Health Needs Assessment
Alcohol and illicit drug use

NHS Grampian Substance Misuse Group
August 2014

Data up to Quarter 2 2014/15

chris.littlejohn@nhs.net
Christopher Littlejohn
Consultant in Public Health
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Introduction

1.1 Needs assessment

This needs assessment was undertaken to inform decision making by the NHS Grampian Substance Misuse Group. This group provides strategic leadership to NHS Grampian in relation to alcohol, illicit drugs, and other substances, in terms of the Health Board’s statutory responsibilities to improve the population’s mental and physical health,¹ to provide medical services,¹ and to protect the public health.² It also informs NHS Grampian’s position in relation to its membership of local community planning partnerships, and alcohol and drug partnerships.

The needs assessment focuses on alcohol, drugs, and other substances, as causative agents of physical, mental, and social harms. Data was sought in relation to exposure to these agents regardless of whether harms have yet arisen (i.e. incidence and prevalence of use/consumption), and in relation to associated harms that lead to demand on health services and need for healthcare interventions. It is noted that demand and need are not synonymous: while most harms produce suffering (and therefore demand), not all suffering can be effectively treated (need).³

1.2 Data sources

Demographic data, including population estimates, and alcohol and drug related mortality statistics, were obtained from the General Register Office for Scotland (GROS) website (www.gro-scotland.gov.uk).

Population health data, including assessments of alcohol and drug use prevalence, were obtained from the Scottish Public Health Observatory (www.scotpho.org.uk) or from the NHS National Services Scotland Information Services Division (ISD) website (www.isdscotland.org), and from the Scottish Crime and Justice Surveys (www.scotland.gov.uk/Topics/Statistics/Browse/Crime-Justice/crime-and-justice-survey), Scottish Health Surveys (www.scotland.gov.uk/Topics/Statistics/Browse/Health/scottish-health-survey/Publications), and the Scottish Schools Adolescent Lifestyle and Substance Use Surveys (www.isdscotland.org/Health-Topics/Public-Health/SALSUS/).

NHS health service data, including hospital admission statistics, were obtained from the NHS National Services Scotland Information Services Division (ISD) website (www.isdscotland.org), or from NHS Grampian Health Intelligence.

In addition, staff from a wide range of statutory and voluntary sector organisations gave generously of their time, to answer questions as part of earlier iterations of this current needs assessment. Service users were not involved in this current needs assessment. It is strongly recommended that any specific service developments that arise as a result of the needs assessment do include service users from the outset.

¹ National Health Service (Scotland) Act 1978
² Public Health etc. (Scotland) Act 2008
³ www.birmingham.ac.uk/research/activity/mds/projects/HaPS/PHEB/HCNA/intro/index.aspx
**Population**

### 2.1 The population of Grampian

The population of Grampian in 2012 was estimated to be 573,420, representing 11% of the Scottish population (figure 1).

<table>
<thead>
<tr>
<th>Local authority</th>
<th>Population</th>
<th>% of Grampian population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberdeen City</td>
<td>224,970</td>
<td>39%</td>
</tr>
<tr>
<td>Aberdeenshire</td>
<td>255,540</td>
<td>45%</td>
</tr>
<tr>
<td>Moray</td>
<td>92,910</td>
<td>16%</td>
</tr>
</tbody>
</table>

*Figure 1* Grampian’s population in 2012

---

3.1 Definitions

3.1.1 Alcohol

Alcohol consumption can be represented on a continuum, from low-risk drinking, through hazardous and harmful drinking, to alcohol dependence (‘addiction’). The term low-risk drinking acknowledges that there may be no such thing as ‘no risk’ alcohol consumption (Corrao et al, 1999, 2004). However, at this level the risks might be judged to be balanced against the perceived benefits of alcohol consumption.

Hazardous drinking is usually defined in terms of alcohol consumption that exceeds recommended daily or weekly limits (SIGN, 2004), with no requirement for existing alcohol-related harm. The Scottish Health Survey defines hazardous drinking as the consumption of between 15 and 34 units of alcohol per week for women, and between 22 and 49 units per week for men. Hazardous drinking is also sometimes defined in relation to a score greater than or equal to eight on the Alcohol Use Disorders Identification Test (AUDIT).

These different definitions can lead to potential confusion as it is possible to drink more than daily or weekly limits yet not score eight or more on AUDIT. Recognition of hazardous drinking allows for primary prevention interventions to be provided. Hazardous drinkers would not be expected to experience alcohol-related hospitalisation, as they would by definition then be experiencing harmful drinking (see below). Hazardous drinkers may of course experience hospitalisation for reasons not associated with their alcohol consumption, and will therefore still be present in acute settings.

Harmful drinking involves drinking at similar consumption levels to hazardous drinking, but where actual physical or mental harm has occurred, with the exception of the Scottish Health Survey which defines it as the consumption of greater than 34 or 49 units of alcohol per week for women and men respectively.

One form of harm includes alcohol dependence, a diagnostic syndrome involving “a cluster of physiological, behavioural, and cognitive phenomena” (such as increased tolerance, withdrawal symptoms, and cravings) such that the use of alcohol takes precedence over other previously valued activities (SIGN, 2004).

3.1.2 Drugs and other substances

Illicit drugs are by their legal status prohibited. Other substances, such as gas and glue can have their sales controlled by age. It is likely that a similar continuum of use exists for the majority of drugs considered here, as was identified for alcohol, namely hazardous, harmful and dependent use, though these terms are not routinely used in this context.
3.2 Overview of alcohol and drug use in the general population

Figure two shows the estimated prevalence of a range of substances, shown as a proportion of the Grampian adult population (aged 16 years and over). These figures are based on either self-report or independent academic study (see figure footnotes for sources).

1. Source: GROS, 2012 mid-year estimates
2. Percentage of population aged 16+
3. Scottish Health Survey, 2012 data NB: SHS responses are known to account for only 54% of all alcohol cleared for sale in Scotland link
5. Source: 2010/11 Scottish Crime and Justice Survey link
6. “Problem drug use” defined by ISD as the routine and prolonged use of illicit opiates, prescribed methadone, and/or benzodiazepines; prevalence estimate based on population aged 15-64 link
Use and consumption

Based on the data in figure two, the greatest population exposure is to alcohol, followed by cannabis, and then illicit opiates, prescribed methadone, and/or benzodiazepines. The accuracy of these figures is however open to debate. Surveys may under-represent those with alcohol or drug-related problems (e.g. they may not be listed on electoral registers, which can be used to select participants), or questions about alcohol or drug use may not be answered honestly, with most people under-reporting their consumption. For example, it has been calculated that the answers given in the Scottish Health Survey in 2012 only account for 54% of all the alcohol cleared for sale in the country that year (Beeston et al, 2013). Figure two therefore likely under-estimates the true prevalence of use in Grampian. These figures are further examined below.

3.3 Prevalence of alcohol and drug use in adolescents

The use of alcohol and other drugs in adolescence is important not only due to the immediate risks of harm, but because patterns of use into adulthood can be established at this time. The Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) is a Scottish Government commissioned survey of secondary school students. Amongst the wealth of data that SALSUS produces is a measure of self-reported use of illicit drug use and consumption of alcohol. Table one gives the numbers of 13 year olds reporting any use of illicit drugs in the month prior to the survey, and the number reporting regular alcohol consumption, in 2010. At age 13 the proportion reporting illicit drug use is similar across local authority areas, while regular alcohol consumption in Moray (7%) is significantly greater than in Aberdeen City (2%, p<0.05), though not than in Aberdeenshire (4%, p>0.05).

Table 1 Number (%) of 13 year olds self-reporting:

<table>
<thead>
<tr>
<th></th>
<th>using illicit drugs in past month</th>
<th>usually drinking at least once a week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberdeen City</td>
<td>19 (1%)</td>
<td>37 (2%)</td>
</tr>
<tr>
<td>Aberdeenshire</td>
<td>31 (1%)</td>
<td>123 (4%)</td>
</tr>
<tr>
<td>Moray</td>
<td>12 (1%)</td>
<td>82 (7%)</td>
</tr>
</tbody>
</table>

Table two gives the same data for 15 year olds. By age 15, the proportion reporting illicit drug use is significantly greater in Aberdeen City (11%) than in Aberdeenshire (6%, p<0.05), but not than in Moray (8%, p>0.05). By age 15, the proportion reporting weekly drinking is not statistically different between the three areas (p>0.05).

Table 2 Number (%) of 15 year olds self-reporting:

<table>
<thead>
<tr>
<th></th>
<th>using illicit drugs in past month</th>
<th>usually drinking at least once a week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberdeen City</td>
<td>220 (11%)</td>
<td>400 (20%)</td>
</tr>
<tr>
<td>Aberdeenshire</td>
<td>185 (6%)</td>
<td>646 (21%)</td>
</tr>
<tr>
<td>Moray</td>
<td>100 (8%)</td>
<td>327 (26%)</td>
</tr>
</tbody>
</table>

Figures three and four show the data from tables one and two in pictorial form, showing the proportion of 13 years olds living in each local authority area, and in relation to each of these populations the proportions reporting illicit drug use and weekly alcohol consumption.

5 [www.isdscotland.org/Health-Topics/Public-Health/SALSUS/](http://www.isdscotland.org/Health-Topics/Public-Health/SALSUS/)
Figure 3 Self-reported alcohol and illicit drug use amongst 13 year olds in Grampian (SALSUS data)

All thirteen year olds in Grampian (6,130; 100%)¹

Those reporting drinking alcohol at least once per week, as a proportion of the Local Authority 13-year old population

Those reporting use of illicit drugs in the past month, as a proportion of the Local Authority 13-year old population

All thirteen year olds in Aberdeenshire (3,806)¹

All thirteen year olds in Aberdeen City (1,872)¹

All thirteen year olds in Moray (1,172)¹

Those reporting use of illicit drugs in the past month, as a proportion of the Local Authority 15-year old population

Those reporting drinking alcohol at least once per week, as a proportion of the Local Authority 15-year old population

All fifteen year olds in Grampian (6,336; 100%)\(^1\)

All fifteen year olds in Aberdeenshire (3,078)\(^1\)

All fifteen year olds in Aberdeen City (2,002)\(^1\)

All fifteen year olds in Moray (1,256)\(^1\)

Figure 4 Self-reported alcohol and illicit drug use amongst 15 year olds in Grampian (SALSUS data)

Use and consumption

For each of these measures, the trend in recent years, as measured by subsequent SALSUS surveys, has been downwards.

The proportion of 13 year olds across Grampian reporting that they drink alcohol at least once a week has reduced from around one in six (15%) in 2002, to one in twenty five (4%) in 2010 (figure 5).

![Figure 5](image)

The proportion of 15 year olds across Grampian reporting that they drink alcohol at least once a week has reduced from around one in two (44%) in 2002, to one in five (22%) in 2010 (figure 6).

![Figure 6](image)
Use and consumption

The proportion of 13 year olds across Grampian reporting illicit drug use in the previous month has reduced from around one in twenty (5%) in 2002, to one in one hundred in 2010 (figure 7).

![Figure 7](image)

The proportion of 15 year olds reporting illicit drug use in the previous month has reduced from around one in five (20%) in 2002, to around one in twelve (8%) in 2010 (figure 8).

![Figure 8](image)

Across the three local authority areas there is variation in the illicit drugs and other substances used (table 3). The most commonly reported illicit drug used by 15 year olds is cannabis. There is a greater variety of drugs use reported in Aberdeen City compared to Aberdeenshire or Moray. In Moray, other than cannabis, the only other substance reported by at least 1% of the 15 year old population is gas, glue or solvent abuse.
3.4 Prevalence of alcohol consumption in the general population

The Scottish Health Survey is a national survey that reports alcohol consumption in relation to daily and weekly recommended limits, and alcohol use disorders as measured by the Alcohol Use Disorders Indentification Test (AUDIT), at a national level. As noted in the introduction, it is known that the self-reported alcohol consumption in the Survey accounts for only half of the alcohol available for sale in Scotland in the same year. As such, the figures are likely to be an underestimate.

3.4.1 Grampian population

In figure nine the national proportions are applied to the Grampian population. The data is not calculated to local authority level due to the increasing risk of inaccuracy that will increasingly arise due to geographical variation. Each circle representing an age band is proportionate to the overall Grampian population. Each of the inner circles within each age band represents the proportion within that age band who exceed weekly or daily guideline amounts, or score for hazardous, harmful, or dependent drinking on AUDIT. It can be seen that exceeding guidelines decreases with age; that hazardous drinking occurs across the full age spectrum, with the exception of women aged 75 and over; and that harmful drinking and alcohol dependence is more common in men than women.

Prevalence data from the Scottish Alcohol Needs Assessment\(^6\) can be used to estimate that there are around 20,000 dependent drinkers in Grampian. This is greater than the prevalence estimated by the Scottish Health Survey.

