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## ARTICLE

### Global statistics on addictive behaviours: 2014 status report

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#### Abstract

**Background and aims:** Addictive behaviours are among the greatest scourges on humankind. It is important to estimate the extent of the problem globally and in different geographical regions. Such estimates are available but there is a need to collate and evaluate these to arrive at the best available synthetic figures. Addiction has commissioned this paper as the first of a series attempting to do this.

**Methods:** Online sources of global, regional and national information on prevalence and major harms relating to alcohol use, tobacco use, unsanctioned psychoactive drug use and gambling were identified through expert review and assessed. The primary data sources located were the websites of the World Health Organization (WHO), the United Nations Office on Drugs and Crime (UNODC) and the Alberta Gambling Research Institute. Summary statistics were compared with recent publications on the global epidemiology of addictive behaviours.

**Results:** An estimated 4.9% of the world's adult population (240 million people) suffer from alcohol use disorder (7.8% of men and 1.5% of women) with alcohol causing an estimated 257 disability adjusted life years lost per 100,000 population. An estimated 22.5% of adults in the world (one billion people) smoke tobacco products (32.0% of men and 7.0% of women). It is estimated that 11% of deaths in males and 6% of deaths in females each year are due to tobacco. Of 'unsanctioned psychoactive drugs', cannabis is the most prevalent at 3.5% globally with each of the others at <1%; 0.3% of the world's adult population (15 million people) inject drugs. Use of unsanctioned psychoactive drugs accounts for an estimated 83 disability adjusted life years lost per 100,000 population. Global estimates of problem gambling are not possible but in countries where it has been assessed the prevalence is estimated at 1.5%.

Conclusions: Tobacco and alcohol use are by far the most prevalent addictive behaviours and cause the large majority of the harm. However, the quality of data on prevalence and addiction-related harms is mostly low and comparisons between countries and regions must be viewed with caution. There is an urgent need to review the quality of data on which global estimates are made and co-ordinate efforts to arrive at a more consistent approach.

## **Introduction**

Addictive behaviours (primarily alcohol consumption, tobacco smoking, and unsanctioned psychoactive drug use<sup>1</sup>) are major contributors to the global burden of morbidity and premature death (1). Problem gambling also incurs significant societal and individual costs (2). Addictive behaviours impose a high economic burden on society through healthcare costs, public safety, crime and lost productivity as well as other social costs (3). It is important to be able to have readily available, up-to-date prevalence and other estimates relating to these behaviours at a global, regional and national level to track progress towards reducing this burden, to help set policy priorities, and to help evaluate policies.

Information of this kind is available, but two main factors limit its usefulness. First, alcohol, tobacco, other drug use and gambling are usually addressed separately, making it problematic to gain an overview of addictive behaviours as a whole. Secondly, data are of variable quality and it is not clear which figures are most accurate and comparable across countries.

*Addiction* has commissioned this article as the first in what is intended to be a series on global statistics on addictive behaviours. This article is both a commentary on online sources of information on the prevalence and harms of addictive behaviours, and an overview of the current status of addictive behaviours globally. It is intended that future articles will update and expand the scope of the statistics that are collated, and the analyses undertaken.

## **Aims**

(1) To identify major online, publicly accessible sources of data on addictive behaviours; (2) to use these to provide the best available estimates of global and regional prevalence of addictive behaviours (alcohol consumption, tobacco smoking, unsanctioned use of psychoactive drugs and gambling) and related harms; (3) to provide an expert review of the quality of the data available.

## **Methods**

Online sources of information were identified through expert review and web searches. Major sources of global and regional information were assessed, along with national-level information for countries known to have systems for monitoring addictive behaviours. The strengths and limitations of the online sources identified were assessed and compiled as a commentary on available online information. The websites of the World Health Organization (WHO) and United Nations Office on Drugs and Crime (UNODC) provide the most comprehensive data on addictive behaviours globally, both as downloadable datasets and through regular publications. The data compiled in this report were obtained primarily from these sites. The Joint United Nations Programme on HIV/AIDS (UNAIDS) and the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) provided other sources of information (the latter primarily for the European region).

Available country-level estimates of the prevalence of, and major harms associated with alcohol consumption and tobacco smoking were downloaded from the WHO website, and

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<sup>1</sup> We use the term 'unsanctioned psychoactive drug use' to refer to use of psychoactive drugs whose possession and/or supply is illegal in most jurisdictions or prescription medications (primarily opioids) that are being used in an unsanctioned way. In this first article we do not consider 'legal highs' or caffeine. Neither do we consider products that are largely restricted to particular regions such as khat. As more data become available for these, they may be added to future articles in this series.

estimates of unsanctioned use of psychoactive drugs were downloaded from the UNODC website. The data selected related to the prevalence of use, and of harms related to use of alcohol, tobacco and unsanctioned drug use as the outcomes of primary relevance to assessment of the public health implications of addictive behaviours. Information on regulatory responses to alcohol and tobacco are available, but this aspect was not considered.

Country-level data were imported into Microsoft Excel 2010, and codes to identify geographic region and economic status were added. Geographic regions were based on a listing from the United Nations Statistics Division (<http://unstats.un.org/unsd/methods/m49/m49regin.htm#ftnb>). Regions were then combined so as to give an acceptable number of countries on which data were available in each regional group, whilst maintaining appropriate country associations. (Note: the WHO identifies geographic regions differently from the United Nations.) The list of least developed countries from the United Nations Statistics Division was the basis of the identification of economic status of countries as “least developed” or “other”. The country level data are available as supplementary files [Link to supplementary files here].

Data were sorted by the codes indicating geographic or economic status grouping. For each indicator median, first and third quartile values were calculated. The nature of the data (much of the country-level data were age standardised) and missing data prevented calculation of weighted means or confidence intervals. Median values, with first and third quartile values to provide an indication of the range, were selected as appropriate measures of central tendency without distortions from extreme values. Global estimates presented are median values, with first and third quartile values, for all countries with data.

Data on the prevalence of gambling were obtained from the website of the Alberta Gambling Research Institute (<http://www.abgamblinginstitute.ualberta.ca/>). As data on gambling are available from relatively few countries, these data are summarised in the text without further analysis.

## **Results**

### **Online sources of information**

Table 1 describes and comments on the online sources of information that were used.

[Table 1 near here]

For some countries, more up-to-date and accurate information is available, either from national statistical websites or publications. It was beyond the scope of this article to investigate and document resources for all countries worldwide, but some sources for major English-speaking countries are summarised in the Table 2. In addition, differences in methodology for these national surveys make cross-national comparisons problematic. The population survey data from individual countries are likely to be the basis of information reported to the WHO and UNODC and incorporated into their datasets, but this is difficult to determine.

[Table 2 near here]

### **Summary data on prevalence of use and harms**

The figures need to be considered as broad estimates because of variation in methodologies and recency of surveys. In addition, it is important to note that part of the between-country differences will be due to wide variation in the age distribution of their populations.

## **Alcohol**

Summary data on the prevalence of alcohol consumption, potentially harmful levels of consumption, and harms attributed to alcohol are shown in Table 3. These data are obtained from the WHO website (the Global Information System on Alcohol and Health), with details indicated in the footnotes to Table 3.

[Table 3 near here]

The column “Prevalence of consumption” indicates the proportion of adults (aged 15 years or more) who consumed any alcohol in the previous 12 months, by gender and for the total adult population. From these data it is estimated that around 43% of adults globally (around 2.1 billion people) drink alcohol (Table 3). There is considerable regional variation, from 9.8% in Central, Southern and Western Asia, to 88.2% in Western Europe. In all regions drinking is less prevalent among females compared with males. Alcohol consumption is also less prevalent in the group of least developed countries compared with countries not listed in this group.

Of this population of adults who consumed any alcohol in the previous 12 months, the proportion with heavy episodic drinking in the past 30 days is presented, also broken down by gender. Heavy episodic drinking is defined as consumption of at least 60 grams or more of alcohol on at least one occasion. This level of consumption would be expected to result in significant intoxication and is a pattern of drinking most likely to be associated with injury, including that arising from motor vehicle accidents and violent behaviour. Globally, around 13% of people who drink alcohol have heavy episodic consumption. Again there is regional variation in this indicator, and heavy episodic drinking is more common amongst males compared with females, and less common in the group of least developed countries.

The average per capita consumption of alcohol (in litres per person per year) is given because the volume of alcohol consumed is a determinant of alcohol-related harm (4). The average annual per capita consumption of alcohol follows the same pattern as the prevalence of consumption and the prevalence of heavy episodic drinking: globally alcohol consumption is a median of 6.5 litres per person per year.

Disability-Adjusted Life Years (DALYs) provide an approach to estimating the impact of health conditions and injuries by combining estimates of premature mortality and years lived with disability (5). The data on DALYs associated with alcohol use are derived from substantial international work. As shown in Table 3, globally around 257 DALYs per 100,000 population can be attributed to alcohol use disorders (2,570 per million), with regional estimates ranging from 97 per 100,000 population in Africa, to 727 per 100,000 population in Northern Europe. As with other data, the DALY estimates show that alcohol has less impact in the group of least developed compared with other countries.

