be health problems
- alcohol and illicit drug problems will be dealt with confidentially (subject to the provisions of the law)
- the employee is expected to comply reasonably with the management of his or her condition
- employees should not attend work under the influence of alcohol or illicit drugs
- consideration is given to postponing any disciplinary action during medical management
- sickness absence will be authorised if indicated – absence relating to alcohol or illicit drug use will be treated no differently to absence from any other cause under absence policies
- information about attendance and compliance with treatment is provided by the healthcare provider to the employer.<sup>7,8,80</sup>

### 6.2 Policy framework

A policy statement should include the following elements:

- *coverage*: the programme should apply to all employees.
- *timely intervention*: to ensure early identification and treatment of problems
- *participation*: involvement in a treatment programme should be voluntary and should not prejudice an employee's job security or chances of promotion
- *confidentiality*: personal information on employees undergoing treatment should be kept confidential
- *training, education and communication*: committing to prevent alcohol- and illicit drug-related problems in the workplace through information, education and training.
- *referrals*: any referrals for medical assessment may be by self-referral or manager-referral
- *reintegration*: this should describe the duties and responsibilities of the worker during and after treatment
- *discipline*: the employee should not be disciplined or discharged as long as he/she participates in rehabilitation and is progressing towards an acceptable level of job performance. Failure to comply may result in disciplinary action up to and including dismissal
- *legal duty*: a statement that possession/dealing will be reported immediately to the police and that there is no alternative to this procedure.<sup>8,80</sup>

Managers and supervisors should be trained to recognise the signs of problems with alcohol and illicit drug use. They should know what to do if they suspect any substance use problems, or if they are approached by an employee who declares a problem.<sup>8</sup> If screening or testing for alcohol or illicit drugs is performed, this should be defined in the policy. It is also advisable to incorporate any such requirement for compliance with possible alcohol and illicit drug testing in employees' contracts of employment.<sup>81</sup>

The policy should also advise employees that it might not be safe to take some prescribed and over-the-counter medication in some work circumstances. They should be advised to ask their health professional or pharmacist if the medication is likely to affect their work performance, and to report to their manager any information relevant to their likely capacity to do the job safely. There may be a need to make reasonable adjustments to work arrangements if performance-related effects are anticipated among employees engaged in safety-critical work.<sup>81</sup>

### **6.3 International perspective**

A 2007 Cochrane systematic review of interventions for preventing injuries in the construction industry concluded that there is limited evidence that a multifaceted safety campaign, and a multifaceted drug program, can reduce non-fatal injuries in the construction industry.<sup>82</sup> Three studies evaluated the effect of regulations, a safety campaign, or a drug-free workplace program. Regulatory interventions did not show either an initial or sustained effect on fatal or non-fatal injuries. The safety campaign had an initial and sustained effect, reducing non-fatal injuries. The drug-free workplace programme had an initial and sustained effect, reducing non-fatal injuries compared to no intervention.

In Australia, alcohol policies (accompanied by supporting procedures) are considered an integral part of workplace 'risk management', suggesting that such policies substantiate employers' 'duty of care' obligations, prevent procedural uncertainty, demonstrate commitment to safety and education, and facilitate 'peer support' that potentially positively informs workplace behaviour and culture. It has been suggested that workplaces should develop policies on a collaborative and consultative basis and they should be clearly communicated to all staff once developed.<sup>83</sup>

### **6.4 Summary**

Drug policies are more successful when conceived as a component of health and welfare policy rather than primarily a disciplinary matter.<sup>39</sup>

## Chapter 7 – Workplace screening and testing

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Little is known about the extent of screening and testing for alcohol and/or illicit drug use in the workplace setting in the UK. A small survey conducted for an independent inquiry in 2003 found that only four per cent of companies tested, and nine per cent planned to introduce testing.<sup>38</sup> Many employers stated they would consider testing, if they believed alcohol and illicit drug use affected productivity (78%), health and safety (89%), or if they believed use was prevalent within their workforce (72%). Employers and trades unions accept that testing is of value in safety-critical occupations (eg railway workers). Some employers view drug testing as an important part of their obligation under health and safety legislation. In non-safety critical areas, the benefits of testing are less obvious.<sup>84</sup> Most employers who conducted testing told the inquiry that levels of positive results were very low.<sup>38</sup> There is no clear evidence that drug testing at work has a significant deterrent effect.<sup>38</sup>

### 7.1 Practical and legal issues of screening and testing

Screening employees for alcohol and/or illicit drug use in the workplace is a complex and contentious topic involving moral, ethical and legal issues.<sup>77</sup> Screening is only likely to be acceptable if it is clearly designed to prevent risks to others.<sup>7</sup> Testing for alcohol is less contentious, particularly in safety-sensitive jobs. Alcohol testing directly assesses breath/alcohol levels, and these levels have been associated with given risk of impairment. However, the evidence base remains scant.<sup>80</sup> The illegal nature of illicit drug use, the potential for confusion with prescribed medication, the lack of easily demonstrable dose-effect relationships, and the persistence of some substances create practical difficulties for testing programmes. Those undergoing testing should be invited to declare their use of any prescription, pharmacy or over-the-counter medication.<sup>78</sup> Testing for illicit drugs does not assess current intoxication and reveals information about use that may have no impact on safety, productivity or performance. Someone may test positive after taking an illicit drug days, weeks or months prior to the test.<sup>38</sup> Testing aims to confirm an individual's ability to work safely is not impaired by alcohol or illicit drugs.