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\(^6\) [www.rcpsych.ac.uk/pdf/SANA%20report%206-8-09%20(2).pdf](www.rcpsych.ac.uk/pdf/SANA%20report%206-8-09%20(2).pdf)
Figure 9: Scottish Health Survey 2012 self-reported alcohol consumption (AUDIT score), applied to Grampian 2012 population.
Use and consumption

3.4.2 Local Authority population

Overall self-reported alcohol consumption appears similar across all three local authority areas in Grampian. Using the Scottish Health Survey’s definition of hazardous and harmful drinking (see page 10 above), the proportions reporting such drinking are similar (figure 10). (Note that the Scottish Health Survey definition of harmful drinking (women consuming more than 34 units per week and men consuming more than 49 units per week) will include women and men with alcohol dependence.) This is also similar to the national picture (25% of men, 18% of women drinking more than 15/22 units per week in 2012).

Applying these proportions to the estimated local authority populations aged 16 and over gives rise to an estimated 80,900 hazardous drinkers and 23,600 harmful or dependent drinkers in Grampian (see table four for breakdown by sex and local authority).

<table>
<thead>
<tr>
<th></th>
<th>City</th>
<th>Shire</th>
<th>Moray</th>
<th>Grampian total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-34 units per week</td>
<td>14,900</td>
<td>15,600</td>
<td>5,400</td>
<td>35,900</td>
</tr>
<tr>
<td>35+ units per week</td>
<td>2,800</td>
<td>3,000</td>
<td>800</td>
<td>6,600</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-49 units per week</td>
<td>20,400</td>
<td>17,800</td>
<td>6,800</td>
<td>45,000</td>
</tr>
<tr>
<td>50+ units per week</td>
<td>7,300</td>
<td>7,400</td>
<td>2,300</td>
<td>17,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazardous</td>
<td>35,300</td>
<td>33,400</td>
<td>12,200</td>
<td>80,900</td>
</tr>
<tr>
<td>Harmful/dependent</td>
<td>10,100</td>
<td>10,400</td>
<td>3,100</td>
<td>23,600</td>
</tr>
</tbody>
</table>

When analysed by age band, some differences between local authorities do become apparent (figure 11). Hazardous drinking appears particularly prevalent amongst 16 – 24 year old women and men in Aberdeen City, amongst 55 – 64 year old men in Moray and Aberdeen City, and amongst women aged over 75 in Moray. Harmful drinking appears particularly prevalent amongst 16 – 24 year old women and men in Aberdeenshire, and 16 – 24 year old men in Aberdeen City.

7 The Scottish Health Survey defines hazardous drinking as weekly consumption of 15 to 34, or 22 to 49, units of alcohol per week (upw) for women or men respectively; and harmful drinking as weekly consumption of >34 or >49 upw
Use and consumption

**Figure 11** Hazardous and harmful drinking in local authority populations by age band

**Hazardous alcohol consumption** (based on Scottish Health Survey definition)

**Harmful alcohol consumption** (based on Scottish Health Survey definition)
Use and consumption

3.4.3 Trends in prevalence of alcohol consumption over time

Noting the caveat that self-reported alcohol consumption accounts for only around half of all alcohol sold in Scotland each year, time trends in reported alcohol consumption can be established, using the results from sequential Scottish Health Surveys. Against a context of a downward trend in overall reported alcohol consumption across Scotland, there is also a downward trend in the numbers exceeding weekly drinking guidelines (figure 12). Younger people have been more likely to reduce their alcohol consumption than older people, although they remain more likely to drink in excess of weekly guidelines (figure 13).

**Figure 12** Percentage of Scottish adults exceeding the recommended weekly drinking guidelines, 2003-2011 (source: Beeston et al, 2013)

Despite the reductions, Scottish women and men are more likely to exceed daily and weekly drinking guidelines than English (Beeston et al, 2013).

**Figure 13** Percentage of Scottish adults exceeding the recommended weekly drinking guidelines by age group, 2003-2011 (source: Beeston et al, 2013)

3.4.4 Alcohol consumption and socioeconomic status
Use and consumption

The Scottish Health Survey uses the Scottish Index of Multiple Deprivation as an area based measure of socioeconomic deprivation, and household income as an individual level measure of deprivation. Using Scottish Health Survey data, Beeston et al (2013) have shown that self-reported weekly alcohol consumption for Scottish women increases inversely to deprivation, with average weekly consumption and proportions exceeding weekly drinking guidelines increasing with affluence; whilst amongst men, self-reported weekly alcohol consumption is similar across the socioeconomic spectrum.

Similar proportions across the socioeconomic spectrum can be classified as hazardous drinkers, and there are no differences in average weekly alcohol consumption across the socioeconomic spectrum – hazardous drinkers from the most deprived communities consume the same average amount as those from the most affluent (Beeston et al, 2013).

Those from the most socioeconomically deprived fifth of the population are more likely than the rest to be classified as harmful drinkers, and also drink on average 20 units more per week than harmful drinkers elsewhere on the social spectrum (Beeston et al, 2013). Whether this is because those living in socioeconomic deprivation are more likely to develop harmful drinking, or because harmful drinking is associated with downward social mobility, is not clear.

3.5 Prevalence of illicit drug use in the general population

The 2010/11 Scottish Crime and Justice Survey is a national survey that addresses similar questions to previous Scottish Crime and Victimisation Surveys. In figure fourteen the national proportions reporting use of illicit drugs and substances in the past month are applied to the Grampian population. The data is not calculated to local authority level due to the increasing risk of inaccuracy that will increasingly arise due to geographical variation.

In addition, figure fourteen does not include calculated prevalence for illicit opiates, prescribed methadone, or benzodiazepines (collectively referred to as 'problem drug use'), as the age bands published by ISD are not compatible with those published by the Scottish Crime and Justice Survey. It is however notable that the reported prevalence of opiate and benzodiazepine use based on the Scottish Crime and Justice Survey is significantly less than the calculated figure published by ISD (see below), leading to the conclusion that the Scottish Crime and Justice Survey prevalence may be a significant under-estimate of use.

The prevalence of ‘problem drug use’, as published by ISD8, is available at local authority level, and is shown in figure fifteen. Of an estimated 4,550 problem drug users in Grampian, the majority (3,100; 68%) live in Aberdeen City; a large number (1,100; 24%) in Aberdeenshire; and the remainder in Moray (350; 8%). Figure fifteen shows that in all areas the majority are male. There is a variation in age distribution, with problem drug users appearing to be an older cohort in Aberdeen City compared to Aberdeenshire or Moray. In Aberdeen City nearly half (47%) are older than 35 years of age, compared to around one third in Aberdeenshire and Moray (34% and 35% respectively).

Figure 14 Scottish Crime and Justice Survey 2011/12 self-reported drug consumption in past month, applied to Grampian 2012 population

<table>
<thead>
<tr>
<th>KEY to colour code</th>
<th>Women</th>
<th>Population in age band</th>
<th>Cocaine</th>
<th>Ecstasy or amphetamine</th>
<th>Cannabis</th>
<th>Crack cocaine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>16-24</td>
<td>25-44</td>
<td>45-59</td>
<td>60+</td>
<td>Total</td>
</tr>
<tr>
<td>Coke</td>
<td>380</td>
<td>467</td>
<td>0</td>
<td>0</td>
<td>847</td>
<td></td>
</tr>
<tr>
<td>Ecstasy</td>
<td>449</td>
<td>389</td>
<td>0</td>
<td>0</td>
<td>838</td>
<td></td>
</tr>
<tr>
<td>Cannabis</td>
<td>1,693</td>
<td>1,947</td>
<td>182</td>
<td>70</td>
<td>3,891</td>
<td></td>
</tr>
<tr>
<td>Crack cocaine</td>
<td>0</td>
<td>156</td>
<td>0</td>
<td>0</td>
<td>156</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KEY to colour code</th>
<th>Men</th>
<th>Population in age band</th>
<th>Cannabis</th>
<th>Ecstasy or amphetamine</th>
<th>Cocaine</th>
<th>LSD</th>
<th>Glue/solvents/gas</th>
<th>Crack cocaine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>16-24</td>
<td>25-44</td>
<td>45-59</td>
<td>60+</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabis</td>
<td>4,464</td>
<td>4,964</td>
<td>1,201</td>
<td>59</td>
<td>10,688</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecstasy or amphetamine</td>
<td>2,232</td>
<td>1,261</td>
<td>180</td>
<td>0</td>
<td>3,673</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine</td>
<td>1,205</td>
<td>1,182</td>
<td>120</td>
<td>0</td>
<td>2,507</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSD</td>
<td>177</td>
<td>394</td>
<td>0</td>
<td>0</td>
<td>571</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glue/solvents/gas</td>
<td>71</td>
<td>79</td>
<td>0</td>
<td>0</td>
<td>150</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crack cocaine</td>
<td>0</td>
<td>79</td>
<td>0</td>
<td>0</td>
<td>79</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 15 Estimated prevalence of “problem drug users” by Local Authority, by sex, and by age band

Estimated Grampian prevalence of ‘problem drug use’ 2012/13 (4,970; 100%)

- Male (65%)
  - Aged 35-64 (47%)
  - Aged 25-34 (41%)
- Aged 15-24 (12%)

- Male (73%)
  - Aged 35-64 (34%)
  - Aged 25-34 (54%)
- Aged 15-24 (12%)

- Male (77%)
  - Aged 35-64 (35%)
  - Aged 25-34 (38%)
- Aged 15-24 (27%)

Aberdeen City (3,100; 68%)

- Male (65%)
  - Aged 35-64 (41%)
  - Aged 25-34 (12%)
- Aged 15-24 (12%)

- Male (65%)
  - Aged 35-64 (47%)
  - Aged 25-34 (41%)
- Aged 15-24 (12%)

Aberdeenshire (1,100; 24%)

- Male (73%)
  - Aged 35-64 (34%)
  - Aged 25-34 (54%)
- Aged 15-24 (12%)

Moray (350; 8%)

- Male (77%)
  - Aged 35-64 (35%)
  - Aged 25-34 (38%)
- Aged 15-24 (27%)

Aberdeenshire (1,100; 24%)

- Male (73%)
  - Aged 35-64 (34%)
  - Aged 25-34 (54%)
- Aged 15-24 (12%)

Moray (350; 8%)

- Male (77%)
  - Aged 35-64 (35%)
  - Aged 25-34 (38%)
- Aged 15-24 (27%)

Aberdeen City (3,100; 68%)

- Male (65%)
  - Aged 35-64 (41%)
  - Aged 25-34 (12%)
- Aged 15-24 (12%)

Figure 15 Estimated prevalence of “problem drug users” by Local Authority, by sex, and by age band

Estimated Grampian prevalence of ‘problem drug use’ 2012/13 (4,970; 100%)

- Male (65%)
  - Aged 35-64 (47%)
  - Aged 25-34 (41%)
- Aged 15-24 (12%)

- Male (73%)
  - Aged 35-64 (34%)
  - Aged 25-34 (54%)
- Aged 15-24 (12%)

- Male (77%)
  - Aged 35-64 (35%)
  - Aged 25-34 (38%)
- Aged 15-24 (27%)

Aberdeen City (3,100; 68%)

- Male (65%)
  - Aged 35-64 (41%)
  - Aged 25-34 (12%)
- Aged 15-24 (12%)

Aberdeenshire (1,100; 24%)

- Male (73%)
  - Aged 35-64 (34%)
  - Aged 25-34 (54%)
- Aged 15-24 (12%)

Moray (350; 8%)

- Male (77%)
  - Aged 35-64 (35%)
  - Aged 25-34 (38%)
- Aged 15-24 (27%)
Use and consumption

3.5.1 Reported drug use amongst those presenting to substance misuse services

The estimated prevalence of ‘problem drug users’ is in part based on those presenting to specialist drug treatment services. The self-reported drugs used by those newly presenting to specialist drug services each year are given in table five.

| Table 5 Number (%) of new clients of specialist drug treatment services in Grampian self-reporting drug use by type of drug (source: SMR25) |
|-------------------------------------------------|----------------|----------------|----------------|
| Total number of new clients                      | 2009/10   | 2010/11   | 2011/12   |
| Number (%) reporting any illicit drug use         | 715 (86%) | 741 (82%) | 789 (77%) |
| Number (%) reporting use of illicit opiates       | 654 (91%) | 653 (88%) | 597 (76%) |
| Number (%) reporting use of methadone            | 87 (12%)  | 87 (12%)  | 94 (12%)  |
| Number (%) reporting use of sedatives            | 314 (44%) | 310 (42%) | 310 (39%) |
| Number (%) reporting use of crack cocaine        | 132 (18%) | 118 (16%) | 147 (19%) |

The majority of new clients report using illicit opiates (e.g. heroin), with significant numbers also reporting use of sedatives (e.g. benzodiazepines) and crack cocaine. Compared to other Health Board areas Grampian has a high reported level of crack cocaine use (figure 16).

Figure 16 Reported crack cocaine use amongst new clients of specialist drug treatment services

Percentage of all new clients of substance misuse services reporting use of crack cocaine by Health Board of residence

2009/10
2010/11
2011/12
Use and consumption

The use of crack cocaine is primarily reported in Aberdeen City and Aberdeenshire (figure 17).