People with alcohol use disorders are most likely to be consuming alcohol in large quantities over extended periods of time and constitute a subgroup of the population most likely to experience harmful effects from alcohol. Alcohol use disorders in themselves can be considered a harmful effect of alcohol consumption. Alcohol use disorders comprise both harmful use and dependence. An estimated 4.9% of the world’s adult population (around 240 million people) suffered from alcohol use disorders in the previous 12 months (Table 3). As with alcohol consumption, alcohol use disorders are more prevalent amongst males (7.8% globally compared with 1.5% in females).

## **Tobacco**

Summary data on the prevalence of tobacco smoking, and deaths attributed to tobacco, are given in Table 4. These data are derived from the WHO website (the Global Health Observatory), with specific sources indicated in the footnotes to Table 4.

[Table 4 near here]

Any level of tobacco smoking is associated with a risk of harmful effects. Hence Table 4 reports current smoking of any tobacco product as a proportion of the adult population aged 15 and over without distinguishing between the frequency of use. Data for the youth population (aged 13-15) are a little different in that “use of tobacco” includes smokeless or smoking tobacco. The prevalence of tobacco use in the youth population is an indication of likely trends in smoking amongst the adult population as this cohort of youth becomes older. Around 23% of adults globally smoke tobacco, equating to around one billion people. While there is regional variation, the extent of this variation is less than is the case with alcohol, with the prevalence of tobacco smoking among adults ranging from a median of 13% in Africa, the Caribbean, Central and Northern America, to 29.5% in Oceania. Like alcohol consumption, tobacco smoking is less prevalent among females (7% compared with 32% for males). Compared with alcohol, there is less difference in the prevalence of tobacco smoking in the group of least developed countries (14%) compared with other countries (23%).

The final columns of Table 4 give the proportion of deaths in 2004 (the most recent year for which this kind of figure is available) that were attributable to tobacco, by gender: a median of 6% (1<sup>st</sup> quartile 2.0%, 3<sup>rd</sup> quartile 10.0%) for females and a median of 11% (1<sup>st</sup> quartile 4.0%, 3<sup>rd</sup> quartile 22.0%) for males.

Data on DALYs attributable to tobacco smoking at a country level were not available when this review was compiled. Such estimates at a global level have been made by the Global Burden of Diseases project (1) and are considered in the discussion.

### **Unsanctioned psychoactive drug use**

Data on unsanctioned drug use are limited. This is likely to be due in part to the illicit status of many drugs making it harder to monitor use, and in part to low prevalence reducing the capacity of surveys to accurately determine use. The limitations are apparent from Table 5 where a number of regional measures were unable to be calculated due to missing data.

[Table 5 near here]

The data in Table 5 on the prevalence of unsanctioned drug use were drawn from the World Drug Report 2014 (6). For some countries data were available on the use of “opiates” (heroin, opium) and the use of prescription opioid drugs, but the number of countries for which data on these subsets of opioid drugs were reported were insufficient for meaningful analysis. Table 5 therefore reports only a single category of opioid-type drugs which would include use of illicit preparations (heroin, opium) and non-medical use of prescription preparations.

Cannabis is the most prevalent drug that is mainly subject to unsanctioned use, followed by cocaine-type and amphetamine-type stimulants. Globally, approximately 3.5% of adults (174 million people) use cannabis, with use most prevalent in Oceania (10.3% of adults). Other drugs included in Table 5 are used by less than 1% of the adult population.

As indicated in Table 5, around 0.3% of the world’s adult population (15 million people) inject psychoactive drugs. One of the major harmful effects of unsanctioned drug use is the transmission of blood-borne viruses through injecting drug use. Hence data on the prevalence of HIV infection in the general population, the prevalence of injecting drug use, and the prevalence of HIV and Hepatitis C amongst injecting drug users are included in Table 5. These data were obtained from the World Drug Report and the WHO Global Health Observatory, as indicated in the footnotes to Table 5. The dates on which estimates of HIV

and hepatitis C estimates were made were highly variable. Because injecting drug use is a very efficient means of transmission of blood-borne viruses, epidemics of HIV and hepatitis C can develop amongst people who inject drugs very quickly. The extent to which these data reflect the current situation is unclear.

Finally, Table 5 includes drug-related DALYs, which accounts for aspects such as episodes of psychosis and schizophrenia associated with use of cannabis and amphetamines, and drug-related deaths. Unsanctioned psychoactive drug use accounts for an estimated 83 DALYs and 17.3 deaths per million population aged 15-64.

### **Gambling**

Based on the listing of gambling studies from the Alberta Gambling Research Institute (<http://www.abgamblinginstitute.ualberta.ca/LibraryResources/ReferenceSources/PrevalenceInternational.aspx>), the median (1<sup>st</sup> quartile, 3<sup>rd</sup> quartile) proportion of the adult population who engaged in some form of gambling (other than buying raffle tickets) in the past year was 65.3% (54%, 75%). “Problem gambling” (the definition of which is variable but generally reflects some loss of control over gambling) is much less prevalent at 1.5% (0.9%, 2.8%) of the adult population (Table 6).

[Table 6 near here]

### **Discussion**

#### **Data limitations**

The most comprehensive data on addictive behaviours relate to alcohol and tobacco. Data on unsanctioned drug use are more sparse, reflecting the challenges of estimating the prevalence of a behaviour that tends to be hidden due to its largely illicit nature. There may be variation across countries in individuals’ willingness to divulge or report personal drug use. Only use of cannabis is sufficiently prevalent to be detected with confidence in household surveys across diverse countries, but of course under-reporting may still occur. Multiple sources of information, including data on seizures of illicit drugs, are generally required to gain a picture of trends in unsanctioned drug use. This is the approach taken by the UNODC in compiling the World Drug Report (6). Limitations in the extent of data on unsanctioned drug use and dependence globally have been noted by others (7). Data on problem gambling are only available for a minority of countries but they do include major populations of interest, including North America and much of Europe.

While there is substantial information available on the internet about the prevalence of addictive behaviours and related harms, this information is scattered over multiple sites, and multiple locations within complex websites, such as that of the World Health Organization. Changes to the structure of websites are common further complicating regular monitoring of this information. Indeed, the scattered nature of the information is one reason for including summary data in this review.

It is even more difficult to find information about the means of collection of data, dates of collection, and any manipulations by the agency collating the data. Some of this information is available, but much is not, making it difficult to assess the validity or accuracy of data. Information is skewed towards countries with relatively good reporting capacity; very little data are available for much of Africa and some areas of Asia. In general it is very difficult to speak with confidence about addictive behaviours in developing countries. The globalised nature of addictive behaviours, and the capacity for rapid change in the modern world make it highly desirable for knowledge of global patterns of addiction to be better understood.

#### **Alcohol**

Much of the data in Table 3 is derived from the WHO Global survey on alcohol and health conducted in 2012 which resulted in responses from 176 countries. The survey is the basis

for the Global status report on alcohol and health 2014 (4) which presents a much more detailed analysis of this drug than was possible in this article. The WHO estimated that worldwide consumption in 2010 was equal to 6.2 litres of pure alcohol per person aged 15 years or older, or 13.5 grams of pure alcohol per person per day. This figure is consistent with the median value of 6.5 litres presented in Table 3. In the WHO report (4) it is further noted that a quarter of alcohol consumption (24.8%) was unrecorded, that is, homemade alcohol, illegally produced or sold outside normal government controls. Of total recorded alcohol consumed worldwide, 50.1% was consumed in the form of spirits. The WHO report also notes the substantial regional variation in the prevalence of alcohol consumption, and lower rates of drinking among females, along with the association between economic wealth of a country and higher per capita consumption of alcohol and greater prevalence of heavy episodic drinking among drinkers.

We were unable to locate online data on deaths related to alcohol consumption, but in the WHO Global status report on alcohol and health 2014 (4) it was estimated that in 2012, about 3.3 million deaths, or 5.9% of all global deaths, were attributable to alcohol consumption, 7.6% of deaths among males and 4.0% of deaths among females.

Estimates of Disability-Adjusted Life Years (DALYs) attributed to alcohol use disorders are listed in Table 3; the WHO Report estimated that in 2012, 5.1% of the global burden of disease and injury were attributable to alcohol consumption (4). The Global Burden of Diseases project similarly estimated that 5% of DALYs were attributable to alcohol use (1). The highest alcohol-attributable fractions of deaths and DALYs were reported in the WHO European Region. The data in Table 3 are consistent with this. Rehm *et al.* (8) note that most of the deaths caused by alcohol fall in the broad categories of injury, cancer, cardiovascular disease, and liver cirrhosis.

While alcohol has been argued to have some beneficial effects on cardiovascular diseases in older age groups at low levels of consumption, this remains highly contentious (9, 10) and the net effect of alcohol consumption on health is clearly detrimental. The costs associated with alcohol amount to more than 1% of the gross national product in high-income and middle-income countries, with the costs of social harm constituting a major proportion in addition to health costs (8).