Testing should only be introduced after careful consideration and alongside a detailed policy that sets out the reasons for testing, the procedures to be followed, and any role for health professionals.<sup>85</sup> Legal issues around testing arise from the *Human Rights Act 1998* (HRA), and the *Data Protection Act 1998* (DPA).<sup>38</sup> The HRA incorporated the European Convention on Human Rights into UK law. Article eight of the convention provides the right to private life which could have implications for the legality of testing for illicit drugs at work. *The Information Commissioner's Employment Practices Code Part IV* states that 'the collection of information through drug and alcohol testing is unlikely to be justified unless it is for health and safety reasons', and that employers should 'confine the obtaining of information through random testing to those workers who are to work in safety-critical activities'.<sup>86</sup> Post-incident testing where there is a reasonable suspicion that illicit drug or alcohol use is a factor is more likely to be justified than random testing.

The *Equality Act 2010* does not regard impairment or dependency on alcohol or an illicit drug as a defence against testing.

Because of the practical and legal issues involved employers must secure the agreement of the workforce and/or their representatives to the principle of screening and to incorporate this in employees' contracts of employment.<sup>7,8</sup> Employers should advise prospective employees of any screening for alcohol and illicit drugs as part of the recruitment process and whether a positive test precludes employment.<sup>82</sup>

A robust and comprehensive policy must be introduced before testing starts, and there should be an amnesty of a few months to allow current users to become abstinent or seek help.

## 7.2 Consent and confidentiality

Written consent is needed for each test. This consent applies only to tests relating specifically to alcohol and illicit drugs, and to no other substances, condition or disease. Medical confidentiality should be assured. The occupational physician and others involved should be clear as to the purpose and consequences of the test<sup>78</sup> and distinguish clearly between tests for alcohol and illicit drugs and tests undertaken for clinical purposes. Where testing is part of a post-offer health assessment the occupational physician owes no legal duty of care to the subject (other than to ensure that the process is appropriate and valid). Good medical practice demands good clinical judgement and an appropriate analysis of risk in determining fitness for particular employment.<sup>78</sup>

Test results are classified as sensitive personal data under the terms of the DPA. Medical professionals should inform employers whether an employee is considered fit or unfit for work without disclosing the actual test result. A positive test does not in itself imply impairment, but it is a marker for behaviour involving use of illicit drugs that may affect safety at work. It indicates that illegal substances have been used and therefore that at some point in the user's recent past they may have caused impairment. The test cannot tell whether the user is a habitual user or a one-off user. For habitual users of high doses of substances, the length of time the metabolites are present in the urine can be significantly longer (as in the case of cannabis).<sup>78</sup>

## 7.3 Practical aspects of screening and testing

Testing should be used and presented as a supportive tool to help identify any employee who might cause harm to themselves or others. UK drug testing services are provided by a disparate group of companies and individuals. Many are very responsible, but some may be making what appear to be inflated claims about the extent and impact of alcohol and illicit drug problems in the workplace, and the effectiveness of their own products.<sup>38</sup> All major providers of laboratory services for alcohol and drug testing are members of the UK Workplace Drug Testing Forum ([www.wdtforum.org.uk](http://www.wdtforum.org.uk)). Laboratories should be accredited to ISO17025 for laboratory quality management, and also participate in the UK National Quality Assurance Scheme for quality assurance of alcohol and illicit drug testing results.

Testing can be performed at the following times:

- *recruitment* – as part of selection process
- *random* – of all or part of the workforce routinely
- *for cause* – after an accident or incident to determine causation
- *due cause* – when an employee is suspected of being unfit because of possible intoxication
- *group monitoring* – for a particular problem (eg employees reporting for work with alcohol in their bloodstream from the previous evening's drinking)
- *individual monitoring* – as part of employee's rehabilitation programme assuring freedom from alcohol or illicit drugs for the purposes of entering the workplace, and assessing progress following return to work after detoxification treatment.<sup>7,30,78</sup>

Workplace drug testing is performed predominantly using urine samples for which there is extensive scientific information. Oral fluid and hair is used increasingly in routine workplace testing schemes. Scientific data validating the use of oral fluid and hair, as alternative sampling techniques, appears satisfactory to justify their potential routine use. Published data and limited information of sweat testing highlight possible concerns about the specificity of sweat wipe testing for some drugs. Urine, oral fluid and sweat drug tests reflect recent exposure. Hair testing identifies past drug use over weeks and months and so is not applicable for 'due-cause testing', but is considered more applicable to recruitment and rehabilitation testing.<sup>87</sup>

There is limited published data from large-scale workplace studies that compares the efficacy of a workplace drug-testing programme based on oral fluid versus urine testing. Analysis suggests that they have comparable efficiency in detecting recent illicit drug use. Both detect recent illicit drug use. The 'time window of detection' for most drugs in oral fluid is shorter than that for urine. A shorter detection window coupled with a more immediate detection after illicit drug use in oral fluid measurements may indicate a closer relation with 'impairment', and therefore of particular relevance in 'due-cause' testing.<sup>84</sup>