### 3.5.2 Trends in prevalence of illicit drug use over time

Noting the caveat regarding the accuracy of survey prevalence data, time trends in reported drug use can be established using the Scottish Crime and Justice Surveys of 2010/11, 2009/10, and 2008/09; the Scottish Crime and Victimisation Surveys of 2006 and 2004; and the Scottish Crime Surveys of 2000 and 1996 (figure 18).⁹

**Figure 18** National prevalence of drug use in the past year, 1996 – 2011

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Use and consumption

After an increase in self-reported drug use in the early 2000’s, prevalence of past-year use has returned to previous levels with an apparent downward trend. Consistent with figure fourteen above, the most commonly used illicit drugs have been cannabis, stimulants (e.g. ecstasy or amphetamine), and cocaine.

The prevalence of ‘problem drug use’ has been essentially stable (table 6).

<table>
<thead>
<tr>
<th>Year</th>
<th>Aberdeen City</th>
<th>Aberdeenshire</th>
<th>Moray</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>3,645 (2,659 to 5,965)</td>
<td>1,372 (1,091 to 1,808)</td>
<td>398 (247 to 731)</td>
</tr>
<tr>
<td>2003</td>
<td>2,810 (2,587 to 3,147)</td>
<td>1,220 (1,056 to 1,581)</td>
<td>310 (182 to 1,627)</td>
</tr>
<tr>
<td>2006</td>
<td>2,597 (2,339 to 2,896)</td>
<td>1,257 (1,139 to 1,400)</td>
<td>299 (251 to 365)</td>
</tr>
<tr>
<td>2009</td>
<td>3,200 (2,900 to 3,500)</td>
<td>1,400 (1,200 to 1,500)</td>
<td>370 (320 to 430)</td>
</tr>
<tr>
<td>2012/13</td>
<td>3,100 (2,700 to 3,500)</td>
<td>1,100 (970, 1,300)</td>
<td>350 (260 to 510)</td>
</tr>
</tbody>
</table>

3.5.2 Illicit drug use and socioeconomic status

The Scottish Crime and Justice Survey does not record socioeconomic status of respondents, so no analysis of responses by socioeconomic status is possible.
Health harms

4.1 Health harms arising from alcohol consumption

Excess alcohol consumption has been recognised as a major threat to public health in Scotland (Scottish Executive, 2007). From a health perspective, excess alcohol consumption is associated with early mortality and significant morbidity, from accidental and self-inflicted injuries, and chronic disease (Rehm et al, 2006). Consumption of as little as 25g (three UK units) of alcohol per day is associated with increased risk for cancers, hypertension, liver cirrhosis, chronic pancreatitis, and injuries and violence (Corrao et al, 1999, 2004). Although alcohol consumption, alcohol-related hospital admissions, and alcohol-related mortality have all reduced in the past few years, all of these remain significantly higher than in the rest of the UK (Beeston et al, 2013).

Definitions

**Wholly-attributable alcohol-related conditions** are those health conditions that are, by definition, wholly caused by alcohol consumption: with no alcohol consumption the condition would not have occurred. For example, alcoholic liver disease cannot occur in those who have never consumed alcohol. Wholly-attributable alcohol-related conditions are measured by counting the number of clinical diagnoses that are made. This necessitate that the alcohol-related nature of the condition was recognised and recorded by clinical staff.

**Partially-attributable alcohol-related conditions** are those health conditions that occur in both those who consume alcohol and those who do not. For example, mouth and throat cancer can occur in those who have never consumed alcohol, while occurring more often in those who do consume alcohol. Partially-attributable alcohol-related conditions are measured by calculating the number of additional cases that are attributable to alcohol consumption, excluding those that would have occurred in a population of non-drinkers.

Figures that combine wholly and partially attributable health conditions will give a more accurate assessment of the health burden than either figure alone.

4.1.1 Alcohol-related conditions and primary care services

ISD previously published primary care data from its ‘practice team information’ (PTI) system, comprising around 60 primary care GP practices across Scotland. This ceased to collect data at the end of 2013, and will be replaced by the Scottish Primary Care Information Resource (SPIRE).10

10 [www.spire.scot.nhs.uk](http://www.spire.scot.nhs.uk)
Health harms

ISD published Scotland-level estimates of primary care consultations identified and recorded as being for an alcohol-related condition (appendix 3) in January 2014. This is a largely a measure of wholly-attributable alcohol-related conditions.

In Scotland, around 1% of patients attend their GP are identified as having attended for an alcohol-related consultation every year (figure 19). This figure has not changed significantly in the past decade. The figure will under-estimate the burden of health need in primary care arising from alcohol.

![Figure 19](image)

In Scotland, around 0.7% of all GP consultations each year are identified as being alcohol-related (figure 20). Again, this figure has remained stable for the past decade, and will under-estimate the burden of demand.

![Figure 20](image)
Health harms

4.1.2 Alcohol-related conditions and community care services

No systematic data is routinely available.

4.1.3 Alcohol-related conditions and social services

The Scottish Public Health Observatory’s online profiles\(^\text{11}\) provide data on the rate of child protection cases where parental alcohol misuse has been identified as an issue (figure 21).

**Figure 21** Child protection cases with parental alcohol misuse, rate per 10,000 aged under 18 (bars show 95% confidence intervals) (data for 2012 only available)

Aberdeen City and Moray have rates similar to the national average, whereas Aberdeenshire’s rate is reported by ScotPHO to be significantly below the national average.

4.1.4 Alcohol-related conditions and general hospital admissions

The Scottish Morbidity Record 01 (SMR01) collects data on all in-patient and day case discharges from all specialties, excluding obstetric, psychiatric and geriatric long-stay settings. SMR01 includes a record of the patient’s diagnosis, systematically coded using the World Health Organization’s International Classification of Diseases 10th revision (ICD10). Within ICD-10 are both wholly-attributable and partially-attributable alcohol-related conditions (appendix one). Alcohol-related discharges are analysed and reported by Information Services Division (ISD). Previously these were calculated using episode of care data, where a single patient’s episodes were aggregated to provide a measure of a single hospitalisation. In December 2009, ISD altered the method to make use of linked data, resulting in a continuous inpatient stay (CIS).\(^\text{12}\) The effect of this change was to marginally increase the reported number of acute discharges from that date (by between 0.9% and 1.9% over the number that would have been reported using the previous method). This is relevant when looking at hospitalisation trends over time.

4.1.4.1 Wholly- attributable alcohol-related admissions

ISD routinely publishes wholly-attributable alcohol-related hospital admission data. These give a measure of alcohol-related harm, though it is likely that some patients with alcohol

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\(^{11}\) [https://scotpho.nhsnss.scot.nhs.uk/scotpho/homeAction.do](https://scotpho.nhsnss.scot.nhs.uk/scotpho/homeAction.do)

\(^{12}\) [www.drugmisuse.isdscotland.org/publications/local/CIS_FAQ.pdf](www.drugmisuse.isdscotland.org/publications/local/CIS_FAQ.pdf)
Health harms

use disorder go unrecognised and unrecorded. For example, Mitchell et al (2012) found that clinical staff identified nearly all patients experiencing alcohol intoxication (90%, 95%CI 70–99 of cases), but less than half of patients with alcohol dependence (42%, 95%CI 16–69) (Mitchell et al, 2012).

In 2012/13 a total of 2,075 patients experienced 2,988 hospital admissions with a wholly attributable alcohol-related diagnosis; thus up to 913 patients had two or more alcohol-related admissions that year (source: ISD: SMR01). There were 1,173 patients whose residence was identified as Aberdeen City (56%), 603 as Aberdeenshire (29%), and 305 as Moray (15%) (see page 34 to compare proportions once partially-attributable conditions are included). It is possible that some patients were admitted to hospitals outwith Grampian i.e. some living in Aberdeenshire may have been admitted to Ninewells in Tayside, or to Dr Gray’s in Moray, though this does not change this local measure of demand.

Of the 2,988 admissions 2,638 (88%) were unscheduled. [See also figures 50 and 51 below.] Local analysis of alcohol-related emergency admissions to Grampian acute hospitals has shown that in 2009/10 the majority were reported by Aberdeen Royal Infirmary (82%), followed by Dr Gray’s in Elgin (13%).

Trends in wholly-attributable alcohol-related hospital admissions in Grampian have been generally consistent with those seen nationally. Followed a decade of rising admission rates, there has been a reduction in recent years (figure 22). Aberdeen City’s admission rate nonetheless remains significantly higher than Aberdeenshire or Moray.

The recent reduction in alcohol-related hospitalisations has been attributed, at least in part, to reductions in household income, partly as a result of the economic crisis of 2008 (Beeston et al, 2013). The potential for current trends to be reversed with more favourable economic conditions was acknowledged.

Health harms

Across Scotland there is an association between alcohol-related general hospital admission rates and area deprivation, as the following relative risks show:

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1 (most deprived)</td>
<td>6.79</td>
<td>7.23</td>
<td>7.03</td>
<td>6.36</td>
<td>6.13</td>
</tr>
<tr>
<td>2</td>
<td>3.73</td>
<td>3.96</td>
<td>3.80</td>
<td>3.56</td>
<td>3.53</td>
</tr>
<tr>
<td>3</td>
<td>2.27</td>
<td>2.44</td>
<td>2.37</td>
<td>2.29</td>
<td>2.32</td>
</tr>
<tr>
<td>4</td>
<td>1.50</td>
<td>1.65</td>
<td>1.51</td>
<td>1.50</td>
<td>1.49</td>
</tr>
<tr>
<td>5 (least deprived)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
</tbody>
</table>

In 2012/13, admission rates for patients living in the most socioeconomically deprived quintile were six times greater than rates for patients living in the least deprived quintile (figure 23).

Figure 23

Relative risk of wholly-attributable alcohol-related general hospital admission by SIMD quintile (source: ISD)

4.1.4.2 Wholly- attributable alcohol admissions by specialty

Admissions to six specialties account for nearly 90% of the total reported emergency acute alcohol-related admissions in Grampian each year:

- In general medicine, around one in twelve (8%) of all emergency admissions had an alcohol-related diagnosis in any position in 2011. Their 1,267 admissions with an alcohol-related diagnosis represented the majority (40%) of all NHS Grampian's alcohol-related emergency acute admissions that year.
- In accident & emergency, almost one in three (29%) of all admissions had an alcohol-related diagnosis in any position in 2011. Their 1,083 alcohol-related admissions represented a further third (34%) of all NHS Grampian's alcohol-related emergency acute admissions that year.
- Between them, general surgery (excluding vascular), gastroenterology, orthopaedics, and respiratory medicine reported a further 527 emergency acute admissions with an alcohol-related diagnosis in any position, representing a further 17% of the NHS Grampian total in 2011.

In total in 2011 these six specialties reported 30,142 emergency admissions, and of these 2,877 (10%) attracted an alcohol-related diagnosis (figure 24).
Health harms

Figure 24
Seven specialties in Grampian (ARI, Dr Gray’s, community hospitals) account for greater than 90% of all reported emergency admissions with a wholly-attributable alcohol-related diagnosis in main or secondary position.

All NHSG emergency admissions with a wholly-attributable alcohol-related diagnosis in main or secondary position 2011 (source SMR01)

- General medicine (n=1,267; 40%)
- A&E (n=1,083; 34%)
- General surgery (n=229; 7%)
- Gastroenterology (n=145; 4.6%)
- GP (non-obstetrics) (n=77; 2.4%)
- Respiratory medicine (n=31; 1%)
- Geriatric medicine (n=39; 1.2%)
Health harms

4.1.4.3 Wholly-attributable alcohol admissions by age

Nationally, the majority of wholly-attributable alcohol-related admissions occur in those who are younger than 60 (data for 2011/12):

<table>
<thead>
<tr>
<th>Age band</th>
<th>Percentage of alcohol-related admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤19</td>
<td>4%</td>
</tr>
<tr>
<td>20 – 29</td>
<td>10%</td>
</tr>
<tr>
<td>30 – 39</td>
<td>14%</td>
</tr>
<tr>
<td>40 - 49</td>
<td>23%</td>
</tr>
<tr>
<td>50 – 59</td>
<td>22%</td>
</tr>
<tr>
<td>≥60</td>
<td>27%</td>
</tr>
</tbody>
</table>

Applying these percentages to NHS Grampian gives the distribution seen in figure 25.

Figure 25 National age distribution of wholly-attributable alcohol-related general hospital admissions, applied proportionately to all Grampian wholly-attributable alcohol-related admissions in 2011/12

Over half (59%) of all wholly-attributable alcohol-related general hospital admissions occur in those aged between 30 and 59.
Health harms

4.1.4.4 Wholly-attributable alcoholic liver disease admissions

Amongst wholly-attributable alcohol-related conditions, alcoholic liver disease can be considered as an important proxy for alcohol-related harm overall, and it is informative to consider current trends in relation to this particular condition. The trend for admissions for alcoholic liver disease remains upwards (SMR01 data; figure 26).

**Figure 26**

![Total number of admissions with a diagnosis of Alcoholic Liver Disease, in any position, NHS Grampian](image)

The increase in admissions for alcoholic liver disease has been driven by increasing numbers of younger patients, primarily those aged between 30 and 59, but also with small but increasing numbers amongst those aged under 30 (figure 27).