The data in Table 3 provide an estimate that 4.9% of adults globally have an alcohol use disorder (7.8% of men and 1.5% of females). The presence of an alcohol use disorder indicates increased risk of experiencing harm related to alcohol consumption. In a systematic review, Roerecke and Rehm (11) calculated a relative risk of mortality among clinical samples of men with an alcohol use disorder, compared to a control group, of 3.38 (95% confidence interval 2.98-3.84); in women it was 4.57 (95% CI 3.86-5.42). Relative risks were markedly higher for those aged 40 or less (ninefold in men, 13-fold in women) while still being at least twofold higher among those aged 60 years or more.

In 2010, alcohol use was one of the three leading risk factors for global disease burden (1).

### **Tobacco**

The data in Table 4 provide an estimate that globally, 22.5% of adults (32% males, 7% females) currently smoke tobacco. Ng *et al.* (12) derived similar estimates of the prevalence of daily smoking using a modelling approach. Ng *et al.* estimated that age-standardised prevalence of daily tobacco smoking in 2012 to be 31.1% for men and 6.2% for women. These estimates are consistent with the median values obtained from the data summarised in Table 4.

Tobacco smoking is less prevalent than alcohol consumption but the disease burden due to tobacco smoking is greater. Tobacco smoking (including second-hand smoke) is one of the

three leading risk factors for global disease burden, contributing 6.3% (uncertainty interval 5.5-7.0%) of global DALYs in 2010 (1).

Table 4 presents data on the proportion of deaths in 2004 that were attributable to tobacco smoking. The *WHO global report: Mortality attributable to tobacco, 2012* (13) presents a more detailed analysis. This report notes that globally 12% of all deaths in 2004 among adults aged 30 years and over were attributable to tobacco, with regional estimates ranging from 3% in the African region (as defined by WHO) to 16% in the Americas and European regions. Globally, 5% of all deaths from communicable diseases, and 14% of all deaths from non-communicable diseases among adults aged 30 years and over are attributable to tobacco. Within communicable diseases, tobacco use is responsible for an estimated 7% of all deaths due to tuberculosis and 12% of deaths due to lower respiratory infections. Within non-communicable diseases, in a given year tobacco use is responsible for 10% of all deaths from cardiovascular diseases, 22% of all cancer deaths, and 36% of all deaths from diseases of the respiratory system. The additional risk of death from cardiovascular system resulting from tobacco use was more likely among younger adults (13).

### **Unsanctioned psychoactive drug use**

Available data from the World Drug Report (6) that are the basis of Table 5, provide only the prevalence of unsanctioned drug use; the prevalence of injecting drug use is included as an indicator of problematic use, but the World Drug Report does not provide the prevalence of drug dependence.

Multiple systematic reviews of unsanctioned drug use were undertaken for the Global Burden of Disease (GBD) project. Based on this work, Degenhardt *et al.* (7) noted that there is qualitative evidence of unsanctioned drug use and dependence for most countries, but there are gaps in the estimates of prevalence of use. Levels of unsanctioned drug use seem to be highest in high-income countries and in countries near major drug production areas, but data for their use in low-income countries are poor (14). Degenhardt *et al.* (15) note that, globally, drug use is not distributed evenly and is not simply related to drug policy, since countries with stringent user-level illegal drug policies did not have lower levels of use than countries with more liberal policies.

Work for the GBD project located estimates of the prevalence of use in 77 countries for amphetamine-type stimulants, 95 for cannabis, 86 for cocaine and 89 for opioids. However, dependence prevalence estimates were located in very few countries: 9 for amphetamine-type stimulants, 7 for cannabis, 5 for cocaine and 25 for opioid drugs (7). Following modelling and imputation of missing data, it was estimated that opioid and amphetamine dependence were the most common forms of unsanctioned drug use that involved dependence in 2010. Although cannabis is by far the most commonly used unsanctioned drug worldwide, the prevalence of cannabis dependence was lower than that for amphetamine-type stimulants and opioid drugs (7). Estimates of prevalence of amphetamine dependence were highest for Southeast Asia and Australasia; estimates of the prevalence of cocaine dependence were highest for North America High-Income and Latin America. Australasia had among the highest levels of reported opioid dependence, although the largest populations were in East and South Asia (16, 17). Where estimates were available, most individuals dependent on drugs were male (64% each for cannabis and amphetamine-type stimulants and 70% each for opioids and cocaine) (18).

Globally, it is estimated that in 2012, between 3.5 and 9.0% of the world population aged 15-64 had used a psychoactive drug, other than alcohol or tobacco, in an unsanctioned way at least once in the previous year.

Drug use disorders account for 0.8% of global all-cause DALYs. Globally, unsanctioned drug use was identified by the GBD 2010 study as the eighth largest contributor to disability in



males (18). Drug dependence and disease burden are highest in the 20-29 year age group (18). Two-thirds (69.3%) of all drug disorder DALYs were explained by years lived with disability and 30.7% by years of life lost. Whilst opiate use (e.g. opium and heroin) has remained relatively stable in recent years, misuse of pharmaceutical opioids is increasing and opioid dependence is the greatest contributor to illicit drug burden, accounting for 46% (17). This finding is attributable to the substantial contribution of opioid drug use to premature mortality, the high disability weight, and the comparatively large population of dependent opioid users.

The DALY estimates for opioid drug use were around eight times those for cocaine dependence, and 4.5 times those for cannabis dependence (18). In a systematic review undertaken for the GBD 2010, Degenhardt *et al.* (19) estimated the point prevalence of cannabis dependence globally at 0.19% (95% uncertainty 0.17-0.21%). Prevalence peaked between 20-24 years, was higher in males (0.23%, 95% uncertainty 0.2-0.27%) than females (0.14%, 95% uncertainty 0.12-0.16%) and in high income regions. Cannabis dependence accounted for 0.08% of DALYs globally.

Demand for treatment, and the types of substances being used by people entering treatment, provide additional information on the prevalence of problematic drug use. The World Health Organization has established a database of information on treatment demand and provision of services for substance use, but at present the available information is limited and does not provide an accurate global picture of treatment. Detailed coverage of treatment services was beyond the scope of this review, but it is worth noting that the UNODC has recorded a noticeable increase in the number of persons seeking treatment for cannabis use disorders over the past decade, particularly in the Americas, Oceania and Europe. Furthermore, while opioid drugs are the most prevalent primary drug of abuse among those seeking treatment in Asia and in Europe, cocaine is the most prevalent in the Americas (6). Treatment is an important strategy in the reduction of harms due to substance use in people who are dependent. In this regard the UNODC notes a continuing gap in service provision with only one in six problem drug users globally having had access to or receiving drug dependence treatment services each year.

Injecting drug use has a notable contribution to burden of disease by increasing the risk of infection with HIV and hepatitis C (18). In a systematic literature review, Mathers *et al.* (20) identified injecting drug use in 148 countries. They noted that data for the extent of injecting drug use was absent for many countries in Africa, the Middle East, and Latin America. The data have not improved since then, with only 83 countries providing data on the prevalence of injecting drug use for the World Drug Report 2014 (6). Mathers *et al.* (20) reported that the largest numbers of injectors were found in China, the USA and Russia, where mid-estimates of HIV prevalence among injectors were 12%, 16% and 37%, respectively. HIV prevalence among injecting drug users was 20-40% in five countries (3% of 148 countries identified with injecting drug use) and over 40% in nine countries (6%). Based on the data from the World Drug Report 2014, 10 countries (12% of those reporting injecting drug use) had HIV prevalence between 20 and 40%, and four (4.8% of countries reporting injecting drug use) had HIV prevalence greater than 40%.

The UNODC, UNAIDS the World Bank and WHO jointly estimate that 0.27% (range 0.19-0.48%) of the population aged 15-64 inject drugs. In Eastern and South-Eastern Europe the rate of injecting drug use is 4.6 times higher than the global average. It is estimated that an average of 13.1% of the total number of people who inject drugs are living with HIV, and more than half of the people who inject drugs are estimated to be living with hepatitis C (6). HIV/AIDS was one of the top six leading causes of death and of years of life lost due to premature mortality in 2010, although there was a small decline in deaths from HIV/AIDS compared to 2006 (21).

The UNODC in the World Drug Report 2014 (6) estimated drug-related mortality at 40.0 (range 20.8-49.3) deaths per million aged 15-64. Compared with the general population, people who inject drugs have an elevated risk of death. Standardised mortality ratios (95% confidence interval) for people who inject drugs are estimated at 14.68 (13.01, 16.35) globally (22). Crude mortality rates were higher for males compared to females, but females who inject drugs had a much higher elevation in mortality relative to their age-matched peers in the general population than did males who inject drugs. Drug overdose and AIDS-related mortality were by far the most common causes of death (22).

### **Gambling**

Insufficient data were located for a meaningful analysis of global prevalence of gambling and harms arising from gambling. Data are available for some countries of interest, however. Using a standard definition of problem gambling the prevalence appears to be low, at less than 2%. It is not possible to quantify the harms related to this using available data.