Chain of custody (CoC) for donated samples is one of the key elements in the defensibility of individual results and maintaining the credibility of schemes in general. This maintains a proven link between a donated sample and the results reported for that sample, and ensures that samples are stored appropriately. The CoC procedures for workplace testing are modelled on the handling of forensic samples; the same principles are applicable for any sampling media.<sup>84</sup> Any laboratory accredited by the National Measurement Accreditation Service will have satisfied assessors that it provides a service that meets all criteria.<sup>7</sup> Normally, the collected sample is split at the point of collection into sample A and sample B. If a positive result is reported for sample A, the test subject has the opportunity to challenge this report and arrange for independent testing of sample B. Each stage of the chain must be capable of audit, enabling tracking, and validation of the integrity of the sample.<sup>78</sup>

#### **7.4 International perspectives**

Workplace drug testing is common in the USA.<sup>90</sup> Nearly half of all workers have reported that their employer performs testing, with possibly 90 per cent of Fortune 200 firms undertaking them.<sup>91</sup> Few studies provide evidence that testing deters use; however illicit drug use (particularly cannabis) is lower in tested workforces. In studies with large negative correlations between testing and use, suggesting a deterrent effect, the conclusions may have been overstated due to omitted variables. Large negative associations are also found for where an employer has drug education, employee assistance programmes, and/or a written substance use policy. These workplace characteristics reduce, but do not eliminate, the testing differential. The overall pattern of results is largely consistent with drug testing deterring use.

A Cochrane systematic review of two USA studies assessed the effect of mandatory alcohol and drug screening of occupational drivers to prevent injury or work-related effects, such as sickness absence related to injury.<sup>92</sup> In one study mandatory random and for-cause alcohol testing was associated with a significant decrease in the level of injuries immediately following the intervention, but did not significantly affect the existing long-term downward trend. There was insufficient evidence to advise for or against drug and alcohol testing of occupational drivers for preventing injuries as a sole, effective, long-term solution.

In Australia, some employers have adopted an approach that incorporates the opportunity to self test along with random testing and for-cause testing. If they test themselves using a hand-held breath-testing machine and record a positive result, they report sick. Usual procedures for sick leave are employed (eg frequent regular sick leave will be investigated and/or require a medical certificate). Although the approach seems to have some merit, no analysis has been reported.<sup>80</sup>

## 7.5 Summary

- Employers may use alcohol and drug testing at the recruitment stage and/or for testing of current employees.
- Alcohol and drug testing has grown as a result of practice transferred from the USA and elsewhere, and it may become more commonplace in the UK. Its effect in reducing occupational injuries remains unclear, despite some robust reviews of the evidence.
- A 2004 UK independent review identified some uncertainties in legal aspects with workplace drug testing (employment, health and safety, data protection, human rights and discrimination legislation), and in regard to workplace drug testing in general, the report indicates that testing related to safety-critical activities is defensible.
- A robust alcohol and illicit drug use policy needs to be in place to avoid any potential pitfalls, and to comply with existing legislation and guidance.
- Good communication of policy by employers to employees, and potential employees, is essential; including guidance on drug and alcohol testing regarding what, to whom and for what purpose, and the consequences of refusal, and the essential elements of informed consent for that testing.
- Samples for testing must be appropriately safeguarded, where appropriate, and tested by appropriate facilities.
- Interpretation of results must be undertaken by practitioners who have the competence for the task (often referred to as Medical Review Officers).
- Results, and advice, should comply with medical best practice and data protection requirements.

## Chapter 8 – Management in the workplace

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Additional to the medical management of individuals with problems with alcohol and illicit drug use – which is addressed in other guidance published by BMA Board of Science<sup>34,35</sup>– it is important that health professionals are aware that:

- a significant proportion of adults who are at risk for alcohol and illicit drug problems are employed, hence the workplace provides good opportunities for public health interventions.
- most individuals who have problems with alcohol use, and many with illicit drug use problems, are in employment. Health practitioners need to consider their patient's job, including whether that patient is fit to attend work, to function safely in their job, and to perform specific duties, particularly where the safety of that individual, of co-workers and the general public might be at risk.

### 8.1 Workplace intervention programmes

#### Health promotion programmes

There is limited evidence for workplace intervention programmes directed either toward at risk workers or an entire workforce. Workplace health promotion programmes aim to improve employee health and wellness through education aimed at behavioural change rather than addressing alcohol and drugs specifically. A systematic review of the association between work health promotion and job wellbeing, work ability, and absenteeism reported moderate evidence that work health promotion decreases sickness absences and increases mental but not physical wellbeing.<sup>93</sup> Sickness absences appeared to be reduced by activities promoting healthy lifestyle but not by education and psychological methods. Another systematic review reported that two out of three studies on alcohol use found that health promotion programmes were associated with significant reductions in consumption. The studies yielded mixed results regarding the overall impact of wellness programmes on health-related behaviours and substance use, while the evidence for effects on absenteeism and mental health was insufficient.<sup>92</sup>