**Figure 27**

![Number of admissions with a diagnosis of Alcoholic Liver Disease, in any position, NHS Grampian, by age band](image)
Health harms

4.1.4.5 Combined wholly and partially attributable alcohol-related general hospital admissions by intermediate geography

In 2009 NHS National Services Scotland (ISD, 2009) published alcohol attributable fractions, based upon 2003 data, for general hospital admissions and mortality. ISD calculated that when partially-attributable alcohol-related conditions are included in the hospital admission data, that a total of around 7% of patients are admitted due to an alcohol-related condition each year in Scotland.

ScotPHO used these fractions to calculate combined wholly and partially attributable alcohol-related general hospital admission rates in their health and wellbeing profiles for 2010. The combined figure based on wholly and partially attributable alcohol-related conditions is noticeably greater than figures based on wholly-attributable conditions alone (figure 28). (The wholly attributable rate is based on the same data as was shown in figure 22 above.)

Figure 28

Wholly and combined-wholly-and-partially attributable alcohol-related general hospital admissions, age-sex standardised annual rate per 100,000 (sources: ISD, ScotPHO)

The admission rates for each local authority area in Grampian are statistically significantly different to one another. Aberdeen City and Moray have two of the highest rates in Scotland, although only the former is significantly above the national average rate (figure 29). Aberdeenshire is not statistically significantly different to the national average rate.
Figure 29

Combined wholly and partially attributable alcohol-related general hospital admissions, age-sex standardised rate per 100,000
(source: ScotPHO 2010 profiles)
Health harms

ScotPHO also reports rates at “intermediate geography” level. There are 1,235 intermediate geography zones in Scotland, each one containing an average of 4,000 household residents.14

- Aberdeen city has 47 intermediate geography zones. Of these, 24 (51%) were worse than the national average, 10 (21%) were better than the national average, and 13 (28%) were the same as the national average (figure 30).

- Aberdeenshire has 57 intermediate geography zones. Of these, 7 (12%) were worse than the national average, 29 (51%) were better than the national average, and 21 (37%) were the same as the national average (figure 31).

- Moray has 24 intermediate geography zones. Of these, 10 (42%) were worse than the national average, 4 (16%) were better than the national average, and 10 (42%) were the same as the national average (figure 32).

The figures are colour-coded to show whether the local rates are statistically significantly greater than (i.e. “worse than”) the Scottish average (in red); less than (i.e “better than”) the Scottish average rate (in green); and not statistically significantly different from the national rate (in orange).

Once partially attributable alcohol-related conditions are included, people resident in Aberdeen City experience 46% of Grampian’s alcohol-related admissions, Aberdeenshire 37%, and Moray 17% (compared to 56%, 29%, and 15% respectively when only wholly-attributable admissions are considered, see page 27 above). Thus some of the burden of alcohol-related health harm is hidden in routinely reported statistics.

In addition, when comparing the intermediate geography zone data, it can be seen that in Aberdeenshire the zones with alcohol-related hospitalisation rates that are significantly higher than the national average are not the location from where the absolute majority of hospitalisations arise. This is in marked contrast to Aberdeen City and Moray (table 7).

<table>
<thead>
<tr>
<th>Areas above national average</th>
<th>Aberdeen City</th>
<th>Aberdeenshire</th>
<th>Moray</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2169 (66%)</td>
<td>449 (17%)</td>
<td>575 (46%)</td>
</tr>
<tr>
<td>Areas same as national average</td>
<td>668 (20%)</td>
<td>1058 (40%)</td>
<td>531 (42%)</td>
</tr>
<tr>
<td>Areas below national average</td>
<td>427 (13%)</td>
<td>1118 (43%)</td>
<td>155 (12%)</td>
</tr>
<tr>
<td>Totals</td>
<td>3263 (100%)</td>
<td>2625 (100%)</td>
<td>1261 (100%)</td>
</tr>
</tbody>
</table>

This is consistent with Rose’s (1992) observation that a lower risk multiplied across a larger population can produce more cases than a much higher risk affecting a much smaller population. This situation arises in Aberdeenshire as there are only a few areas with above-average hospitalisation rates. As a result, focusing efforts to reduce alcohol consumption in those areas with the highest alcohol-related admission rates would have only a limited effect on the number of admissions overall in Aberdeenshire. (Also see page 74.)

14 [www.scotland.gov.uk/Publications/2005/02/20732/53083](http://www.scotland.gov.uk/Publications/2005/02/20732/53083)
### Health harms

**Figure 30** Wholly and partially-attributable, age-sex standardised, alcohol-related general hospitalisation rate per 100,000 in Aberdeen City
(source: ScotPHO health & wellbeing profiles, 2008 data)

* intermediate geography zones marked with an asterisk contain datazones which are amongst the 20% most socioeconomically deprived in Scotland ([http://simd.scotland.gov.uk/publication-2012](http://simd.scotland.gov.uk/publication-2012))
Health harms

Figure 31 Wholly and partially-attributable, age-sex standardised, alcohol-related general hospitalisation rate per 100,000 in Aberdeenshire (source: ScotPHO health & wellbeing profiles, 2008 data)

* intermediate geography zones marked with an asterisk contain datazones which are amongst the 20% most socioeconomically deprived in Scotland (http://simd.scotland.gov.uk/publication-2012)
Health harms

* intermediate geography zones marked with an asterisk contain datazones which are amongst the 20% most socioeconomically deprived in Scotland (http://simd.scotland.gov.uk/publication-2012)
Health harms

4.1.4.6 Financial cost of alcohol-related hospital admissions

- **Wholly-attributable**

  Average costs per in-patient admission are published by ISD.\(^{15}\) The average cost per in-patient admission in NHS Grampian in 2012/13 was £2,433 (with a wide variation by specialty). With around 2,300 patients experiencing 3,500 wholly attributable alcohol-related admissions per year, this gives a crude estimate of £8,500,000.

- **Wholly and partially attributable**

  In 2009 NHS National Services Scotland (ISD, 2009) published alcohol attributable fractions, based upon 2003 data, to calculate the full number of alcohol-related admissions when partially-attributable alcohol-related conditions are taken into account. They calculated that around 7% of patients are admitted due to an alcohol-related condition each year in Scotland. In 2011/12 nearly 73,000 individuals living in Grampian experienced at least one admission to hospital, giving rise to an estimate of around 5,000 with a wholly or partially attributable alcohol-related condition. Assuming that each patient on average has 1.5 admissions (as is the case for wholly-attributable alcohol-related admissions), this gives an estimate of 7,500 wholly or partially attributable alcohol-related admissions per year.

  This estimate is supported by data published by ScotPHO.\(^{16}\) ScotPHO report an annual average for combined wholly and partially attributable alcohol-related conditions in Grampian of 7,149 admissions per year (3,260 in Aberdeen City; 2,625 in Aberdeenshire; and 1,261 in Moray).

  Using the ScotPHO data (i.e. 7,149 admissions) and multiplying this by the average cost of an in-patient admission (£2,433) gives a crude cost estimate for all acute alcohol-related admissions of £17,400,000 per year.

\(^{15}\) www.isdscotland.org/Health-Topics/Finance/Costs/File-Listings-2013.asp#1186

\(^{16}\) https://scotpho.nhsnss.scot.nhs.uk/scotpho/
Health harms

4.1.5 Alcohol-related conditions and psychiatric hospital admissions

In 2010/11 there were 56 people from Aberdeen City, 41 from Aberdeenshire, and 12 from Moray, admitted to psychiatric hospital in Grampian (admissions = 123) (figure 33).

Figure 33

4.1.6 Alcohol use disorders and specialist alcohol treatment services

ISD publishes waiting times data, which shows in 2012/13 a total of 1,756 referrals were seen by specialist alcohol services across Grampian (this may not be equal to the number of individuals seen that year, as some may have had more than one referral). At local ADP level this included 847 referrals in Aberdeen City, 573 in Aberdeenshire, and 336 in Moray.

The Scottish Alcohol Needs Assessment\(^{17}\) cited North American work that classified a “low” level of access to alcohol treatment as services seeing 10% of people in need being seen, a “medium” level as 15%, and a “high” level as 20%. In section 3.5, the estimate was given of 20,000 dependent drinkers in Grampian (which does not include harmful drinkers, whose health and wellbeing is being damaged by their alcohol consumption, but who do not meet diagnostic criteria for alcohol dependence syndrome). Assuming that the estimate is broadly correct, that all 1,756 people seen in one year were alcohol dependent (some may not be), and that the total number including long-term (>1 year) clients was not much greater than this, this suggests a treatment access figure for Grampian in 2012/12 of 9% (1,756/20,000). This suggests that access to treatment in Grampian is low, at least by North American standards.

4.1.6.1 Maternity services

Midwives routinely ask about alcohol consumption at initial (“booking”) appointments. No systematic data is routinely available.

\(^{17}\) [www.rcpsych.ac.uk/pdf/SANA%20report%206-8-09%20(2).pdf](http://www.rcpsych.ac.uk/pdf/SANA%20report%206-8-09%20(2).pdf)
Health harms

4.2 Health harms arising from drug use

Psychoactive substances have been used for millennia for their abilities to cause alterations in perception and mood (Davenport-Hines, 2001). Such alterations have been valued for a variety of reasons, including their role in a range of social interactions and rituals, for the purposes of self-medication, and for recreation and escapism. However, the ingestion of psychoactive substances also involves the potential for harm, both to the user and to those around them. Such harms can be to health (physical and mental) and to social functioning, the latter including harmful social behaviours such as violence, neglect of social roles (e.g. as employee, or parent), or criminal behaviour. Some psychoactive substances have the potential to create dependence, characterised by compulsive use, a withdrawal syndrome, and an increasing salience of substance use to the neglect of other activities.

The physiological and psychological underpinnings of harmful drug use, and dependent (‘addictive’) behaviours, are increasingly well understood (e.g. Orford, 2001; West, 2001). It is also clear that individual lifestyle choices and behaviours can be strongly influenced by a process of socialization that instils social norms and values (Singh-Manoux & Marmot, 2005). Individual’s socio-cultural context therefore influences decisions about whether to use drugs, and which drugs to use. Having valued activities that are incompatible with drug taking reduces the likelihood of use (West, 2006). Conversely, lacking the opportunity to develop such alternative activities may increase the likelihood of drug use, particularly where the individual’s local social norm is permissive towards drug use (West, 2006). Environmental circumstances that produce emotional and cognitive distress increase the value attached to escapism through drugs, and undermine resilience and self-control (West, 2006).

Drug use is more common than drug dependence, as not all users will become addicted, but from a public health perspective the consequences of both are important. Occasional drug use may expose an individual to less risk of harmful consequences than that faced by someone dependent on a drug and using compulsively every day. However, a small risk multiplied over a large population of occasional users can still produce a significant number of harmful consequences.

4.2.1 Drug-related conditions and primary care services

ISD previously published primary care data from its ‘practice team information’ (PTI) system, comprising around 60 primary care GP practices across Scotland. This ceased to collect data at the end of 2013, and will be replaced by the Scottish Primary Care Information Resource (SPIRE). 18


In Scotland, around 0.7% of patients attending their GP are identified as having attended for a drug-related consultation every year (figure 34). This figure has not changed significantly in the past decade.

18 www.spire.scot.nhs.uk
Health harms

In Scotland, around 0.9% of all GP consultations each year are identified as being drug-related (figure 35). Again, this figure has remained stable for the past decade.

Comparing those identified as ‘drug misusers’ to those who are not attend, the former attend their General Practitioners significantly more often for psychological symptoms, mental health problems, and upper respiratory conditions. Male ‘drug misusers’ are also significantly more likely to attend in relation to alcohol use disorders. When analysed by socioeconomic status, those identified as ‘drug misusers’ who live in the 20% most deprived areas in Scotland are more than eight times more likely to attend their GP than those who live in the 20% least deprived areas:

### Health harms

<table>
<thead>
<tr>
<th>SIMD quintile</th>
<th>Relative Risk (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (most deprived)</td>
<td>8.28 (7.07, 10.81)</td>
</tr>
<tr>
<td>2</td>
<td>5.00 (4.43, 6.17)</td>
</tr>
<tr>
<td>3</td>
<td>3.02 (2.56, 3.97)</td>
</tr>
<tr>
<td>4</td>
<td>1.64 (1.63, 1.66)</td>
</tr>
<tr>
<td>5 (least deprived)</td>
<td>Reference</td>
</tr>
</tbody>
</table>

#### 4.2.2 Drug-related conditions and community care services

No systematic data is routinely available.

#### 4.2.3 Drug-related conditions and social services

The Scottish Public Health Observatory’s online profiles\(^{20}\) provide data on the rate of child protection cases where parental drug or alcohol misuse has been identified as an issue (figure 36).

**Figure 36** Child protection cases with parental drug or alcohol misuse, rate per 10,000 aged under 18 (bars show 95% confidence intervals) (data for 2012 only available)

Aberdeen City and Moray have rates similar to the national average, whereas Aberdeenshire’s rate is reported by ScotPHO to be significantly less than the national average.