### **Conclusion**

This article identifies and discusses a number of online databases that provide information on the global and regional status of addictive behaviours. Data on key indicators of relevance to public health are tabulated. There is relatively good information on the prevalence of use and harms associated with alcohol drinking and tobacco smoking, some information on the prevalence of unsanctioned drug use, and limited information on harms related to injecting drug use. However, there is almost no information on the prevalence of dependence on drugs used in an unsanctioned way, a gap that is significant given that it is dependence that primarily drives demand for treatment. Such data may be available at a country level, but the lack of global data leaves a knowledge gap that impedes the capacity for agencies such as WHO, UNODC and UNAIDS and international non-government organisations to plan their activities with a view to achieving the greatest possible impact. This suggests an important area of need for future effort and investment to improve the response to addiction worldwide. In particular it suggests an urgent need to review the quality of data on which global estimates are made and plan for a more consistent approach based on core indicators. The Lisbon consensus on key epidemiological indicators of drug use ([http://www.unodc.org/documents/data-and-analysis/statistics/Drugs/lisbon\\_consensus.pdf](http://www.unodc.org/documents/data-and-analysis/statistics/Drugs/lisbon_consensus.pdf)) and toolkits developed by the UNODC under the Global Assessment Programme on Drug Abuse (<http://www.unodc.org/unodc/en/GAP/>) provide a context for such work.

### **References**

1. Lim, S. S.Vos, T.Fluxman, A. D. et al. (2012) A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010, *Lancet*, 380, 2224-60. (2<sup>nd</sup> corrected version published online April 12, 2013)
2. Ladouceur, R., Boisvert, J.-M., Pepin, M., Loranger, M. & Sylvain, C. (1994) Social cost of pathological gambling, *Journal of Gambling Studies*, 10, 399-409.
3. Collins, D., Lapsley, H., Lecavalier, J. & Single, E. (2000) Introduction: improving economic data to inform decisions in drug control, *Bulletin on Narcotics*, 52, 1-20.
4. World Health Organization (2014) Global status report on alcohol and health - 2014 (Geneva, Switzerland, World Health Organization).
5. Salomon, J. A.Vos, T.Hogan, D. R. et al. (2012) Common values in assessing health outcomes from disease and injury: disability weights measurement study for the Global Burden of Disease Study 2010, *Lancet*, 380, 2129-43.
6. UNODC (2014) World Drug Report 2014 (Vienna, United Nations Office on Drugs and Crime).
7. Degenhardt, L., Bucello, C., Calabria, B. et al. (2011) What data are available on the extent of illicit drug use and dependence globally? Results of four systematic reviews, *Drug and Alcohol Dependence*, 117, 85-101.

8. Rehm, J., Mathers, C., Popova, S. et al. (2009) Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders, *The Lancet*, 373, 2223-2233.
9. Roerecke, M. & Rehm, J. (2014) Alcohol consumption, drinking patterns, and ischemic heart disease: a narrative review of meta-analyses and a systematic review and meta-analysis of the impact of heavy drinking occasions on risk for moderate drinkers, *BMC Medicine*, 12, 182.
10. Chikritzhs, T., Stockwell, T., Naimi, T. et al. (2015) Has the leaning tower of presumed health benefits from 'moderate' alcohol use finally collapsed?, *Addiction*, Early view.
11. Roerecke, M. & Rehm, J. (2013) Alcohol use disorders and mortality: a systematic review and meta-analysis, *Addiction*, 108, 1562-1578.
12. Ng, M., Freeman, M. K., Fleming, T. D. et al. (2014) Smoking prevalence and cigarette consumption in 187 countries, 1980-2012, *JAMA*, 311, 183-92.
13. World Health Organization (2012) WHO global report: mortality attributable to tobacco (Geneva, Switzerland, World Health Organization).
14. Degenhardt, L. & Hall, W. (2012) Extent of illicit drug use and dependence, and their contribution to the global burden of disease, *Lancet*, 379, 55-70.
15. Degenhardt, L., Chiu, W.-T., Sampson, N. et al. (2008) Toward a global view of alcohol, tobacco, cannabis, and cocaine use: Findings from the WHO World Mental Health Surveys, *PLoS Medicine*, 5, e141.
16. Degenhardt, L., Baxter, A. J., Lee, Y. Y. et al. (2014) The global epidemiology and burden of psychostimulant dependence: Findings from the Global Burden of Disease Study 2010, *Drug and Alcohol Dependence*, 137, 36-47.
17. Degenhardt, L., Whiteford, H. & Hall, W. D. (2014) The Global Burden of Disease projects: What have we learned about illicit drug use and dependence and their contribution to the global burden of disease?, *Drug and Alcohol Review*, 33, 4-12.
18. Degenhardt, L., Whiteford, H. A., Ferrari, A. J. et al. (2013) Global burden of disease attributable to illicit drug use and dependence: findings from the Global Burden of Disease Study 2010, *Lancet*, 382, 1564-1574.
19. Degenhardt, L., Ferrari, A. J., Calabria, B. et al. (2013) The global epidemiology and contribution of cannabis use and dependence to the Global Burden of Disease: Results from the GBD 2010 Study, *PLoS ONE*, 8, e76635.
20. Mathers, B. M., Degenhardt, L., Phillips, B. et al. (2008) Global epidemiology of injecting drug use and HIV among people who inject drugs: A systematic review, *Lancet*, 372, 1733-1745.
21. Lozano, R., Naghavi, M., Foreman, K. et al. (2012) Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010, *Lancet*, 380, 2095-128.
22. Mathers, B. M., Degenhardt, L., Bucello, C. et al. (2013) Mortality among people who inject drugs: a systematic review and meta-analysis, *Bulletin of the World Health Organization*, 91, 102-123.

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Table 1: Description of, and comments on, major online sources of global and regional information on addictive behaviours.

Aspect	Comment
<b>1. World Health Organization (<a href="http://www.who.int">www.who.int</a>)</b>	
Addictive behaviours covered	Coverage is best for alcohol and tobacco, some information on burden of disease related to unsanctioned drug use, with links to information on HIV. Gambling is not monitored by WHO.
Major reports	<ul style="list-style-type: none"> <li>• World Health Statistics: annual report with summary data on alcohol consumption and smoking as risk factors, and information on health systems.</li> <li>• WHO Report on the Global Tobacco Epidemic: periodic report focusing on the status of tobacco control policies on a global basis.</li> <li>• WHO Global Status Report on Alcohol and Health: published in 2011 and 2014; summarises evidence on harms related to alcohol, global data on consumption and consequences, and policies and interventions.</li> <li>• ATLAS on substance use: single report published in 2010, this report summarises resources for the prevention and treatment of substance use disorders.</li> <li>• Global Health Risks: single report published in 2009, based on 2004 data, provides information on 24 factors affecting health, with tobacco use, alcohol and illicit drugs considered as one risk category.</li> <li>• WHO Global Report, Mortality Attributable to Tobacco: single report published in 2012, based on 2004 data used for Global Health Risks report.</li> </ul>
Downloadable data	Global Health Observatory Data Repository, <a href="http://apps.who.int/gho/data">apps.who.int/gho/data</a> Data on tobacco and alcohol. Tobacco control data reflects policies for prevention. Global Information System on Alcohol and Health – consumption, harms, patterns, economic aspects, control, prevention, youth. Data in table format; can be downloaded for manipulation or analysis. Available in seven languages. Data can also be retrieved by country.
Strengths	<ul style="list-style-type: none"> <li>• A number of different maps, both static and interactive, are available, and can be reached through different links. The maps provide a quick visual overview of data and countries for which no data are available are clearly identified.</li> <li>• The WHO website is large, but the data and statistics pages are reached through multiple links. There are also links to other sites, such as UNAIDS, which provide relevant information.</li> </ul>
Limitations	<ul style="list-style-type: none"> <li>• Gaps in data: WHO relies on reports completed by member states. There are large gaps in data, particularly for countries in Africa. The gaps limit the extent to which analyses can be carried out relating strategies and programs to prevalence of substance use.</li> <li>• Age of data: WHO reports the latest available data, but it is often necessary to look at the detail to determine the age of the estimate, and gaps in data limit the extent to which analyses of trends can be undertaken.</li> <li>• Finding explanatory notes: Headings of maps and tables may not provide sufficient information to interpret the data reported, and the required information is not easily located. For example, graphs of the prevalence of alcohol use and substance use disorders do not provide the definition of “disorders”. Look for the Indicator Code Book as a particularly useful guide to the Global Information System on Alcohol and Health.</li> </ul>
<b>2. United Nations Office on Drugs and Crime <a href="http://www.unodc.org">http://www.unodc.org</a></b>	
Addictive	Unsanctioned drug use only: the most comprehensive data are for opioid