#### Brief interventions

Brief interventions typically involve personal assessment of an individual's lifestyle risks and related problems, as well as feedback about risks. Evidence is emerging from quality studies that brief interventions – including those delivered by web-based media – are accessible, acceptable and impact on a broad range of employees. This includes employees who are drinking at risky levels, as well as those who are easily identifiable as being dependent on alcohol, and who might appropriately be referred to more intensive counselling services.<sup>83</sup> A recent study of screening and brief intervention for risky alcohol consumption at a large transport company found no significant differences between brief and comprehensive intervention groups, or between intervention groups and the control group, at follow-up 12 months later.<sup>95</sup> The results suggested that alcohol screening and brief intervention performed in connection with routine health and lifestyle examinations in the workplace may be effective in reducing alcohol consumption. The lack of difference in outcome between intervention groups and the control group may indicate that alcohol screening (by questionnaire or bio-markers) may in itself cause reduction in drinking. Guidance published by NICE has stated that brief interventions can be used opportunistically in a variety of settings for people not in contact with drug services.<sup>96</sup>

#### Web-based health interventions

Recent research points to the potential effectiveness of web-based technology for improving health outcomes in the workplace. This is consistent with research in other settings (eg university students or as part of a general health intervention) that web-based brief interventions are acceptable, have good penetration into target groups, and have an impact on drinking behaviour.<sup>83</sup> Web-based interventions allow employees to access the intervention anytime they want and in private to avoid disclosing a potential alcohol or illicit drug use problem. A meta-analysis of randomized clinical trials – that evaluated 82 separate computer-delivered health promotion interventions (CDI) – concluded that CDI can help individuals to make immediate post-intervention improvements in health-related knowledge,

attitudes, and intentions, as well as modifying health behaviours such as dietary intake, tobacco use, substance use, safer sexual behaviour, binge / purging behaviours, and general health maintenance. The evidence did not support the use of CDIs to improve physical activity, weight loss, or diabetes self-management.<sup>97</sup>

### **Employee assistance programmes**

Employee assistance programmes (EAPs) are worksite focused programmes which aim to assist in the identification and resolution of a broad range of employee concerns, which affect, or may affect, performance. With respect to alcohol and illicit drug use, EAPs focus on the assessment and identification of employees with problems, and their referral for appropriate treatment. Workers may refer themselves to an EAP, may be referred informally by the manager or by occupational health staff, or may be referred formally by their manager as part of a performance management process.

Although EAPs are commonly used strategies to reduce alcohol and illicit drug problems in the workplace, these programmes are seldom evaluated, and little is known about their effectiveness.<sup>83</sup>

A systematic review identified only three randomised control studies all from the US in which:

- one study found significant improvements on a number of outcomes for three different alcohol treatment conditions
- one study found no impact of enhanced follow up over treatment as usual for substance use clients
- one study found no difference between intervention and control groups following the introduction of a substance use programme.<sup>98</sup>

The evidence from these heterogeneous studies is mixed and lack of replication means that they provide only limited evidence about the effectiveness of the EAP elements evaluated.

## **8.2 Fitness for work**

The primary purpose of a medical assessment of fitness for work is to make sure that an individual is fit to perform the task involved effectively and without risk to their own or others' health and safety. It is not the intention to exclude the applicant from the job if at all possible, but to modify or adjust it as necessary to allow them to work efficiently and safely.<sup>99</sup> Occupational health services provide information and advice to employees and employers regarding fitness for work and rehabilitation back to work, but few UK employees have access to an occupational health service. Since the GMC requires that doctors recognise and work within the limits of their competence, other practitioners must decide whether they are comfortable with advising about fitness for specific duties, or whether to refer a patient to another practitioner when this better serves the patient's needs.<sup>100</sup>

An employer can arrange modified work duties to support an employee's rehabilitation and return to normal work. In order to do so the employer will need to understand the nature and severity of the situation. All medical information about an employee is confidential and can only be disclosed to the employer with the informed consent of the employee. Care should be taken by health practitioners to disclose only such information that is necessary for this purpose.<sup>81</sup> The information provided should be confined to non-medically confidential information such as functional capacity and workplace adjustments, (ie what the employee can and cannot do safely), that allow the employer to manage the issue and also discharge their own health and safety legal obligations.

Employees undergoing detoxification should not be employed in safety-critical roles, and in the meantime should normally be re-deployed temporarily to other work until they have successfully completed appropriate treatment.<sup>81</sup> The choice of treatment/rehabilitation for an individual with an illicit drug or alcohol problem needs expert assessment, and is best arranged through the occupational health department or the treatment provider.<sup>87</sup> Where a period of sickness absence is indicated and where employees co-operate with their treatment they should be supported with appropriate sickness

absence benefits.<sup>81</sup> A return to safety critical work involves the completion of appropriate treatment and in most cases; a period of monitoring that could include random and/or unannounced testing to detect any relapse of problems with alcohol or illicit drug use.<sup>81,87</sup> Urine and oral fluid testing may have a role within rehabilitation, pre- and post-return to duty, but with consideration that they reflect only recent exposure and the need for being unannounced to maintain the value of such testing. This may suggest an increased frequency of unannounced testing for that individual during an initial monitoring period of re-commencing safety critical activities. Hair analysis may be a useful technique for employer and employee to prove drug abstinence over a longer time frame of weeks or months for return-to-duty testing and post-return-to-duty testing.<sup>87</sup>