#### 4.2.4 Drug-related conditions and general hospital admissions

The Scottish Morbidity Record 01 (SMR01) collects data on all in-patient and day case discharges from all specialties, excluding obstetric, psychiatric and geriatric long-stay settings. SMR01 includes a record of the patient’s diagnosis, systematically coded using the World Health Organization’s International Classification of Diseases 10th revision (ICD10). Within ICD-10 are the drug-related codes used by ISD to report drug-related hospital

Health harms

admissions (appendix 2), namely those identified as involving opioids, cannabinoids, sedative hypnotics, cocaine, stimulants, hallucinogens, volatile substances, or other psychoactive substances.

In 2013/14 a total of 411 patients experienced 521 drug-related hospital admissions in Grampian (table 8; figure 37). Thus up to 110 patients had two or more drug-related admissions that year (source: SMR01). (There were 292 patients whose residence was identified as Aberdeen City, 89 as Aberdeenshire, and 30 as Moray. The ISD data does not identify which hospital patients were admitted to, and it is possible that some were admitted to hospitals outwith Grampian i.e. some living in Aberdeenshire may have been admitted to Ninewells in Tayside, or to Dr Gray’s in Moray, though this does not change this local measure of demand.) Of the 521 admissions 455 (87%) were unscheduled. The ISD data does not identify which specialties these patients were admitted to, or what conditions they were admitted for.

### Table 8 Number of annual drug-related general hospital admissions, by local authority of residence (source: ISD)

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<tbody>
<tr>
<td>Aberdeen City</td>
<td>540</td>
<td>581</td>
<td>498</td>
<td>442</td>
<td>365</td>
<td>382</td>
</tr>
<tr>
<td>Aberdeenshire</td>
<td>147</td>
<td>135</td>
<td>151</td>
<td>128</td>
<td>99</td>
<td>104</td>
</tr>
<tr>
<td>Moray</td>
<td>40</td>
<td>48</td>
<td>42</td>
<td>35</td>
<td>32</td>
<td>35</td>
</tr>
<tr>
<td>Grampian</td>
<td>727</td>
<td>764</td>
<td>691</td>
<td>604</td>
<td>497</td>
<td>521</td>
</tr>
</tbody>
</table>

Drug-related hospital admissions in Grampian have been generally consistent with national trends. Followed a decade of rising admission rates, there has been a reduction in recent years (figure 38). Aberdeen City’s admission rate appears significantly higher than Aberdeenshire or Moray.

Aberdeen City’s hospitalisation rate is the fourth highest by Council area nationally, while Moray and Aberdeenshire are similar (figure 39). Aberdeen City’s rate is statistically significantly higher than Moray’s and Aberdeenshire’s, which in turn are not statistically significantly different to each other.
Health harms

4.2.4.1 Drug-related admissions by age

Nationally, over two-thirds of drug-related admissions occur in those who are younger than 40 (data for 2011/12) (figure 40):

<table>
<thead>
<tr>
<th>Age band</th>
<th>Percentage of drug-related admissions</th>
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<tbody>
<tr>
<td>≤19</td>
<td>4%</td>
</tr>
<tr>
<td>20 – 29</td>
<td>25%</td>
</tr>
<tr>
<td>30 – 39</td>
<td>39%</td>
</tr>
<tr>
<td>≥40</td>
<td>32%</td>
</tr>
</tbody>
</table>

Figure 40 National age distribution of drug-related general hospital admissions, applied proportionately to all Grampian drug-related admissions in 2011/12

4.2.4.2 Financial costs of drug-related hospital admissions

Average costs per in-patient admission are published by ISD.22 The average cost per in-patient admission in NHS Grampian in 2012/13 was £2,433 (with a wide variation by specialty). With around 430 patients experiencing 600 drug-related admissions per year, this gives a crude estimate of £1,500,000.

22 www.isdscotland.org/Health-Topics/Finance/Costs/File-Listings-2013.asp#1186
Health harms

4.2.4.3 Drug-related admissions by intermediate geography

There are 1,235 “intermediate geography” zones in Scotland, used for small area statistics. ScotPHO health and wellbeing profiles for 2010 include drug-related general hospital admission rates at the intermediate geography level.23

- Aberdeen city has 47 intermediate geography zones. Of these, 22 (47%) were worse than the national average, 8 (17%) were better than the national average, and 17 (36%) were the same as the national average (figure 41 shows the locations of these zones).

- Aberdeenshire has 57 intermediate geography zones. Of these, 1 (2%) was worse than the national average, 18 (31%) were better than the national average, and 38 (67%) were the same as the national average (figure 42 shows the locations of these zones).

- Moray has 24 intermediate geography zones. Of these, 1 (4%) was worse than the national average, 5 (21%) were better than the national average, and 18 (75%) were the same as the national average (figure 43 shows the locations of these zones).

The figures are colour-coded to show whether the local rates are statistically significantly greater than (i.e. “worse than”) the Scottish average (in red); less than (i.e “better than”) the Scottish average rate (in green); and not statistically significantly different from the national rate (in orange).

Due to suppression of data in the ScotPHO dataset, it is not possible to extract the absolute number of hospital admissions per intermediate geography zone.

Across Scotland there is an association between drug-related general hospital admission rates and area deprivation, as the following relative risks show:

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1 (most deprived)</td>
<td>13.4</td>
<td>15.2</td>
<td>16.1</td>
<td>17.0</td>
<td>15.7</td>
</tr>
<tr>
<td>2</td>
<td>6.4</td>
<td>6.6</td>
<td>7.5</td>
<td>7.6</td>
<td>7.6</td>
</tr>
<tr>
<td>3</td>
<td>3.2</td>
<td>3.5</td>
<td>3.8</td>
<td>4.0</td>
<td>4.1</td>
</tr>
<tr>
<td>4</td>
<td>1.9</td>
<td>2.1</td>
<td>2.0</td>
<td>1.9</td>
<td>2.2</td>
</tr>
<tr>
<td>5 (least deprived)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
</tbody>
</table>

23 https://scotpho.nhsnss.scot.nhs.uk/scotpho/
Health harms

Figure 41 Age-sex standardised, drug-related general hospitalisation rate per 100,000 in Aberdeen City
(source: ScotPHO health & wellbeing profiles, 2008 data)

* intermediate geography zones marked with an asterisk contain datazones which are amongst the 20% most socioeconomically deprived in Scotland (http://simd.scotland.gov.uk/publication-2012)
Health harms

* intermediate geography zones marked with an asterisk contain datazones which are amongst the 20% most socioeconomically deprived in Scotland (http://simd.scotland.gov.uk/publication-2012)
* intermediate geography zones marked with an asterisk contain datazones which are amongst the 20% most socioeconomically deprived in Scotland (http://simd.scotland.gov.uk/publication-2012)
Health harms

4.2.5 Drug-related conditions and psychiatric hospital admissions

In 2010/11 there were 49 people from Aberdeen City, 16 from Aberdeenshire, and 5 from Moray, admitted to psychiatric hospital in Grampian for drug-related conditions (admissions = 77) (figure 44).

![Figure 44](image)

4.2.6 Drug use disorders and specialist services

4.2.6.1 Specialist drug treatment services

Scottish Morbidity Record 25 (SMR25)\(^4\) gathers data on every individual in contact with specialist drug treatment services, and this is collated and published by ISD. Specialist drug treatment services in Grampian currently see over 1,000 new referrals annually. (The total number of clients retained in treatment services for any given year is not routinely published.) Around half of new referrals live in Aberdeen City, around 10% live in Moray, and the remainder live in Aberdeenshire. These figures will include clients being re-referred into treatment as well as those completely new to treatment. The number of clients seen by specialist treatment services will reflect supply (e.g. capacity) and demand (e.g. referral pathways) as well as need (i.e. prevalence of drug use disorder). Rates of new referrals to drug services in Grampian are lower than the national average, with higher rates in Aberdeen City than in Aberdeenshire or Moray (figure 45).

![Figure 45](image)

\(^4\) [www.drugmisuse.isdscotland.org/sdmd/smr25.htm](http://www.drugmisuse.isdscotland.org/sdmd/smr25.htm)
Health harms

Consistent with the prevalence estimates given in section 3.6 above, the age range of new clients differs by locality, with Aberdeen City seeing a slightly older cohort compared to Aberdeenshire or Moray (figure 46).

![Figure 46](image)

**Figure 46**

Age of new clients reported by drug misuse services in 2010/11, European age-sex standardised rate per 100,000 (source: SMR25)

4.2.6.2 Specialist maternity services

NHS Grampian provides specialist support to pregnant women who identified as problem drug users. ISD-published data shows that the rate of births where maternal drug misuse is recorded is higher in Grampian than the national average, as a result of the high rate experienced in Aberdeen City (figure 47). An average of 60 live births occur to mothers identified as ‘drug misusers’ each year in Grampian.

![Figure 47](image)

**Figure 47**

Births where maternal drug misuse is recorded, rate per 1,000 live births

It is not known how much of the observed geographical variation is due to differences in diagnosis and reporting, and how much to differences in need, although the variation is consistent with patterns of prevalence and drug treatment service utilisation. Aberdeen City has the fourth highest rate in Scotland (figure 48).
Health harms

Figure 48

Maternities recording drug-misuse, as a rate per 1,000 maternities, by Council area, 3-year average 2007/08 - 2009/10 (source: ISD)
Health harms

4.2.6 Prison services

HMP Grampian is due to open in March 2014. Since 1 November 2011 the NHS has been responsible for meeting the health needs of prisoners. Given the high expected prevalence of drug (and alcohol) related problems amongst prisoners in HMP Grampian, NHS Grampian has a responsibility to provide a full range of substance misuse services to prisoners during their imprisonment and afterwards.

4.2.7 Blood-borne viruses

There have been no new cases of HIV infection attributed to injecting drug use in recent years (figure 49).

![Figure 49](image)

The rate of new Hepatitis C virus infections in Grampian remains similar to the national average (figure 50).

![Figure 50](image)

---


26 [www.hps.scot.nhs.uk/bbvsti/annualdatatables.aspx](www.hps.scot.nhs.uk/bbvsti/annualdatatables.aspx)
2,075 patients had at least one admission to an acute hospital with a wholly attributable alcohol-related condition, representing 2.9% of all patients admitted in Grampian\textsuperscript{2}, or 1 in every 34 patients...

...though if partially attributable alcohol-related conditions are included, this figure is likely to be greater than 5,000 patients, representing 7% of all patients\textsuperscript{3}, or 1 in every 14 patients

436 patients had at least one admission to an acute hospital with an identified drug-related condition, representing 0.5% of all patients admitted in Grampian\textsuperscript{4}, or 1 in every 200 patients

1. All elective, emergency, day case, and transfer continuous inpatient stays to acute beds in NHSG in 2012/13 (source: ISD, SMR01 returns), excluding obstetric and psychiatric settings \url{https://isdscotland.scot.nhs.uk/Health-Topics/Hospital-Care/Publications/2013-09-24/Summary_Tables_Sep13_HBRes.xls}
2. This figure only relates to 17 conditions that are wholly attributable to alcohol (e.g. alcoholic liver disease)\url{https://isdscotland.scot.nhs.uk/Health-Topics/Hospital-Care/Publications/2013-09-24/Summary_Tables_Sep13_HBRes.xls}
3. This figure includes 17 wholly attributable alcohol-related conditions and an additional 33 conditions that are partially attributable to alcohol (e.g. strokes, assaults and injuries, mouth and throat cancers) \url{www.scotpho.org.uk/downloads/scotphoreports/scotpho090630_alcoholfractions_rep.pdf}
4. Number includes opioids, cannabinoids, sedative hypnotics, cocaine, stimulants, hallucinogens, volatile substances, and other psychoactive substances \url{data}
1. All elective, emergency, day case, and transfer continuous inpatient stays to acute beds in NHSG in 2012/13 (source: ISD, SMR01 returns), excluding obstetric and psychiatric settings. 

2. This figure only relates to 17 conditions that are wholly attributable to alcohol (e.g. alcoholic liver disease), and does not include an additional 33 conditions that are partially attributable to alcohol (e.g. strokes, assaults and injuries, mouth and throat cancers).

3. This figure includes 17 wholly attributable alcohol-related conditions and an additional 33 conditions that are partially attributable to alcohol (e.g. strokes, assaults and injuries, mouth and throat cancers).

4. Number includes opioids, cannabinoids, sedative hypnotics, cocaine, stimulants, hallucinogens, volatile substances, and other psychoactive substances.

**Figure 52** Number of ‘continuous inpatient stays’ (hospital admissions) for Grampian residents with an alcohol or drug related condition in 2012/13 as a proportion of all acute admissions to NHS Grampian general hospitals.
Mortality

5.1 Alcohol-related mortality

The recent downward trend in alcohol consumption reported in section 3.5.1 above has coincided with a national downward trend in alcohol-related mortality (figure 53). What is clear from figure fifty is that despite this, alcohol-related deaths in Scotland remain high relative to rates prior to the 1990s.

Figure 53 Alcohol-related deaths registered in Scotland, 1979 to 2012, with five-year moving average and showing the likely range of values around the moving average (source: GROS27)

Mortality

5.1.1 Reported alcohol-related mortality in Grampian

The General Register Office for Scotland reports on alcohol-related deaths based on ten wholly-attributable alcohol-related diseases and four partially attributable alcohol-related diseases (see appendix 1). Over the past decade there has been a reduction in alcohol-related deaths in Scotland (of 15% to 19% when calculated by three or five year rolling averages). While there has been a reduction in alcohol-related deaths in Grampian (8% to 15%), this has been smaller than seen nationally.