<b>Aspect</b>	<b>Comment</b>
behaviours covered	drugs, probably reflecting international treaties covering monitoring of drugs.
Major report	World Drug Report: published annually, this is the most comprehensive compilation of data on unsanctioned drug use globally. Main aspects covered are production, trafficking and consumption and the consequences of illicit drug use in terms of treatment, drug-related diseases and drug-related deaths. Available in six languages.
Downloadable data	UNODC Statistics (stats.unodc.org): look for the online tool for creating personalized reports. Available data includes, use, injecting, HIV and hepatitis, mortality, treatment demand, price, seizures. Tables are downloadable to pdf or Excel.
Strengths	Maps and tables: These are included in the World Drug Report but as they are large documents in themselves, it is useful to be able to download these as individual documents. Topics are prevalence in drug use, expert perceptions of trends, and illicit drugs as a source of demand for treatment. The format of tables downloaded from the World Drug Report is better for manipulation than tables from stats.unodc.org.
Limitations	Gaps in data and age of data: UNODC, like WHO, are dependent on the information reported by member States. Data on illicit drug use in Southern Asia and Middle East countries are particularly limited, with data either not being reported or in some cases being 10 years old or more. UNODC defines geographic regions differently to WHO and some countries are listed differently complicating the combination of data.
<b>3. UNAIDS <a href="http://www.unaids.org">www.unaids.org</a></b>	
Addictive behaviours covered	Included in our listing because of the significance of injecting drug use as a risk factor for transmission of HIV, however data on HIV rates amongst injecting drug users globally is more readily accessed from the UNODC website, and prevalence of HIV amongst the general population is available from the WHO website.
Major reports	Annual reports on global AIDS epidemic, covering epidemiology, prevention and treatment of HIV/AIDS: Coverage of injecting drug use is a minor component of the reports
Downloadable data	AIDSinfo: Pre-set tables are downloadable to Excel
Strengths	Country reports that can be generated via tool located under “Know your epidemic”. A spreadsheet tool is available for calculating the estimated number of new infections based on local prevalence.
Limitations	<ul style="list-style-type: none"> <li>Gaps in data, capacity for analysis: As with all such information, coverage depends on what data is reported by member states. The site includes a number of tools for visualisation of data, but there is little capacity for analysis.</li> <li>Site navigation: Navigation tools are not intuitive making the process of finding data on injecting drug use cumbersome.</li> </ul>
<b>4. European Monitoring Centre for Drugs and Drug Addiction <a href="http://www.emcdda.europa.eu">www.emcdda.europa.eu</a></b>	
Addictive behaviours covered	Unsanctioned drug use only (alcohol, tobacco, gambling not covered), and only for countries in the European Union. The “Countries” tab on the home page is a quick link to the list of countries included, as well as links to available topics.
Major reports	Annual report on the state of the drugs problem in Europe: main report for data on patterns of drug use in Europe.
Downloadable data	Statistical Bulletin by year and country (emcdda.europa.eu/stats13): there is a facility to produce tables that can be downloaded and combined for

Aspect	Comment
	analysis. A link to a help page gives comprehensive information and explanatory notes. Data topics include prevalence and population estimates, infectious diseases and deaths, treatment demand and health and social responses, and crime, seizures and market data.
Strengths	<ul style="list-style-type: none"> <li>Website design: Good use of tabs, banners and linked lists to help users find information on the site. The publications database offers multiple indexing methods for locating publications of interest. The topics tab on the home page links to a good listing of topics, with separate listing of "Topics in the spotlight". The summaries of these issues, such as "Synthetic cannabinoids in Europe" are very good quality, often with interactive elements.</li> <li>Maps and data sheets: Interactive maps are well presented, with clear links to data sheets and country notes that provide information, and cautions on limitations in data.</li> <li>Drug profiles: Accessed from topics tab or quick links, the drug profiles provide good background information, and pictures, covering a wide range of drugs that are used for non-medical purposes.</li> </ul>
Limitations	<ul style="list-style-type: none"> <li>Gaps and inconsistencies in data: Like WHO and UNODC, EMCDDA can only report the data that is provided by member states.</li> <li>Data on opioid drugs: Population prevalence data covers cannabis, amphetamines, ecstasy and cocaine, not opioid drugs. Data on use of opioid drugs is included under "problem drug use", which also covers injecting drug use.</li> </ul>
<b>5. Alberta Gambling Research Institute (<a href="http://www.abgamblinginstitute.ualberta.ca">www.abgamblinginstitute.ualberta.ca</a>)</b>	
Addictive behaviours covered	Gambling only
Major reports	Main relevant resource is listing of international studies examining the prevalence of problem gambling. Listing includes 80 separate studies in 30 countries, mostly undertaken in the last decade.
Downloadable data	Data from international gambling prevalence studies available as spreadsheet or pdf. (See <a href="http://www.abgamblinginstitute.ualberta.ca/LibraryResources/ReferenceSources/PrevalenceInternational.aspx">http://www.abgamblinginstitute.ualberta.ca/LibraryResources/ReferenceSources/PrevalenceInternational.aspx</a> )
Strengths	Summary of international gambling prevalence studies.
Limitations	Studies of prevalence of gambling are available only for some developed countries.
<b>6. Global Tobacco Surveillance System (<a href="http://nccd.cdc.gov/GTSSData">http://nccd.cdc.gov/GTSSData</a>)</b>	
Addictive behaviours covered	Tobacco use, based on four global surveys (youth tobacco, school personnel, health professions students, and adults).
Major reports	Data from GTSS contributes to multiple publications; the website contains links to published research related to the survey material.
Downloadable data	Data can be downloaded in various formats, based on the survey, region and country or location.
Strengths	Website design: multiple options for using data online, with easy links to download options.
Limitations	Surveys cover only tobacco use, with most data on tobacco smoking in the form of cigarettes, pipes and cigars.
<b>7. World Tobacco Atlas (<a href="http://www.TobaccoAtlas.org">www.TobaccoAtlas.org</a>)</b>	
Addictive behaviours covered	Tobacco use, drawing on data from the WHO and United States Centers for Disease Control and Prevention (CDC)

<b>Aspect</b>	<b>Comment</b>
Major reports	The Tobacco Atlas can be downloaded in pdf format, in multiple languages. Information from the Atlas is also available online as a series of topics.
Downloadable data	No data files can be downloaded. Relevant data are more readily obtained from the WHO and CDC websites.
Strengths	Summary information in the topics pages on the website.
Limitations	The only addictive behaviour covered is tobacco use, and the data on the prevalence of tobacco use and related harms is several years old.
<b>8. Global Burden of Diseases (<a href="http://www.healthdata.org/gbd">www.healthdata.org/gbd</a>)</b>	
Addictive behaviours covered	Alcohol, tobacco, illicit drugs
Major reports	Links to range of journal articles and other publications on global burden of disease
Downloadable data	Website has tool for selecting and downloading data.
Strengths	Information on wide range of different aspects of overall burden of disease that is useful for putting data on addictive behaviours into context for individual countries and regions.
Limitations	The same limitations on the availability of data, particularly on unsanctioned drug use, apply to the Global Burden of Diseases project.

Table 2: Listing of additional online sources of information for selected countries

Source	Type of information
<b>United Kingdom</b>	
UK Health and Social Care Information Centre <a href="http://www.hscic.gov.uk/home">http://www.hscic.gov.uk/home</a>	Health and social care issues including alcohol consumption, reports on drug use among young people, data from surveys of secondary school pupils.
Crime Survey for England and Wales <a href="http://www.crimesurvey.co.uk">www.crimesurvey.co.uk</a>	Reports from surveys of crime experienced by participants in the past year, including crimes that may not have been reported to police. Trafficking and possession of drugs are included, but the proportion of other crimes that may be drug-related is not reported.
Public Health England <a href="https://www.gov.uk/government/organisations/public-health-england">https://www.gov.uk/government/organisations/public-health-england</a>	Reports and data on treatment.
National Drug Treatment Monitoring System <a href="http://www.nta.nhs.uk/uploads/annualdrugstatistics2012-13-statisticalreport.pdf">http://www.nta.nhs.uk/uploads/annualdrugstatistics2012-13-statisticalreport.pdf</a> or <a href="http://www.ndtms.net">www.ndtms.net</a>	Annual statistical reports on treatment.
<b>USA</b>	
National Survey on Drug Use and Health (NSDUH) <a href="http://www.samhsa.gov/data/NSDUH.aspx">http://www.samhsa.gov/data/NSDUH.aspx</a>	National and state-level data on the use of tobacco, alcohol, unsanctioned drug use (including non-medical use of prescription drugs) and mental health among persons aged 12 and older in the United States. Survey data are available as reports, online analysis or downloadable datasets.
Drug Abuse Warning Network (DAWN) <a href="http://www.samhsa.gov/data/DAWN.aspx">http://www.samhsa.gov/data/DAWN.aspx</a>	Data from hospital emergency departments and drug-related deaths investigated by medical examiners and coroners
National survey of substance abuse treatment services <a href="http://www.samhsa.gov/data/DASIS.aspx">http://www.samhsa.gov/data/DASIS.aspx</a>	Information on treatment facilities
TEDS, the treatment episode data set <a href="http://www.samhsa.gov/data/DASIS.aspx?qr=t#TEDS">http://www.samhsa.gov/data/DASIS.aspx?qr=t#TEDS</a>	Information on treatment episodes
Monitoring the Future <a href="http://www.monitoringthefuture.org/">http://www.monitoringthefuture.org/</a>	A survey of 8 <sup>th</sup> , 10 <sup>th</sup> , and 12 <sup>th</sup> grade students which has been undertaken since 1975
Youth Risk Behavior Survey <a href="http://www.cdc.gov/HealthyYouth/yrbs/">http://www.cdc.gov/HealthyYouth/yrbs/</a>	A national school based survey in most US states, territories and some tribal schools, that includes questions on alcohol and drug use, tobacco use and HIV-related risk behaviours
<b>Australia</b>	
National household surveys of alcohol and other drug	Information on the surveys and