Blood Carbohydrate – deficient transferrin (CDT) is an alternative for detection and monitoring of increased consumption and progress towards abstinence<sup>88</sup> and has a high diagnostic value to support diagnosis of alcohol-use disorders. The specificity of this marker in patient groups with liver disorders is superior to the biomarkers gamma-GT and MCV.<sup>89</sup>

### 8.3 International perspectives

The US transport regulatory model for rehabilitation and treatment in workers with a drug or alcohol violation involves the defined and accredited role of a 'Substance Abuse Professional'. This expert role, independent of employer or employee, is to define and ensure completion of an appropriate treatment regime for the individual before they can be returned to any safety critical work. The period of removal from safety critical activities for those with drug or alcohol violation according to the US regulations is not stipulated. The 'Substance Abuse Professional' also defines the necessary level of monitoring and assessment of the individual returning to such duties.<sup>87</sup>

### 8.4 Summary

- Since a significant proportion of adults who are at risk for problems with alcohol and illicit drug use are employed the workplace provides good opportunities for public health interventions.
- The evidence for the impact of health promotion programmes at the workplace is limited.
- Web-based approaches that include alcohol and illicit drugs as part of a general health promotion allow employees to access the intervention when they want, and in private, and have been shown to be effective.
- Brief intervention approaches that involve personal assessment of an individual's drinking rates and related problems, as well as feedback about health risks, is likely to have the most potential.
- Although EAPs are commonly used strategies to reduce problems with alcohol and illicit drug use in the workplace, these programmes are seldom evaluated, and little is known about their effectiveness.
- The downfall to these approaches will occur eventually if the programmes are not sustained over time, and if obstacles (eg lack of organisational support and cooperation in implementing follow-up interventions) are not overcome.<sup>53</sup>

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k Biochemical detection and monitoring of alcohol abuse and abstinence. *Ann Clin Biochem* November 1, 2001 vol 38 no.6 652-664.  
l Validity of CDT, gamma-GT and MCV as biomarkers for chronic alcohol abuse. *Addiction*. 2005 Oct; 100(10):1477-86

## Other resources

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### **BMA**

- Alcohol – <http://bma.org.uk/working-for-change/improving-and-protecting-health/alcohol>
- Drugs – <http://bma.org.uk/news-views-analysis/in-depth-drugs-of-dependence>
- Driving under the influence of drugs – [http://bmaopac.hosted.exlibrisgroup.com/exlibris/aleph/a21\\_1/apache\\_media/R65SS6HJG36V8MIJQ3768QHFKSRQK2P.pdf](http://bmaopac.hosted.exlibrisgroup.com/exlibris/aleph/a21_1/apache_media/R65SS6HJG36V8MIJQ3768QHFKSRQK2P.pdf)

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### **GMC**

- Tomorrow's Doctors – [http://www.gmc-uk.org/education/undergraduate/tomorrows\\_doctors.asp](http://www.gmc-uk.org/education/undergraduate/tomorrows_doctors.asp)
- Good Medical Practice – <http://www.gmc-uk.org/guidance/index.asp>

### **Driver & Vehicle Licensing Agency**

- <https://www.gov.uk/government/organisations/driver-and-vehicle-licensing-agency>

### **Health and Safety Executive**

- <http://www.hse.gov.uk/alcoholdrugs/>

### **Faculty of Occupational Medicine**

- <http://www.fom.ac.uk/>

### **NICE**

- NICE Pathways: [Alcohol Use Disorders](#)