In absolute terms Aberdeen City has around twice the number of wholly-attributable alcohol-related deaths (around 40 per year) than Moray or Aberdeenshire (around 20 per year) (figure 54). Over half (54%) of alcohol-related deaths occur under the age of sixty, and by their nature all are potentially preventable.28

Figure 54 Absolute numbers of wholly-attributable alcohol-related deaths per year

When the size of the population is taken into account (along with differences in sex and age distributions within them), Moray and Aberdeen City have similar alcohol-related death rates (figure 55)

What is apparent is that despite the recent downward trend in alcohol-related mortality in Scotland, that this remains high relative to the rate in England and Wales (data for England drawn from MESAS\textsuperscript{30}, which uses the ONS definition\textsuperscript{31}, which is the same as GROS).

The wholly-attributable age-sex standardised alcohol-related mortality rates based on 2011 data are published by the Scottish Public Health Observatory, and are shown for Scotland in figure fifty-six. While Aberdeenshire had the lowest alcohol-related mortality rate in 2011, ScotPHO reported it was not statistically significantly different to over half of other Alcohol and Drug Partnership areas, including Aberdeen City or Moray. Aberdeen City and Moray’s rates were higher, making them statistically similar to a greater number of ADP areas, with Moray in particular only statistically significantly different to Glasgow City (which has the highest alcohol-related mortality rate in Scotland).

### 5.1.3 Wholly and partially attributable alcohol-related mortality

However, given that some deaths are also due to conditions that are partially-attributable alcohol, the largely wholly-attributable deaths reported by GROS will under-estimate alcohol-related mortality. In 2009 NHS National Services Scotland (ISD, 2009) published alcohol attributable fractions, based upon 2003 data, to calculate the full number of deaths in Scotland attributable to alcohol-related conditions. This estimated the number of alcohol-related deaths to be around 5% of all deaths (compared to less than 2% based on wholly-attributable conditions). Applied to Grampian, this would increase average annual alcohol-related deaths from around 90 per year to over 200 (figure 57).

\textsuperscript{29} www.scotpho.org.uk/comparative-health/profiles/online-profiles-tool
\textsuperscript{30} www.healthscotland.com/uploads/documents/22621-Chapter6%20Tables%20Alcoholrelated%20harm.xlsx
Mortality

**Figure 56** Alcohol-related deaths by Alcohol & Drug Partnership in 2011, age-sex standardised rate per 100,000 population

- Moray’s rate is significantly lower than only Glasgow.
- Aberdeen City’s rate is significantly lower than 17% of other ADP areas.
- Aberdeenshire’s rate is significantly lower than 48% of other ADP areas.
- But Moray, Aberdeen City, and Aberdeenshire, are not statistically significantly different to each other.

Mortality

**Figure 57** Average annual alcohol and drug-related deaths in Grampian, as a proportion of all deaths

**AVERAGE ANNUAL DEATHS IN GRAMPIAN**
(2002 – 2012 inclusive; n=5,230; 100%)

On average there are 92 wholly-attributable alcohol-related deaths per year in Grampian (1.8% of all deaths)...

...though if partially-attributable alcohol-related deaths are included, the average number of alcohol-related deaths is likely to exceed 260 per year (5% of all deaths)^

On average there are 42 identified drug-related deaths per year in Grampian (0.8% of all deaths)^

---

1. Alcohol-related deaths are those occurring from eleven wholly-attributable and four partially-attributable alcohol-related conditions (see appendix one)
2. This figure includes deaths from all 17 wholly-attributable alcohol-related conditions (e.g. alcoholic liver disease) and an additional 33 partially-attributable conditions (e.g. strokes, assaults and injuries, mouth and throat cancers) [www.scotpho.org.uk/downloads/scotphoreports/scotpho090630_alcoholfractions_rep.pdf](http://www.scotpho.org.uk/downloads/scotphoreports/scotpho090630_alcoholfractions_rep.pdf)
3. Drug-related deaths are those where the cause of death is certified as being due to one of seven classes of drugs (namely opioids; cannabinoids; sedatives or hypnotics; cocaine; other stimulants including caffeine; hallucinogens; or multiple drug use and use of other psychoactive substances) OR one of four causes of death (namely accidental poisoning; intentional self-poisoning by drugs, medicaments and biological substances; assault by drugs, medicaments and biological substances; or event of undetermined intent, poisoning) AND the detection of a drug listed in the Misuse of Drugs Act (1971) by toxicology
Mortality

5.2 Drug-related mortality

The General Register Office for Scotland reports on drug-related deaths based on the cause of death being certified as being due to:

- one of seven classes of drugs (namely opioids; cannabinoids; sedatives or hypnotics; cocaine; other stimulants including caffeine; hallucinogens; or multiple drug use and use of other psychoactive substances)
- OR one of four causes of death (namely accidental poisoning; intentional self-poisoning by drugs, medicaments and biological substances; assault by drugs, medicaments and biological substances; or event of undetermined intent, poisoning) AND the detection of a drug listed in the Misuse of Drugs Act (1971) by toxicology.

In addition, alcohol is itself implicated in around one in five drug related deaths. There are around forty-three drug-related deaths per year in Grampian (figure 58).

In addition, alcohol is itself implicated in around one in five drug related deaths. There are around forty-three drug-related deaths per year in Grampian (figure 58).

Figure 58 Annual number of drug-related deaths in Grampian

[Graph showing annual number of drug-related deaths in Grampian]

Mortality

5.2.1 Aberdeen City

Annual number of drug-related deaths
Aberdeen City has experienced between 11 and 34 drug-related deaths per year between 1999 and 2013. Taking each year as a ‘sample in time’, the annual count of deaths will conform to the Poisson distribution. The 95% confidence intervals (95%CI) do not immediately identify any statistically significant variation year-on-year, with the possible exceptions of 2005 and 2012 (though multiple statistical testing increases the risk of type 1 error):

![Figure 59](image)

Five-year rolling average
Calculating the five-year rolling average annual number of drug-related deaths allows annual variation to be smoothed, revealing any underlying trend over time. This analysis suggests that the variation in annual deaths during the examined period may lie within expected variation over the longer term:

![Figure 60](image)
Mortality

**Annual cumulative incidence rates for drug-related deaths**
By dividing the number of drug-related deaths by the population denominator, a cumulative incidence rate can be calculated. The wide confidence intervals suggest that annual variation in the incidence of drug-related deaths in Aberdeen City may lie within expected variation over the longer term. This is in contrast to the statistically significant increase in incidence seen nationally over the same time period:

![Figure 61](image1)

**Five-year rolling average annual cumulative incidence rates**
Calculating the five-year rolling average annual cumulative incidence rate of drug-related deaths allows annual variation to be smoothed, revealing any underlying trend over time. The wide confidence intervals do not reveal any statistically significant change in average annual incidence rates of drug-related death in Aberdeen City. This is in contrast to the statistically significant increase in incidence seen nationally over the same time period:

![Figure 62](image2)
Mortality

Funnel plot for annual cumulative incidence rates for drug-related deaths

The period 1999 through 2013 provides fifteen annual measurements of drug-related deaths. Plot these annual measurements against the annual mean rate of this period, and 95% of them would be expected to lie within 2 standard deviations (2SD), and 99% within 3 standard deviations (3SD), either side of the mean. Plotted in this way, any clear outliers can be identified:

During the time period examined, two annual incidence rates fell significantly below the average, in 2005 (p<0.001) and 2012 (p<0.025).

Interpretation

There is some evidence of two significant reductions in drug-related deaths in Aberdeen City, in 2005 and 2012, though subsequent years appeared to return to more historically consistent observations. This is in contrast to the statistically significant increase in drug related deaths seen nationally over the same period. An average of two deaths every month means that efforts to further minimise drug related deaths in Aberdeen City remains warranted.
Mortality

5.2.2 Aberdeenshire

Annual number of drug-related deaths
Aberdeenshire has experienced between 6 and 21 drug-related deaths per year between 1999 and 2013. Taking each year as a ‘sample in time’, the annual count of deaths will conform to the Poisson distribution. Statistically significant variation cannot be ruled out between single years (though multiple statistical testing increases the risk of type 1 error):

Five-year rolling average annual number of drug-related deaths
Calculating the five-year rolling average annual number of drug-related deaths allows annual variation to be smoothed, revealing any underlying trend over time. This analysis suggests that the apparent increase in annual deaths during the examined period may lie within expected variation over the longer term:
Mortality

Annual cumulative incidence rates for drug-related deaths

By dividing the number of drug-related deaths by the population denominator, a cumulative incidence rate can be calculated. The rate in 2013 is significantly higher than that seen in 2012, 2004, and 2000 (p<0.05), though not compared to other years, though multiple statistical testing increases the risk of type 1 error:

**Figure 66**

![Annual crude rate of drug-related deaths per 100,000 population (Aberdeenshire, 1999 - 2013)](image)

**Five-year rolling average annual cumulative incidence rates**

Calculating the five-year rolling average annual cumulative incidence rate of drug-related deaths allows annual variation to be smoothed, revealing any underlying trend over time. The wide confidence intervals do not reveal any statistically significant change in average annual incidence rates of drug-related death in Aberdeenshire. This is in contrast to the statistically significant increase in incidence seen nationally over the same time period:

**Figure 67**

![Five-year rolling average crude incidence rate of drug-related deaths (Aberdeenshire, 1999 - 2013)](image)
Mortality

**Funnel plot for annual cumulative incidence rates for drug-related deaths**
The period 1999 through 2013 provides fifteen annual measurements of drug-related deaths. Plot these annual measurements against the annual mean rate of this period, and 95% of them would be expected to lie within 2 standard deviations (2SD), and 99% within 3 standard deviations (3SD), either side of the mean. Plotted in this way, any clear outliers can be identified:

During the time period examined, no annual incidence rate appears to be an outlier with the exception of the rate in 2000, which fell significantly below the average (p<0.05).

**Interpretation**
There is no clear evidence of a statistically significant increase in drug-related deaths in Aberdeenshire between 1999 and 2013. This is in contrast to the statistically significant increase in drug related deaths seen nationally over the same period. While 2013 saw the greatest absolute number of annual deaths in Aberdeenshire during the period studied, the number is not outwith the bounds expected based on previous years’ observations. Nonetheless, an average of one death every month means that efforts to further minimise drug related deaths in Aberdeenshire remains warranted.
Mortality

5.2.3 Moray

Annual number of drug-related deaths
Moray has experienced between zero and ten drug-related deaths per year between 1999 and 2013. Taking each year as a ‘sample in time’, the annual count of deaths will conform to the Poisson distribution. The wide overlapping 95% confidence intervals (95%CI) do not immediately identify any statistically significant variation year-on-year:

![Figure 69](image)

Five-year rolling average
Calculating the five-year rolling average annual number of drug-related deaths allows annual variation to be smoothed, revealing any underlying trend over time. This analysis suggests that the apparent increase in annual deaths during the examined period may lie within expected variation over the longer term:

![Figure 70](image)
Mortality

**Annual cumulative incidence rates for drug-related deaths**
By dividing the number of drug-related deaths by the population denominator, a cumulative incidence rate can be calculated. The wide confidence intervals suggest that annual variation in the incidence of drug-related deaths in Moray may lie within expected variation over the longer term. This is in contrast to the statistically significant increase in incidence seen nationally over the same time period:

**Figure 71**

*Annual crude rate of drug-related deaths per 100,000 population (Moray, 1999 - 2013)*

**Five-year rolling average annual cumulative incidence rates**
Calculating the five-year rolling average annual cumulative incidence rate of drug-related deaths allows annual variation to be smoothed, revealing any underlying trend over time. The wide confidence intervals do not reveal any statistically significant change in average annual incidence rates of drug-related death in Moray. This is in contrast to the statistically significant increase in incidence seen nationally over the same time period:

**Figure 72**

*Five-year rolling average crude incidence rate of drug-related deaths (Moray, 1999 - 2013)*
Mortality

Funnel plot for annual cumulative incidence rates for drug-related deaths
The period 1999 through 2013 provides fifteen annual measurements of drug-related deaths. Plot these annual measurements against the annual mean rate of this period, and 95% of them would be expected to lie within 2 standard deviations (2SD), and 99% within 3 standard deviations (3SD), either side of the mean. Plotted in this way, any clear outliers can be identified:

During the time period examined, no annual incidence rate appeared as an outlier.

Interpretation
There is no clear evidence of a statistically significant change in drug-related deaths in Moray between 1999 and 2013. This is in contrast to the statistically significant increase in drug related deaths seen nationally over the same period. Nonetheless, an average of one death every two months means that efforts to further minimise drug related deaths in Moray remains warranted.
Mortality

5.2.4 Comparisons with drug-related mortality in the rest of Scotland

Compared with the rest of Scotland, Aberdeenshire has one of the lowest rates of drug-related deaths, and Aberdeen City one of the highest (figure 74).