use <a href="http://www.aihw.gov.au/national-drugs-strategy-household-surveys/">http://www.aihw.gov.au/national-drugs-strategy-household-surveys/</a>	links to reports, other sources of information on treatment, and a link to the Australian data archive
National survey of alcohol and tobacco use by secondary school students <a href="http://www.srcentre.com.au/news-events/news/news-item/2012/12/10/australian-secondary-students-alcohol-and-drug-survey">http://www.srcentre.com.au/news-events/news/news-item/2012/12/10/australian-secondary-students-alcohol-and-drug-survey</a>	Undertaken every three years. The link is for the most recent survey, undertaken in 2011.
Illicit Drug Reporting System (IDRS) and Ecstasy and Related Drugs Reporting System (EDRS) <a href="http://ndarc.med.unsw.edu.au">http://ndarc.med.unsw.edu.au</a>	These projects use interviews with drug users and key informants to gain information on trends in unsanctioned drug use in Australia.
<b>Canada</b>	
Canadian Alcohol and Drug Use Survey <a href="http://www.hc-sc.gc.ca/hc-ps/drugs-droques/stat/index-eng.php">http://www.hc-sc.gc.ca/hc-ps/drugs-droques/stat/index-eng.php</a>	Links to data from all surveys – most recent survey undertaken in 2012
<b>New Zealand</b>	
New Zealand Alcohol and Drug Use Survey <a href="http://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/surveys/current-recent-surveys/alcohol-and-drug-use-survey">http://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/surveys/current-recent-surveys/alcohol-and-drug-use-survey</a>	Links to reports and data from 2007/08 survey (the most recent undertaken).
New Zealand Tobacco Use Survey <a href="http://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/surveys/current-recent-surveys/tobacco-use-survey">http://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/surveys/current-recent-surveys/tobacco-use-survey</a>	Links to reports and data – most recent survey undertaken in 2009.

Table 3: Alcohol consumption, by geographic region, economic status, and globally and indicators of harm related to alcohol use

Region <sup>1</sup> [Range of number of countries with data for each indicator]	Prevalence of consumption, % in past 12 months <sup>2</sup>			Estimated litres per capita <sup>3</sup>			Drinkers with heavy episodic consumption, % in past 30 days <sup>4</sup>			Prevalence of alcohol use disorders, % in past 12 months <sup>5</sup>			DALYS due to alcohol use disorders <sup>6</sup>
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Africa [52-53]	42.0 (15.2, 51.4)	16.3 (6.4, 28.8)	30.0 (11.1, 40.9)	6.4 (2.7, 11.3)	1.6 (0.4, 2.9)	4.0 (1.4, 7.0)	15.4 (5.9, 36.6)	4.1 (0.4, 17.3)	11.8 (4.6, 31.0)	5.4 (1.4, 8.8)	0.7 (0.1, 1.6)	3.0 (0.7, 5.2)	97 (57, 137)
Caribbean, Central & Northern America [23]	66.8 (59.1, 70.3)	43.4 (35.9, 49.2)	55.0 (47.4, 59.8)	9.8 (7.7, 12.4)	3.9 (2.5, 4.7)	6.8 (5.2, 8.2)	21.0 (14.6, 31.9)	6.0 (3.0, 14.7)	15.0 (9.8, 24.5)	8.0 (7.8, 8.2)	3.1 (3.1, 3.2)	5.6 (5.4, 5.7)	553 (482, 600)
South America [12]	69.6 (62.5, 70.2)	47.6 (41.3, 49)	58.2 (51.8, 59.4)	12.1 (9.8, 13.4)	4.2 (3.6, 5.2)	8.1 (6.8, 8.9)	18.1 (13.5, 35.0)	3.2 (1.6, 10.8)	13.2 (8.2, 23.9)	8.1 (8.0, 8.4)	3.1 (3.1, 3.2)	5.6 (5.5, 5.7)	582 (465, 672)
Central, Southern & Western Asia [30-31]	13.9 (7.5, 49.4)	4.6 (3.4, 15.0)	9.8 (5.8, 37.2)	3.6 (1.2, 7.3)	0.4 (0.1, 1.3)	2.1 (0.7, 4.3)	3.1 (0.8, 29.6)	0.5 (0.2, 2.6)	2.3 (0.6, 19.9)	1.6 (0.5, 8.1)	0.3 (0.1, 1.8)	1.1 (0.3, 4.9)	146 (58, 232)
Eastern & South-Eastern Asia [16]	48.5 (19.6, 57.9)	28.8 (8.1, 33.9)	38.4 (14.6, 45.5)	9.4 (1.8, 12.0)	1.0 (0.1, 2.2)	5.5 (1.0, 7.1)	9.6 (4.4, 35.2)	0.8 (0.4, 5.3)	6.6 (2.9, 24.3)	6.4 (2.6, 8.8)	0.9 (0.5, 1.4)	3.8 (1.6, 4.8)	280 (130, 550)
Eastern Europe [10]	73.8 (72.7, 86.3)	62.0 (60.6, 72.7)	67.7 (66.2, 79.8)	21.3 (19.5, 24.4)	7.2 (6.0, 8.1)	13.6 (12.9, 15.5)	50.0 (32.1, 58.0)	17.8 (8.6, 27.9)	32.5 (23.9, 43.5)	13.7 (8.8, 30.1)	2.4 (1.5, 6.2)	8.2 (5.2, 17.7)	707 (447, 1137)
Northern Europe [10]	74.7 (73.7, 88.3)	62.6 (61.6, 79.4)	68.4 (67.1, 84.4)	16.4 (12.4, 18.1)	6.6 (5.2, 7.2)	11.5 (8.8, 12.3)	44.4 (40.9, 64.1)	23.3 (19.8, 33.7)	34.7 (31.9, 49.6)	14.3 (10.5, 17.8)	3.5 (3.1, 6.0)	9.3 (7.0, 11.5)	727 (504, 978)
Southern Europe [12-13]	72.2 (69.0, 73.4)	58.5 (46.4, 62.8)	66.0 (57.2, 68.0)	14.6 (10.4, 18.2)	5.9 (3.7, 7.1)	10.3 (7.0, 12.4)	18.4 (17.2, 35.2)	2.7 (2.3, 18.2)	11.4 (10.8, 27.7)	8.8 (6.8, 9.1)	2.1 (1.7, 2.5)	5.5 (4.3, 5.7)	350 (236, 418)
Western Europe [7-8]	92.1 (82.2, 95.0)	83.6 (78.5, 92.9)	88.2 (80.3, 93.9)	15.4 (15.0, 16.8)	6.4 (6.3, 7.1)	11.0 (10.3, 11.9)	38.9 (23.6, 56.5)	14.1 (7.6, 27.0)	25.6 (15.6, 41.7)	9.4 (9.1, 14.3)	2.8 (2.4, 3.4)	6.1 (5.8, 8.7)	464 (406, 514)
Oceania [11-15]	50.3 (44.2, 55.8)	30.9 (19.4, 34.7)	34.6 (31.8, 40.7)	5.9 (3.1, 13.2)	0.6 (0.4, 2.6)	3.3 (1.7, 7.9)	35.8 (20.9, 59.8)	10.9 (6.3, 18.0)	26.4 (13.0, 37.1)	7.6 (7.4, 7.6)	1.4 (1.4, 1.4)	4.5 (4.4, 4.6)	248 (161, 287)
Least developed countries [46-47]	34.1 (12.4, 49.0)	14.5 (3.8, 27.4)	24.4 (7.9, 38.4)	4.5 (1.4, 10.1)	0.9 (0.1, 2.3)	2.5 (0.7, 6.4)	10.6 (3.6, 23.6)	1.9 (0.3, 13.2)	7.6 (2.8, 20.3)	4.6 (1.4, 7.6)	0.6 (0.1, 1.4)	2.5 (0.8, 4.5)	97 (56, 153)
Other countries [139-143]	62.0 (46.6, 73.1)	38.5 (18.9, 60.6)	49.9 (34.6, 66.3)	10.8 (6.6, 15.2)	3.4 (1.1, 5.5)	7.0 (3.8, 10.3)	22.6 (12.9, 42.1)	5.3 (1.4, 16.3)	16.1 (8.7, 31.3)	8.0 (5.2, 9.1)	1.9 (0.9, 3.1)	5.3 (3.2, 5.7)	378 (158, 571)
Global [186-190]	55.5 (30.2, 70.4)	32.0 (11.8, 49.5)	43.5 (20.9, 60.9)	9.8 (4.4, 13.9)	2.5 (0.5, 4.9)	6.5 (2.5, 9.2)	18.7 (9.4, 40.9)	3.7 (0.8, 14.9)	13.0 (6.1, 30.6)	7.8 (3.5, 8.9)	1.5 (0.5, 2.9)	4.9 (2.0, 5.6)	257 (114, 524)

Footnotes:

Based on data from the WHO Global Information System on Alcohol and Health, with specific sources given below for each indicator. All data are median (first, third quartiles) values.