## References

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- 1 Nicholson PJ (2004) Occupational health services in the UK – challenges and opportunities. *Occupational Medicine* **54**: 147-52.
- 2 General Medical Council (2009) *Tomorrow's doctors*. London: General Medical Council.
- 3 Office for National Statistics (2013) *Alcohol-related deaths in the United Kingdom, 2011*. Newport: Office for National Statistics.
- 4 Davies C, English L, Stewart C et al (2012) *United Kingdom drug situation: annual report to the European monitoring centre for drugs and drug addiction (EMCDDA) 2012*. London: United Kingdom Focal Point at the Department of Health.
- 5 Office for National Statistics (2013) *Population estimates for UK, England and Wales, Scotland and Northern Ireland, mid-2011 and mid-2012*. Newport: Office for National Statistics.
- 6 Office for National Statistics (2013) *Labour market statistics, December 2013*. Newport: Office for National Statistics.
- 7 Health & Safety Executive (1996) *Don't mix it: a guide for employers on alcohol at work*. Bootle: Health & Safety Executive.
- 8 Health & Safety Executive (2004) *Drug misuse at work: a guide for employers*. Bootle: Health & Safety Executive.
- 9 British Beer and Pub Association (2013) *Statistical handbook 2013*. London: British Beer and Pub Association.
- 10 Dunstan S (2012) *General Lifestyle Survey overview. A report on the 2010 general lifestyle Survey*. Newport: Office for National Statistics.
- 11 Health & Safety Executive (2004) *The scale and impact of illegal drug use by workers*. Bootle: Health & Safety Executive.
- 12 Dunstan, S (2012) *General Lifestyle Survey overview, a report on the 2010 General Lifestyle Survey*. Newport: Office for National Statistics.
- 13 Office for National Statistics (2013) *General Lifestyle Survey overview - a report on the 2011 General Lifestyle Survey*. Newport: Office for National Statistics.
- 14 Office for National Statistics Statistical Bulletin (2013) *Drinking habits amongst adults, 2012*. Newport: Office for National Statistics.
- 15 McManus S, Meltzer H, Brugha T et al (2009) *Adult Psychiatric Morbidity in England, 2007. Results of a household survey*. Leeds: The NHS Information Centre for Health and Social Care.
- 16 Home Office (2012) *Drug misuse declared: findings from the 2011/12 crime survey for England and Wales*. London: Home Office.
- 17 Scottish Government (2012) *2010/11 Scottish crime and justice survey: drug use*. Edinburgh: Scottish Government Social Research.
- 18 Department for Health Social Security and Public Safety (2011) *Drug use in Ireland and Northern Ireland drug prevalence survey 2010/11*. Belfast: Department for Health Social Security and Public Safety.
- 19 Norwich Union Healthcare press release (7.5.08) UK employees admit that regular drinking affects their jobs.
- 20 PruHealth press release (30.11.06) 200,000 Hungover workers on any given day. Effects of 'Booze Britain' hit the workplace.
- 21 York Health Economics Consortium, University of York (2010) *The societal cost of alcohol misuse in Scotland for 2007*. Edinburgh: The Scottish Government.
- 22 Ramsay M, Barker P, Goulden C et al (2001) *Drug misuse declared in 2000: results from the British Crime Survey*. London: Home Office Research, Development and Statistics Directorate.
- 23 Scottish Government (2012) *2010/11 Scottish Crime and Justice Survey: drug use*. Edinburgh: Scottish Government Social Research.
- 24 Larson SL, Eyerman J, Foster MS et al (2007) *Worker substance use and workplace policies and programs (DHHS Publication No. SMA 07-4273, Analytic Series A-29)*. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- 25 Substance Abuse and Mental Health Services Administration (2013) *Results from the 2012 National Survey on drug use and health: summary of national findings, NSDUH Series H-46, HHS Publication No. (SMA) 13-4795*. Rockville, MD: Substance Abuse and Mental Health Services Administration.

- 26 Accident Compensation Corporation, Alcohol Advisory Council of New Zealand & New Zealand Drug Foundation (2008) *Alcohol and other drugs in the workplace – employers guide*. Wellington: Accident Compensation Corporation.
- 27 Berry JG, Pidd K, Roche AM et al (2007) Prevalence and patterns of alcohol use in the Australian workforce: findings from the 2001 National Drug Strategy Household Survey. *Addiction* **102**: 1399-410.
- 28 Pidd K, Berry JG, Harrison JE et al (2006) *Alcohol and work: patterns of use, workplace culture & safety*. Adelaide: Australian Institute of Health and Welfare.
- 29 Pidd K, Shtangey V & Roche AM (2008) *Alcohol use in the Australian workforce: prevalence, patterns, and implications: findings from a secondary analysis of 2004 NDSHS data*. Adelaide: National Centre for Education and Training on Addiction, Flinders University.
- 30 Breugem L, Barnett L, Cormack S et al (2006) *The impact of alcohol & other drugs in the workplace. Final project report 2006*. Adelaide: SafeWork SA and Drug and Alcohol Services South Australia.
- 31 Brown D & Bowden Jones D (2013) Drugs and alcohol in the workplace. In: Palmer KT, Brown I & Hobson J (eds) *Fitness for work*. Oxford: Oxford University Press.
- 32 Rehm J, Room R, Graham K et al (2003) The relationship of average volume of alcohol consumption and patterns of drinking to burden of disease: an overview. *Addiction* **98**: 1209-28.
- 33 Room R, Babor T & Rehm J (2005) Alcohol and public health. *The Lancet* **365**: 519-30.
- 34 British Medical Association (2008) *Alcohol misuse: tackling the UK epidemic*. London: British Medical Association.
- 35 British Medical Association (2013) *Drugs of dependence – the role of medical professionals*. London: British Medical Association.
- 36 Holtermann S & Burchell A (1981) *Government economic service working party. No 37*. London: Department of Health and Social Security.
- 37 Leontaridi R (2003) *Alcohol misuse: how much does it cost?* London: Cabinet Office.
- 38 National Institute for Health and Clinical Excellence (2010) *Alcohol-use disorders: preventing harmful drinking. Costing report*. London: National Institute for Health and Clinical Excellence.
- 39 Roberts M (2004) *Drug testing in the workplace. The Report of the independent inquiry into drug testing at work*. York: Joseph Rowntree Foundation.
- 40 Prime Minister's Strategy Unit (2003) *Strategy unit alcohol harm reduction project: interim analytical report*. London: Cabinet Office.
- 41 Lister G (2007) *Evaluating social marketing for health – the need for consensus*. Proceedings of the National Social Marketing Centre, 24-25 September, Oxford.
- 42 Johnston MC, Ludbrook A & Jaffray MA (2012) Inequalities in the distribution of the costs of alcohol misuse in Scotland: a cost of illness study. *Alcohol and Alcoholism* **47**: 725-31.
- 43 Hay G & Bauld L (2008) *Population estimates of problematic drug users in England who access DWP benefits: a feasibility study. DWP Working Paper No. 46*. London: Department for Work and Pensions.
- 44 Hay G & Bauld L (2010) *Population estimates of alcohol misusers who access DWP benefits. DWP Working Paper.No. 94*. London: Department for Work and Pensions.
- 45 Casey J, Hay G, Godfrey C et al (2009) *Assessing the scale and impact of illicit drug markets in Scotland*. Edinburgh: The Scottish Government.
- 46 *Confronting substance abuse in small business*. Proceedings of the National Conference sponsored by US Department of Labor, the Small Business Administration and the Office of National Drug Control Policy, (1992) Washington DC.
- 47 European Alcohol and Health Forum (2011) *Alcohol, work and productivity. Scientific opinion of the science group of the European alcohol and health forum*. Brussels: European Alcohol and Health Forum.
- 48 Johansson E, Böckerman P & Uutela A (2009) Alcohol consumption and sickness absence: evidence from microdata. *European Journal of Public Health* **19**:19-22.
- 49 Anderson P, Möller L & Galea G (2012) *Alcohol in the European Union. Consumption, harm and policy approaches*. Copenhagen: WHO Regional Office for Europe.
- 50 Rehm J, Baliunas D, Brochu Set al (2006) *The costs of substance abuse in Canada 2002*. Ottawa, ON: Canadian Centre on Substance Abuse.