**Figure 74** Average annual drug-related deaths, crude rate per 100,000 population (2008-2012 & 2009-2013)
Mortality

The age distribution of drug-related deaths appears consistent with the age distribution of problem drug use, with Moray having most deaths in younger drug users, and Aberdeen City having deaths occurring in older drug users too (figure 75).

**Figure 75**

![Drug-related deaths per 1,000 population (2008-2012)](image)

**5.2.5 Drug-related mortality as a proportion of the ‘problem drug using’ population**

GROS publishes drug-related deaths using the estimated population of ‘problem drug users’ as the denominator. Figure 76 shows the rate of drug-related deaths per 1,000 problem drug users (based on the average annual deaths between 2008 – 2012 and 2009 – 2013, and the estimated number of problem drug users in 2009/10). The number of problem drug users is much smaller in Moray than in Aberdeen City or Aberdeenshire (section 3.6), yet they appear to have a significantly greater risk of dying a drug-related death.

**Figure 76** Rate of drug-related deaths per 1,000 problem drug users (2008-12 & 2009-13)

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Health service response

Given that alcohol and illicit drugs have the potential to cause significant harms to health and wellbeing, and premature death, NHS Grampian has an obligation to consider ways in which to reduce potential harm, and to ameliorate such harms as have occurred.

6.1 Primary Prevention

Primary prevention is intended to reduce the initiation of hazardous alcohol consumption or illicit drug use. Traditionally such interventions are thought of as involving direct, alcohol and drug-related education to those assessed as being at risk of starting to drink or use drugs. However, alcohol and drug use occurs within a sociocultural context. In the case of illicit drug use, while the causes are multiple and complex, participation in a drug-using subculture offers an ‘identity’, as well as the opportunity to participate in ‘alternative’ economic activities (e.g. Lalander, 2003). The avoidance of alcohol and drug abuse is associated with the opportunity to develop competing interests in a social, physical and psychological environment that in itself is not a source of distress (Orford, 2001; West, 2006). Issues including education, training, employment, housing, community safety, poverty reduction, and improved mental and physical health are therefore directly relevant to the primary prevention of alcohol and drug misuse and dependence. In addition, the licensing restrictions on the supply of alcohol, and the legal prohibition of supply of illicit drugs, are also important.

In relation to alcohol, the World Health Organization has evaluated a range of interventions intended to reduce alcohol-related harm, and has ranked them for effectiveness (table 9).

Table 9 Evidence-based interventions to reduce alcohol-related harm (source: WHO, 2009)

<table>
<thead>
<tr>
<th>Degree of evidence</th>
<th>Evidence of action that reduces alcohol-related harm</th>
<th>Evidence of action that does not reduce alcohol-related harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convincing</td>
<td>Alcohol taxes</td>
<td>School-based education and information</td>
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<tr>
<td></td>
<td>Government monopolies for retail sale</td>
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<tr>
<td></td>
<td>Restrictions on outlet density</td>
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<td></td>
<td>Restrictions on days and hours of sale</td>
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<td>Minimum purchase age</td>
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<td></td>
<td>Lower legal BAC levels for driving</td>
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<td></td>
<td>Random breath-testing</td>
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<td></td>
<td>Brief advice programmes</td>
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<td></td>
<td>Treatment for alcohol use disorders</td>
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<tr>
<td>Probable</td>
<td>A minimum price per gram of alcohol</td>
<td>Lower taxes to manage cross-border trade</td>
</tr>
<tr>
<td></td>
<td>Restrictions on the volume of commercial communications</td>
<td>Training of alcohol servers</td>
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<tr>
<td></td>
<td>Enforcement of restrictions of sales to intoxicated and under-age people</td>
<td>Consumer labelling and warning messages</td>
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<tr>
<td>Limited-suggestive</td>
<td>Suspension of driving licences</td>
<td>Public education campaigns</td>
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<td></td>
<td>Alcohol locks</td>
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<td></td>
<td>Workplace programmes</td>
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<td></td>
<td>Community-based programmes</td>
<td></td>
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<tr>
<td></td>
<td>Campaigns funded by the alcohol industry</td>
<td></td>
</tr>
</tbody>
</table>
Health service response to substance use

While WHO reports school-based education and information to be ineffective, there is evidence that schools-based programmes such as the ‘life skills training programme’ can reduce alcohol intoxication and binge drinking (Foxcroft & Tsertsvadze, 2011a). Skills-based interventions are more effective than ‘usual curricula’ in improving decision-making skills, self-esteem, and ability to resist peer-pressure and in reducing cannabis and heroin use at follow-up (Faggiano et al, 2005).

Further research is needed to determine the effectiveness of education and skills training delivered to young people in non-school settings (e.g. youth clubs, primary care settings, colleges) (Gates et al, 2006). Family-based programmes can reduce alcohol misuse (Foxcroft & Tsertsvadze, 2011b), and it is possible that family-based interventions (e.g. Strengthening Families Program) may be effective in preventing cannabis use amongst young people (Gates et al, 2006).

NICE (2007a) recommends that those working with vulnerable and disadvantaged children and young people in the NHS, local authority and education, voluntary, community, social care, youth and criminal justice sectors should use screening and assessment tools to identify those misusing (or at risk of misusing) substances in order to provide direct support and refer as appropriate to other services. NICE (2007a) defines ‘vulnerable and disadvantaged children and young people’ as those aged under 25 who:

- are, or have been, in local authority care, foster care, or homeless
- have a family history of substance misuse
- are from marginalized and disadvantaged communities
- have behavioural conduct disorders or mental health problems
- are excluded from school or truant
- are young offenders
- are sex workers
- have other health, education or social problems at home, school or elsewhere
- are already misusing substances.

NICE (2007a) recommends that those who are aged between 11 and 16 be offered “a family-based programme of structured support over 2 or more years” (p.7), involving motivational interviewing aimed at the parents/carers, assessment of family interaction, the offer of parental skills training, parental monitoring of child behaviour and academic performance, and feedback, with family therapy offered to those who require it. Those aged between 10 and 12 who are “persistently aggressive or disruptive and assessed to be at high risk of substance misuse” should receive group-based behavioural therapy before and during the transition to secondary school.

NHS Grampian has a vital role to play in primary prevention through the direct provision of services to patients, parents and families, through statutory consultation in relation to alcohol licensing, and as a partner in local community planning partnerships.

6.2 Secondary Prevention

Secondary prevention is intended to reduce the harms experienced by those already drinking alcohol or using illicit drugs. Perhaps counter-intuitively, most alcohol-related
Health service response to substance use

Health harms do not arise amongst those who are the heaviest drinkers. A small risk multiplied across a large population can produce more cases than a high risk multiplied against a relatively smaller sub-population (Rose, 1992). Thus, while the heaviest drinkers in a population are individually at high risk of experiencing alcohol-related harms, more cases of harm will nonetheless occur in the majority of the population who individually are at lesser risk. For example, Poikolainen et al (2007) took a nationally representative survey population and identified the top 10% heaviest drinkers. They then measured the number of alcohol-related hospitalisations and deaths that occurred. They found that only around one third of alcohol-related hospitalizations and alcohol-related deaths occurred amongst the top 10% heaviest drinkers, the majority of cases arising from within the remainder of the population (figure 77).

Hence the importance of population-level controls that reduce overall alcohol consumption (such as alcohol licensing, and brief interventions), to complement more specialist interventions focusing on the heaviest drinkers (who are more likely to experience multiple harms).
Health service response to substance use

**Figure 77** An example of the “prevention paradox”: that targeting the heaviest drinkers in a population is unlikely to reduce the associated health burden of alcohol-related harms (from Poikolainen et al, 2007) – see section 6.2 above

Poikolainen et al (2007) identified the top 10% heaviest drinkers in their national sample...

...and then compared their outcomes to the remaining 90% of drinkers...

This group experienced 67% of hospital admissions, 78% of deaths, and 81% of life years lost before the age of 65

The heaviest drinkers experienced 33% of hospital admissions, 22% of deaths, and 19% of life years lost before the age of 65

A small risk multiplied by a larger population can produce more cases than a greater risk multiplied by a much smaller population
Health service response to substance use

Identification of hazardous drinkers and the provision of brief interventions can reduce alcohol consumption when provided in primary care and community settings (Kaner et al, 2007; SIGN, 2004) and in hospital settings, where it can also reduce subsequent mortality (McQueen, 2011). Psychological and educational interventions can increase abstinence in pregnant women who continue to drink alcohol (Stade et al, 2009).

For illicit drug users, direct access services, needle and syringe exchanges, and specialist harm reduction services are recommended essential services (SACDM, 2008). In addition, all problem drug users should be vaccinated against hepatitis A and B, and offered testing and treatment for hepatitis C and HIV (Department of Health, 2007; SACDM, 2008).

Needle exchange programmes are effective in reducing the sharing of injecting equipment, and in reducing HIV incidence rates (Hurley et al, 1997; Leonard et al, 1999). NICE (2009) recommended that “needle & syringe programmes” should be provided such that there is greater than 100% provision. Clients of needle exchanges should be given opportunistic advice on reducing sexual and injecting risk behaviours, testing for blood-borne viruses, and access to treatment (but group-based education should not be provided) (NICE, 2008a). Needle and syringe disposal plans are also required, including the provision of sharps bins (NICE, 2009).

NHS Grampian has a vital role to play in secondary prevention by ensuring that all NHS staff are able to effectively assess patients’ alcohol and drug use, are able to intervene appropriately where this has implications for patients’ clinical treatment, are able to discuss behaviour change in an effective manner, and can facilitate referral to specialist services as appropriate; by ensuring the availability of harm reduction materials, vaccinations, and testing; and by engaging in the range activities identified for primary prevention.

6.3 Tertiary prevention – treatment services

Tertiary prevention is intended to help people stop drinking alcohol or using illicit drugs harmfully or dependently, to treat and remediate physical and mental harms that have occurred, and to prevent further harmful consequences from arising. While there is more than one route to recovery from alcohol and drug misuse and dependence, with those who recover with no formal treatment at one end of the spectrum (Klingemann et al, 2001; Sobell et al, 2000), there are many at the other who require long-term, intensive treatments. NHS Grampian has a vital role to play in tertiary prevention by ensuring that all NHS staff are able to identify harmful and dependent drinkers, and illicit drug users, and facilitate their entry to specialist treatment services; as well as ensuring – either directly or as a partner in local alcohol and drug partnerships – that adequate specialist services are available.

The process of recovery can be commenced and influenced by life events and changes in circumstance, self-help movements, or relatively brief interventions from a wide range of others. Even brief motivational interventions can be effective in reducing drug use in opiate dependence, and in increasing abstinence and reducing psychostimulant and cannabis use, amongst those not in specialist treatment (NICE, 2008a).

Guidance regarding the adequate provision of alcohol services is contained in the Alcohol Problems Support and Treatment Services Framework (Scottish Executive, 2002), the
Health service response to substance use


Guidance regarding the adequate provision of drug services is contained in Essential Care, the report published by the Scottish Advisory Committee on Drug Misuse (SACDM, 2008); Delivering Recovery, published by the Scottish Drug Strategy Delivery Commission (2013); and in clinical guidelines (Department of Health, 2007) and NICE guidance.

6.3.1 A tiered approach to service provision

Regardless of alcohol or drug use, all Scottish citizens have the right of access to a GP and dentist, as well as access to other mainstream and specialist services (SACDM, 2008), including child care support, housing support and advice, employment and training support, financial advice and support, reproductive health information advice and treatment, family planning, clinical psychology and mental health services, social work services, and legal services.

Such services can, alongside more specialist alcohol and drug treatment services, be conceptualised as existing within a tiered system of services. The tiered approach informs the Scottish Government’s approach to alcohol services (Scottish Government, 2011), and the current UK clinical guidelines for drug services (Department of Health, 2007).

An example of a tiered system is shown in figure 78 (Marsden et al, 2004), and an example of a tiered care pathway for alcohol is shown in appendix 4.

**Figure 78** A tiered treatment system (source: Marsden et al, 2004)
Health service response to substance use

Tier 1
Tier 1 interventions are characterised as being directly available to those coming into contact with front-line services. They are commonly provided by general healthcare settings (e.g. liver units, antenatal wards, Accident and Emergency and pharmacies), or social care, education or criminal justice settings (probation, courts, prison reception) where the main focus is not alcohol or drug treatment. They also include ‘direct access’ drug services. Some secondary prevention activities (e.g. needle exchange) are tier 1 interventions, alongside alcohol and drug-related advice, information, and signposting towards specialist services.

Tier 2
Tier 2 interventions might be delivered by specialist services, but might also be delivered by those working in settings not primarily focused on treating alcohol or drug misuse. Interventions can include assessment, education, advice, counselling, GP-led maintenance prescribing, aftercare and support.

Tier 3
Tier 3 interventions include specialist protocols for identifying and addressing harmful and dependent alcohol use in NHS hospital settings (Scottish Executive, 2002; Royal College of Physicians, 2010); and alcohol and drug services delivered by specialist, community-based, substance misuse services.

In 2012/13 NHS Grampian is reported to have spent £7,463,733 on addiction services (including 87 WTE direct staff)34 (combined ADP contribution £1,314,000 annually). Methadone costs totally £3,139,261 that year (combined ADP contribution £229,000). Local Authorities receive funding for their Social Work services (known as Grant Aided Expenditure) from Government each year.