- <sup>1</sup> Countries allocated to geographic regions and group of least developed countries based on United Nations Statistics Division listing (<http://unstats.un.org/unsd/methods/m49/m49regin.htm#ftnb>). Numbers in square brackets indicate the number of countries in each grouping with data, showing the range for each indicator, or a single number if it was the same across all indicators.
- <sup>2</sup> Proportion of adults (15+ years) who have consumed any alcohol during the past 12 months, by gender. Source: WHO Global Health Observatory, <http://apps.who.int/gho/data/node.main.A1044?lang=en>, accessed 28 November 2014. Country-level data are an average weighted by the respective populations.
- <sup>3</sup> Total (recorded three-year average and unrecorded) adult (15+ years) per capita consumption, litres of pure alcohol per person per year. Data are an average of 2008-2010 estimates. Source: <http://apps.who.int/gho/data/node.main.A1032?lang=en>, accessed 28 November 2014.
- <sup>4</sup> Proportion of adult drinkers (15+ years) who have had at least 60 grams or more of pure alcohol on at least one occasion in the past 30 days, by gender  
Source: <http://apps.who.int/gho/data/node.main.A1047?lang=en>, accessed 28 November 2014. County-level data are an average weighted by the population of respondents who consumed any alcohol during the past 12 months.
- <sup>5</sup> Proportion of adults (15+ years) with alcohol use disorders during the past 12 months, by gender. Alcohol use disorders defined as harmful use of alcohol (ICD-10 F10.1) or alcohol dependence (ICD-10 F10.2). Country-level data are age standardised.  
Source: <http://apps.who.int/gho/data/node.main.A1075?lang=en>, accessed 28 November 2014.
- <sup>6</sup> Age-standardised disability-adjusted life years (DALYs) for alcohol-use disorders, per 100,000 population  
Source: <http://apps.who.int/gho/data/node.main.A1218?lang=en>, accessed 28 November 2014.

Table 4: Tobacco smoking and related harms

Region <sup>1</sup> [Range of number of countries with data]	Current smoking, adults, % <sup>2</sup>			Current users of tobacco, youth population, % <sup>3</sup>			% deaths due to tobacco <sup>4</sup>	
	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Africa [23-53]	23.0 (16.0, 30.5)	3.0 (2.0, 5.0)	13.0 (9.5, 17.5)	20.2 (14.2, 26.3)	11.5 (8.1, 18.3)	15.3 (11.5, 23.0)	4.0 (3.0, 7.5)	0 (0, 2.0)
Caribbean, Central & Northern America [11-23]	20.0 (13.0, 24.0)	4.0 (2.0, 8.0)	13.0 (8.0, 16.0)	21.8 (18.1, 25.3)	15.6 (12.8, 20.0)	18.7 (14.8, 23.7)	8.0 (4.0, 10.0)	5.0 (1.8, 8.0)
South America [8-12]	30.0 (27.5, 39.3)	14.5 (6.5, 20.3)	21.0 (17.3, 28.8)	25.0 (21.0, 28.3)	20.6 (16.1, 29.2)	22.1 (19.3, 28.5)	11.0 (8.0, 15.0)	5.0 (2.0, 8.0)
Central, Southern and Western Asia [23-28]	37.0 (31.0, 42.0)	4.0 (2.0, 9.0)	23.0 (16.0, 26.0)	14.5 (11.2, 25.2)	8.1 (4.3, 12.8)	11.4 (7.6, 18.6)	15.0 (12.3, 23.5)	3.0 (1.0, 8.0)
Eastern and South- Eastern Asia [12-14]	45.0 (39.0, 47.8)	3.5 (2.3, 6.8)	23.5 (22.0, 26.8)	22.5 (7.5, 31.7)	7.5 (4.0, 13.3)	15.3 (5.6, 22.6)	19.5 (16.8, 22.5)	12.0 (10.3, 15.8)
Eastern Europe [10]	41.5 (38.0, 49.3)	22.0 (13.3, 28.0)	30.5 (28.8, 36.8)	28.2 (24.7, 30.5)	24.5 (19.3, 31.7)	27.1 (23.1, 29.4)	26.0 (23.5, 28.5)	5.5 (3.5, 10.5)
Northern Europe [3-10]	28.0 (23.5, 43.0)	22.0 (20.0, 25.5)	27.0 (23.0, 31.5)	38.4 (33.8, 41.8)	28.8 (27.8, 33.9)	33.7 (30.8, 37.6)	22.0 (16.0, 25.3)	11.0 (5.5, 20.3)
Southern Europe [8-11]	34.5 (30.8, 44.5)	24.0 (17.3, 27.8)	28.0 (24.8, 33.5)	16.6 (11.1, 17.5)	11.1 (7.4, 21.8)	12.6 (10.8, 20.4)	25.0 (24.0, 27.0)	7.0 (3.0, 8.0)
Western Europe [0-8]	33.0 (30.5, 40.8)	24.0 (22.8, 35.8)	28.5 (26.0, 38.5)	NC	NC	NC	22.0 (19.5, 27.3)	8.5 (5.8, 10.0)
Oceania [9-15]	43.0 (32.3, 52.8)	19.0 (11.0, 29.5)	29.5 (20.8, 43.5)	34.1 (22.3, 53.7)	32.7 (20.0, 40.1)	35.1 (21.8, 47.0)	7.0 (4.0, 13.0)	8.5 (5.0, 13.8)
Least developed countries [27-47]	25.0 (16.0, 42.0)	3.0 (2.0, 7.0)	14.0 (10.0, 25.0)	20.4 (13.0, 26.4)	11.6 (7.4, 19.6)	16.6 (10.6, 23.2)	4.0 (3.0, 9.0)	2.0 (0, 8.0)
Other countries [109-132]	34.0 (25.5, 43.0)	9.0 (3.0, 21.0)	23.0 (17.0, 29.0)	21.5 (15.0, 28.2)	14.5 (8.2, 22.2)	18.1 (12.0, 25.8)	14.0 (7.3, 23.0)	6.0 (3.0, 11.0)
Global [136-179]	32.0 (23.3, 43.0)	7.0 (3.0, 19.8)	22.5 (15.0, 27.0)	20.9 (14.5, 27.8)	13.2 (7.9, 21.5)	17.6 (11.8, 24.9)	11.0 (5.0, 22.0)	6.0 (2.0, 10.0)

Footnotes:

Based on data from the WHO Global Health Observatory, with specific sources given below for each indicator. All data are median (first, third quartiles) values.

<sup>1</sup> Countries allocated to geographic regions and group of least developed countries based on United Nations Statistics Division listing (<http://unstats.un.org/unsd/methods/m49/m49regin.htm#ftnb>). Numbers in square brackets indicate the number of countries in each grouping with data, showing the range for each indicator, or a single number if it was the same across all indicators. NC indicates there were insufficient data for calculation of regional values (data available from less than 3 countries).

<sup>2</sup> Current smoking of any tobacco product, adults aged 15 years and over, age-standardized rate, by gender. "Tobacco smoking" includes cigarettes, cigars, pipes or any other smoked tobacco products. "Current smoking" includes both daily and non-daily or occasional smoking.  
<http://apps.who.int/gho/data/node.main.1250?lang=en>, accessed 28 November 2014.

<sup>3</sup> Current users of any tobacco product, % of total youth population aged 13-15. Current users of any tobacco product are defined as those that consumed any smokeless or smoking tobacco product at least once during the last 30 days prior to the survey.  
<http://apps.who.int/gho/data/node.main.1259?lang=en>, accessed 28 November 2014.

<sup>4</sup> Proportion of deaths in population aged 30 and over attributable to tobacco, by gender, estimated from 2004 mortality data. Detailed information on calculation of the mortality rates available from the WHO Global Report *Mortality Attributable to Tobacco*, available from [http://whqlibdoc.who.int/publications/2012/9789241564434\\_eng.pdf?ua=1](http://whqlibdoc.who.int/publications/2012/9789241564434_eng.pdf?ua=1) (accessed 28 November 2014); summary data also available from [www.tobaccoatlas.org](http://www.tobaccoatlas.org)