- 51 Collins DJ & Lapsley HM (2008) *The costs of tobacco, alcohol and illicit drug abuse to Australian society in 2004/05*. Canberra: Australian Government Department of Health & Ageing.
- 52 *National workshop on alcohol policy: health perspectives*. Proceedings of the All India Institutes of Medical Sciences, 25-26 September 1997, New Delhi.
- 53 Ames GM & Bennett JB (2011) Prevention interventions of alcohol problems in the workplace. A review and guiding framework. *Alcohol Research & Health* 34: 175-9.
- 54 Roche AM, Pidd K, Berry JG et al (2008) Workers' drinking patterns: the impact on absenteeism in the Australian workplace. *Addiction* 103:738-48.
- 55 National Occupational Health and Safety Commission (1999) *Work-related traumatic fatalities in south Australia, 1989-1992*. Canberra: National Occupational Health and Safety Commission.
- 56 World Health Organization (2004) *WHO global status report on alcohol 2004*. Geneva: Department of Mental Health and Substance Abuse, World Health Organization.
- 57 Norström T (2006) Per capita alcohol consumption and sickness absence. *Addiction* 101: 1421-7.
- 58 Norström T & Moan IM (2009) Per capita alcohol consumption and sickness absence in Norway. *European Journal of Public Health* 19: 383-8.
- 59 Galea S & Ghodse H (2005) Drug misuse and the work culture. In: *Addiction at work: tackling drug use and misuse in the workplace*. Ghodse H (eds). Aldershot: Gower Publishing Ltd.
- 60 Lucas G (2005) Effects and risks of workplace culture In: *Addiction at work: tackling drug use and misuse in the workplace*. Ghodse H (eds). Aldershot: Gower Publishing Ltd
- 61 Coggon D, Harris EC, Brown T et al (2009) *Occupational mortality in England and Wales, 1991-2000*. London: Office for National Statistics.
- 62 Romeri E, Baker A & Griffiths C (2007) Alcohol-related deaths by occupation, England and Wales, 2001-05. *Health Statistics Quarterly* 35: 6-12.
- 63 Head J, Stansfeld SA & Siegrist J (2004) The psychosocial work environment and alcohol dependence: a prospective study. *Journal of Occupational and Environmental Medicine* 61:219-24.
- 64 Larson S L, Eyerman J, Foster M S et al (2007) Worker substance use and workplace policies and programs (DHHS Publication No. SMA 07-4273, Analytic Series A-29). Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- 65 Hemström O (2002) Alcohol-related deaths contribute to socioeconomic differentials in mortality in Sweden. *European Journal of Public Health* 12: 254-62.
- 66 Hemmingsson T, Ringbäck & Weitoft G (2001) Alcohol-related hospital utilization and mortality in different occupations in Sweden in 1991-1995. *Scandinavian Journal of Work, Environment and Health* 27: 412-9.
- 67 Gibb SJ, Fergusson DM & Horwood LJ (2012) Working hours and alcohol problems in early adulthood. *Addiction* 107: 81-8.
- 68 Marchand A, Parent-Lamarche A & Blanc M (2011) Work and high-risk alcohol consumption in the Canadian workforce. *International Journal of Environmental Research and Public Health* 8: 2692-705.
- 69 Health & Safety Executive (2003) *Driving at work: managing work-related road safety*. Bootle: Health & Safety Executive.
- 70 Carter T (2006) *Fitness to drive – a guide for health professionals*. London: Department for Transport.
- 71 British Medical Association (1990) *BMA guide to living with risk*. London: British Medical Association.
- 72 Roberts S & Marlow P (2005) Traumatic work related mortality among seafarers employed in British merchant shipping 1976-2002. *Occupational and Environmental Medicine* 62: 172-80.
- 73 Slovic P (1987) Perception of risk. *Science* 236: 280-5.
- 74 British Medical Association (2012) *Risk: what's your perspective*. London: British Medical Association.
- 75 British Medical Association (2009) *Driving under the influence of drugs* London: British Medical Association.
- 76 Driving and Vehicle Licensing Agency (2013) *At a glance. Guide to the current medical standards of fitness to drive – for medical practitioners*. Swansea: Driving and Vehicle Licensing Agency.
- 77 General Medical Council (2009) *Good medical practice: confidentiality*. London: General Medical Council.