Table 5: Unsanctioned psychoactive drug use<sup>1</sup> and related harms

Region <sup>2</sup> [Range of number of countries with data]	Cannabis <sup>3</sup>	Opioid-type <sup>3</sup>	Cocaine-type <sup>3</sup>	Amphetamine-type <sup>3</sup>	Ecstasy <sup>3</sup>	HIV <sup>4</sup>	Injecting <sup>5</sup>	Prevalence in injecting drug users, % <sup>6</sup>		DALYs <sup>7</sup>	Deaths per million adults <sup>8</sup>
								HIV	Hepatitis C		
Africa [1-51]	3.0 (2.2, 6.0)	0.2 (0.1, 0.3)	0.2 (0, 0.7)	0.5 (0.1, 1.2)	0.2 (0, 0.3)	2.1 (1.0, 5.6)	0.1 (0, 0.7)	8.2 (6.2, 20.6)	62.7 (50.2, 94.5)	71 (67, 85)	NC
Caribbean, Central & Northern America [2-22]	4.8 (1.3, 8.4)	0.2 (0.1, 0.7)	0.8 (0.5, 1.1)	0.8 (0.4, 1.2)	0.2 (0.1, 0.3)	0.7 (0.3, 1.6)	0.8 (0.1, 1.2)	6.2 (5.8, 12.9)	73.4 (69.1, 96)	125 (76, 187)	8.5 (4.2, 132.7)
South America [2-12]	3.6 (1.6, 4.8)	0.1 (0, 0.3)	0.7 (0.3, 1.0)	0.4 (0.1, 0.5)	0.1 (0, 0.2)	0.5 (0.4, 0.7)	0.3 (0.2, 0.5)	10.5 (5.2, 14.3)	NC	323 (139, 368)	3.2 (2.2, 21.2)
Central, Southern and Western Asia [6-26]	3.2 (2.2, 4.2)	0.4 (0.2, 1.4)	0 (0, 0.2)	0.2 (0.1, 0.4)	0.4 (0.2, 1.0)	0.2 (0.1, 0.3)	0.2 (0, 0.6)	3.9 (0.3, 9.5)	40.0 (24.0, 51.4)	85 (65, 255)	8.5 (2.5, 21.3)
Eastern and South-Eastern Asia [3-5]	0.7 (0.3, 1.1)	0.2 (0.1, 0.6)	0 (0, 0.1)	0.4 (0.2, 1.0)	0.2 (0.1, 0.3)	0.4 (0.2, 0.7)	0.3 (0, 0.5)	13.4 (8.7, 21.9)	67.1 (59.5, 77.1)	78 (26, 138)	22.6 (21.8, 35.7)
Eastern Europe [3-10]	3.2 (1.0, 3.7)	0.1 (0.1, 0.7)	0.2 (0.1, 0.3)	0.4 (0.1, 0.7)	0.5 (0.2, 0.7)	0.7 (0.4, 0.9)	0.5 (0.3, 1.2)	7.3 (0.5, 18.0)	47.8 (22.6, 69.2)	93 (25, 237)	13.9 (5.9, 29.1)
Northern Europe [0-12]	4.9 (3.5, 6.0)	0.6 (0.3, 0.8)	0.8 (0.3, 1.5)	0.8 (0.5, 1.0)	0.5 (0.3, 1.2)	NC	0.3 (0.3, 0.8)	3.4 (1.9, 10.8)	65.8 (54.1, 73.0)	91 (59, 162)	76.6 (42.1, 113.9)
Southern Europe [0-13]	2.9 (1.7, 4.3)	0.4 (0.3, 0.5)	0.5 (0.3, 0.7)	0.3 (0.1, 0.7)	0.6 (0.3, 0.8)	NC	0.2 (0.1, 0.4)	1.4 (0.4, 9.1)	36.5 (28.7, 51.9)	149 (116, 232)	15.5 (6.9, 30.8)
Western Europe [0-9]	5.2 (4.8, 7.0)	0.3 (0.2, 0.5)	0.9 (0.8, 1.0)	0.5 (0.2, 0.7)	0.5 (0.3, 0.9)	NC	0.3 (0.2, 0.6)	4.2 (1.9, 7.2)	58.7 (41.4, 63.8)	162 (99, 205)	17.0 (3.2, 23.2)
Oceania [2-14]	10.3 (5.1, 14.6)	NC	NC	NC	NC	NC	NC	NC	NC	36 (32, 39)	NC
Least developed countries [2-45]	3.2 (1.5, 4.3)	0.2 (0.1, 0.4)	NC	0.2 (0.1, 1.0)	0.2 (0.1, 0.3)	1.2 (0.5, 2.8)	0 (0, 0.2)	7.1 (6.3, 22.5)	49.8 (36.9, 80.5)	70 (66, 84)	NC
Other countries [65-136]	3.5 (1.6, 5.3)	0.3 (0.1, 0.6)	0.5 (0.2, 0.9)	0.5 (0.2, 0.8)	0.3 (0.1, 0.6)	0.5 (0.3, 1.4)	0.3 (0.1, 0.6)	5.9 (1.4, 12.2)	52.6 (36.5, 67.9)	100 (62, 213)	17.9 (5.3, 41.1)
Global [72-181]	3.5 (1.6, 5.2)	0.2 (0.1, 0.6)	0.5 (0.2, 0.9)	0.5 (0.2, 0.8)	0.3 (0.1, 0.5)	0.7 (0.3, 2.1)	0.3 (0.1, 0.5)	6.3 (1.8, 12.5)	52.6 (36.5, 67.9)	83 (63, 173)	17.3 (5.7, 40.8)

Footnotes:

Based on data from the World Drug Report and WHO Global Health Observatory, with specific sources given below for each indicator. All data are median (first, third quartiles) values.

<sup>1</sup> Unsanctioned psychoactive drug use refers to the use of psychoactive drugs whose possession and/or supply is illegal in most jurisdictions or prescription opioids that are being used in an unsanctioned way.

<sup>2</sup> Countries allocated to geographic regions and group of least developed countries based on United Nations Statistics Division listing (<http://unstats.un.org/unsd/methods/m49/m49regin.htm#ftnb>). Numbers in square brackets indicate the number of countries in each grouping with data,

showing the range for each indicator, or a single number if it was the same across all indicators. NC indicates there were insufficient data for calculation of regional values (data available from less than 3 countries).

- <sup>3</sup> Annual prevalence of use of unsanctioned drug use, by type, as a percentage of the population aged 15-64 (but with some minor variation of age range between countries). Dates of estimated prevalence range from 2002 to 2012. "Unsanctioned" drug use includes use of illicit drugs and use of pharmaceutical preparations for non-medical purposes or other than as prescribed. "Opioids" includes illicit preparations of opiates (heroin, opium) and non-medical use of prescription opioid drugs. <http://www.unodc.org/wdr2014/>, accessed 27 June 2014.
- <sup>4</sup> Prevalence of HIV among adults aged 15 to 49, % of population in that age group, 2012 estimates. <http://apps.who.int/gho/data/node.main.622?lang=en> , accessed 28 November 2014
- <sup>5</sup> Prevalence of injecting drug use among adults aged 15-64, %. Dates of estimates range from 1996 to 2012. <http://www.unodc.org/wdr2014/>, accessed 27 June 2014.
- <sup>6</sup> Prevalence of HIV and Hepatitis C amongst injecting drug users, %. Dates of HIV estimates range from 1997 to 2012, dates of hepatitis C estimates range from 2003 to 2011. <http://www.unodc.org/wdr2014/>, accessed 27 June 2014.
- <sup>7</sup> Age-standardised disability-adjusted life years (DALYs) for drug-use disorders, per 100,000 population  
Source: <http://apps.who.int/gho/data/node.main.A1218?lang=en>, accessed 28 November 2014.
- <sup>8</sup> Drug-related mortality per million population aged 15-64. Dates of estimates range from 2002 to 2012. <http://www.unodc.org/wdr2014/>, accessed 27 June 2014.

Table 6: Prevalence of gambling by country<sup>1</sup>

	Year	Age	% Past year <sup>2</sup>	% Problem gambling <sup>3</sup>
Australia	1999	18+	82	3.9
Belgium	2006	16-99	59.7	2.8
Brazil	2005-2006	14+		0.9
Canada	2006-2007	18+	70.7	2
Cyprus [Northern]	2007	18-65	55	2.2
Czech Republic	2012?	15-64	60	
Denmark	2005	18-74	77	0.5
Estonia	2006	15-74	75	2.1
Finland	2011-2012	15-74	78	1.5
France	2009-2010	18-75	47.8	1.1
Germany	2011	18+	63.5	0.8
Great Britain	2006-2007	16+	68	0.7
Hong Kong	2011	15-64	62	4.4
Hungary	2007	18-64	65.3	1
Iceland	2007	18-70	69.4	1
Isle of Man	2012	16+	78	
Italy	2008	18-74	54	2.3
Lithuania	2006	18-64	30.1	2.1
Macau	2003	15-64	67.9	6
Netherlands	2004	16+	71.7	0.5
New Zealand	2006-2007	15+	65.3	1
Northern Ireland	2010	16+	75.3	3.3
Norway	2010	15-70+		1.4
Singapore	2011	18+	47	3.1
South Africa	2008	18+	52.1	6.4
South Korea	2011	19+	41.8	0.8
Sweden	2008-2009	16-84	70	1.5
Switzerland	2006-2007	14+	34.4	0.4
United States	2001-2003	18+	78.4	1.5

Footnotes:

<sup>1</sup> The data included in this table are generally the most recent available for each country, with year indicating the time of assessment. Where data were available for a particular country from multiple years, in some instances the data was selected on the basis of sample size rather than most recent data. Source: Alberta Gambling Research Institute: <http://www.abgamblinginstitute.ualberta.ca/LibraryResources/ReferenceSources/PrevalenceInternational.aspx>

<sup>2</sup> Prevalence of any gambling (excluding raffles) in past year (% of population)

<sup>3</sup> Standardised problem gambling prevalence (% of population)