- 78 General Medical Council (2009) *Confidentiality: reporting concerns about patients to the DVLA or DVA*. London: General Medical Council.
- 79 Giroto E, Eumann Mesas A, de Andrade SM et al (2014) Psychoactive substance use by truck drivers: a systematic review. *Occupational and Environmental Medicine* **71**: 71-6.
- 80 International Labour Office (1996) *Alcohol- and drug-related issues in the workplace*. Geneva: International Labour Office.
- 81 Faculty of Occupational Medicine, Royal College of Physicians of London (2006) *Guidance on alcohol and drug misuse in the workplace*. London: Faculty of Occupational Medicine.
- 82 van der Molen HF, Lehtola MM, Lappalainen J et al (2007) *Interventions for preventing injuries in the construction industry*. Cochrane Database of Systematic Reviews: CD006251.
- 83 Cercarelli R, Allsop S, Evans M et al (2012) *Reducing alcohol-related harm in the workplace (an evidence review: full report)*. Melbourne: Victorian Health Promotion Foundation.
- 84 Parliamentary Office of Science and Technology (2004) *Drug tests*. London: Parliamentary Office of Science and Technology.
- 85 Faculty of Occupational Medicine, Royal College of Physicians (2012) *Ethics guidance for occupational health practice*. London: Faculty of Occupational Medicine.
- 86 Information Commissioner's Office (2011) *The employment practices code*. Wilmslow: Information Commissioner's Office.
- 87 Akrill P & Mason H (2004) *Review of drug testing methodologies (T133) HE 04 / 04*. London: Rail Safety and Standards Board.
- 88 Sharpe PC (2001) Biochemical detection and monitoring of alcohol abuse and abstinence. *Ann Clin Biochem* **38** 652-664.
- 89 Hock B, Schwarz M, Domke I, et al (2005) Validity of carbohydrate-deficient transferrin (%CDT), gamma-glutamyltransferase (gamma-GT) and mean corpuscular erythrocyte volume (MCV) as biomarkers for chronic alcohol abuse: a study in patients with alcohol dependence and liver disorders of non-alcoholic and alcoholic origin. *Addiction* **100**:1477-86
- 90 San Francisco Chronicle (12.8.01) *The drug testing industry is a multibillion dollar profit center*.
- 91 Flynn G (1999) How to prescribe drug testing. *Workforce* **78**: 107-9.
- 92 Cashman CM, Ruotsalainen JH, Greiner BA et al (2009) *Alcohol and drug screening of occupational drivers for preventing injury*. Cochrane Database of Systematic Reviews:CD006566.
- 93 Kuoppala J, Lamminpää A & Husman P (2008) Work health promotion, job well-being, and sickness absences- a systematic review and meta-analysis. *Journal of Occupational and Environmental Medicine* **11**: 1216-27.
- 94 Osilla KC, Van Busum K, Schnyer C et al (2012) Systematic review of the impact of worksite wellness programs. *American Journal of Managed Care* **18**: e68-81.
- 95 Hermansson U, Helander A, Brandt L et al (2010) Screening and brief intervention for risky alcohol consumption in the workplace: results of a 1-year randomized controlled study. *Alcohol and Alcoholism* **45**: 252-7.
- 96 National Institute for Health and Clinical Excellence (2007) *Drug misuse: psychosocial interventions*. London: National Institute for Health and Clinical Excellence.
- 97 Portnoy DB, Scott-Sheldon LA, Johnson BT et al (2008) Computer-delivered interventions for health promotion and behavioral risk reduction: a meta-analysis of 75 randomized controlled trials, 1988-2007. *Preventive Medicine* **47**: 3-16.
- 98 Rick J, Carroll C, McGregor M et al (2012) *Systematic review of the effectiveness and cost effectiveness of employee assistance programmes. Systematic review final report*. Sheffield: Institute of Work Psychology, University of Sheffield.
- 99 Palmer KT & Brown I (2013) A general framework for assessing fitness for work. In: Palmer KT, Brown I & Hobson J (eds) *Fitness for work*. Oxford: Oxford University Press.
- 100 General Medical Council (2013) *Good medical practice*. London: General Medical Council.