Tier 3 services for alcohol use disorders
Tier 3 services for alcohol use disorders include counselling for harmful drinkers (SIGN, 2004), and assisted withdrawal and relapse prevention interventions for those with alcohol dependence. Some people with alcohol dependence require pharmacological treatment to withdraw safely from alcohol, and to avoid complications such as seizures, Wernicke’s encephalopathy, and delirium tremens (SIGN, 2004; Royal College of Physicians, 2010). Community-based assisted withdrawal is recommended for those drinking more than 15 units of alcohol per day, via either out-patient (including motivational interviewing) or intensive day programme (including a range of supportive psychosocial interventions), depending on severity of dependence (NICE, 2011). Residential assisted withdrawal is suggested for those drinking more than 15 units per day with significant comorbidities or cognitive impairment, or more than 30 units of alcohol per day, or severe dependence, or a history of epilepsy or withdrawal-related complications. Assisted withdrawal should include thiamine for those at risk of Wernicke’s encephalopathy (Royal College of Physicians, 2010; Day et al, 2013).

34 www.isdscotland.org/Health-Topics/Finance/Publications/2013-12-17/Costs_SFR8.3_2013.xls (line 182)
Health service response to substance use

The Health Technology Board for Scotland (now Healthcare Improvement Scotland) calculated in 2002 that providing interventions to people with alcohol dependence would actually result in a net saving to the healthcare system of between £68 (for acamprosate) to £274 (for psychosocial interventions) per person treated (based on the healthcare savings resulting from additional abstinence from alcohol due to the interventions) (Slattery et al, 2003).

Tier 3 services for drug use disorders

In relation to drug dependence, The National Treatment Outcome Research Study (NTORS) and the subsequent Drug Treatment Outcomes Research Study (DTORS) demonstrated that drug treatment has the potential for significant financial savings (Godfrey et al, 2004; Davies et al, 2009). Depending on the methodology used, £1 spent on treatment may result in between £3 and £9 of savings.

A range of interventions have been identified as being either essential* (SACDM, 2008) and/or clinically recommended** (Department of Health, 2007):

- specialist services for young people with substance problems*
- allocated key worker, and comprehensive assessment of risk, health and treatment needs**
  - Opioid dependence is associated with multiple physical, social and mental health needs (Hesse et al, 2007). There is some evidence that using a case management system increases patient linkage across multiple relevant services, particularly where the system is defined in a treatment manual (Hesse et al, 2007). Case management requires the identification of a case manager who is responsible for linking a patient to multiple services. It is unclear that case management reduces subsequent drug use, although it may be superior to drug counselling (Hesse et al, 2007). NICE (2008a) recommends care planning to keep clients engaged in treatment, especially when transferring between services, but notes that in itself this does not improve outcomes.

- detoxification
  - supported self-detoxification*
  - medicated detoxification*
    - methadone, buprenorphine**
    - lofexidine**

Lofexidine versus clonidine for detoxification (NICE, 2008b)
Treatment completion RR 1.16 (95%CI 0.90, 1.50)
Abstinence at 1 month follow up RR 1.31 (95%CI 0.8, 2.13)

Methadone versus lofexidine for detoxification (Best et al, 2010)
Treatment completion RR 1.22 (95%CI 0.99, 1.51)
Self-rated overall withdrawal severity SMD –0.12 (95%CI –0.62, 0.37)
Health service response to substance use

Buprenorphine versus methadone for detoxification (Best et al, 2010)
Treatment completion RR 1.10 (95%CI 0.82, 1.48)
Self-rated withdrawal severity change from baseline SMD −0.44 (95%CI −1.08, −0.20)

Buprenorphine versus lofexidine for detoxification (Best et al, 2010)
Treatment completion RR 1.43 (95%CI 1.11, 1.84)
Self-rated overall withdrawal severity SMD −0.50 (95%CI −0.78, −0.23)

Naltrexone/naloxone plus lofexidine/Clonidine versus lofexidine/Clonidine alone for detoxification (Best et al, 2010)
Treatment completion RR 1.01 (95%CI 0.86, 1.17)
Self-rated overall withdrawal severity SMD 0.51 (95%CI −0.58, 1.60)
Abstinence at 6 month follow up RR 0.82 (95%CI 0.49, 1.37)

Opioid detoxification under moderate versus light sedation (Best et al, 2010)
Abstinence at 1 month follow up RR 1.30 (95%CI 0.59, 2.84)

Ultra-rapid opioid detoxification under general anaesthesia versus light sedation (Best et al, 2010)
Abstinence at 1 month follow up RR 1.54 (95%CI 0.66, 3.59)
Serious adverse events RR 3.62 (95%CI 1.36, 9.61)

Tapered methadone is as effective as any other form of opiate detoxification, and superior to placebo, though relapse rates are high (Amato et al, 2013). Buprenorphine is similar in effectiveness to methadone for the management of opiate withdrawal, and more effective than clonidine or lofexidine (Gowing et al, 2009a, 2009b). NICE (2008b) recommends that methadone or buprenorphine be first-line treatment in opioid detoxification, with the choice informed by client preference and current maintenance prescription. Lofexidine, “may be considered for people who have made an informed and clinically appropriate decision not to use methadone or buprenorphine for detoxification [or] ... to detoxify within a short time period...[or who have] mild or uncertain dependence (including young people)” (p.121). Dihydrocodeine or clonidine should not be routinely used for opioid detoxification (NICE, 2008b). NICE (2008b) clearly stipulates that “ultra-rapid detoxification under general anaesthesia or heavy sedation...must not be offered” (p.8). Methadone detoxification trials have not been undertaken in adolescents (Minozzi et al, 2009a), although buprenorphine plus naloxone maintenance results in improved treatment retention compared to buprenorphine detoxification (Minozzi et al, 2009a).

In benzodiazepine withdrawal, this should be done on a gradually tapered basis rather than suddenly (Denis et al, 2006a).

There are currently no known pharmacological agents that are effective in treating amphetamine withdrawal (Shoptaw et al, 2009). Fluoxetine reduces amphetamine craving, and imipramine increases duration of treatment for amphetamine abuse and dependence, but neither reduces amphetamine use (Srisurapanont et al, 2001).
Health service response to substance use

- substitute prescribing*
  - oral methadone or buprenorphine*

Methadone maintenance therapy (MMT) versus no drug or placebo (NICE, 2007b)
Retention in treatment (20-50mg/day) RR 3.05 (95%CI 1.75, 5.35)
Retention in treatment (20-97mg/day) RR 3.91 (95%CI 1.17, 13.2)
Concurrent use of illicit opioids (≥50mg/day) RR 0.82 (95%CI 0.69, 0.98)
Concurrent use of illicit opioids (60mg/day) RR 0.31 (95%CI 0.23, 0.42)
Self-reported adverse events RR 0.59 (95%CI 0.33, 1.04)
Mortality in treatment RR 0.25 (95%CI 0.19, 0.33)
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ICER £13,700 per additional QALY gained

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Mortality in treatment RR 0.25 (95%CI 0.19, 0.33)
Health service response to substance use

Methadone is superior to detoxification or non-pharmaceutical interventions at keeping opioid dependent patients engaged in treatment programmes, and in reducing subsequent heroin use (Mattick et al, 2009). Methadone is effective in reducing HIV risk behaviours such as drug injecting and sharing injecting equipment (Gowing et al, 2011). Methadone maintenance reduces criminal activity, although not conclusively better than other treatments (such as detoxification, therapeutic communities or counselling) (Egli et al, 2009; Mattick et al, 2009). Higher doses of methadone (60-100mg/day) are more effective than lower doses in terms of treatment retention and abstinence from other opiates (Faggiano et al, 2003). There is some evidence that ‘enhanced outreach counselling’ is more effective than standard care in reducing opioid relapse, and getting those who have dropped out of treatment to reengage, however long-term follow up data is not available.

Buprenorphine is also an effective maintenance treatment for heroin dependence, though less effective than methadone (Mattick et al, 2008). NICE (2007b) recommends that the decision to prescribe either methadone or buprenorphine should be made on clinical grounds, but that, “if both drugs are equally suitable for a person, methadone should be prescribed as first choice” (p.25). Limited evidence suggests that methadone and buprenorphine are effective maintenance treatments in adolescents (Minozzi et al, 2009b).

Dopamine agonists are ineffective for cocaine dependence (Amato, Minozzi, Pani et al, 2011). There is limited evidence on the effectiveness of antipsychotic medication in the treatment of cocaine dependence (Amato et al, 2007). Risperidone increased treatment retention compared to placebo, but its effect on cocaine use and craving is unknown. Studies of other antipsychotic drugs were too small to produce conclusive results. Anticonvulsants and antidepressants are both ineffective in treating cocaine dependence (Minozzi et al, 2008; Pani et al, 2011).

- psychological therapies
  - structured 1:1 work/counselling and structured group work *
    - for sleep problems, anxiety disorders, relapse prevention, improving confidence and self-esteem*
  - behavioural and cognitive behaviour therapy (CBT) approaches*
  - solution focused therapy*
  - contingency management, family and couples therapies**

Cognitive-behavioural psychotherapy plus ORT versus ORT alone (NICE, 2008a)
Proportion days abstinent from heroin, no significant difference
Change in drug use at 6-12 months, no significant difference

Cognitive-behavioural psychotherapy plus naltrexone versus standard care plus naltrexone (NICE, 2008a)
Continuous abstinence 8 weeks RR 2.38 (95%CI 1.26, 4.53)
Proportion of negative urines during treatment SMD –0.66 (95%CI –1.11, –0.22)
Heroin use in past three months SMD 0.13 (95%CI –0.30, 0.56)
Health service response to substance use

Contingency management behaviour therapy plus ORT versus ORT alone (NICE, 2008a)
Continuous abstinence from cocaine and opioids at 26 weeks RR 23.00 (95% CI 1.43, 371.00)
Abstinence from cocaine and opioids at 12 months RR 2.00 (95% CI 1.01, 3.95)

Contingency management behaviour therapy plus naltrexone versus standard care plus naltrexone (NICE, 2008a)
Longest duration of abstinence from opioids SMD −0.41 (95% CI −0.76, −0.05)
Proportion of days abstinent from opioids SMD −0.32 (95% CI −0.77, 0.12)

Contingency management plus methadone/buprenorphine detoxification versus standard care plus methadone/buprenorphine detoxification (NICE, 2007c)
Treatment completion RR 1.60 (95% CI 1.18, 2.16)
Abstinence at 1 month follow up RR 1.86 (95% CI 1.18, 2.16)

Couples and family interventions plus ORT versus ORT alone (NICE, 2008a)
Addiction Severity Index score SMD −1.22 (95% CI −1.94, −0.50)
Self-reported days used opioids SMD −0.47 (95% CI −0.82, −0.12)

Family interventions plus naltrexone versus standard care plus naltrexone (NICE, 2008a)
Longest duration of abstinence from opioids SMD −0.45 (95% CI −0.86, −0.03)
Proportion of days abstinent from opioids SMD −0.43 (95% CI −0.70, 0.16)

Family interventions plus methadone detoxification versus standard care plus methadone detoxification (Best et al, 2010)
Abstinence at 1 year follow up RR 1.95 (95% CI 0.52, 7.27)

Psychodynamic interventions plus ORT versus ORT alone (NICE, 2008a)
Self-reported days used opioids, no significant difference

Individual drug counselling plus methadone detoxification versus standard care plus methadone detoxification (Best et al, 2010)
Treatment completion RR 1.33 (95% CI 0.33, 5.36)
Abstinence during 6 month treatment RR 1.15 (95% CI 0.70, 1.89)

Social network intervention plus buprenorphine detoxification versus standard care plus buprenorphine detoxification (Best et al, 2010)
Treatment completion RR 0.92 (95% CI 0.70, 1.21)
Abstinence during 6 month treatment RR 2.00 (95% CI 0.85, 4.69)

Psychosocial interventions are a valuable addition to opioid detoxification using methadone or buprenorphine, in terms of treatment completion, abstinence at follow-up, and clinical attendance (Amato, Minozzi, Davoli et al, 2011a). Such interventions include contingency management, community reinforcement (non-monetary reinforcers provided often by significant others in response to chosen behavioural outcomes), psychotherapeutic counselling (assessing need and providing appropriate services), and family therapy (primarily couples counselling). However, psychosocial approaches are insufficient in themselves to treat opioid dependence (Mayet et al, 2004). Furthermore, when methadone or buprenorphine is used for maintenance purposes, additional psychological interventions do not increase abstinence during or at the end of treatment, nor do they increase retention or reduce psychiatric symptoms (Amato, Minozzi, Davoli et al, 2011b). NICE (2008a)
Health service response to substance use

recommends against providing relapse prevention cognitive behavioural therapy to those receiving methadone maintenance programmes (contrary to SACDM, 2008), although standard CBT should be offered to clients who experience anxiety or depression, where they achieved abstinence or stabilisation on a maintenance treatment. Furthermore, while one non-Cochrane systematic review (Burke et al, 2003) reported that motivational interviewing reduced opiate-related problems in those receiving methadone maintenance compared to an education control group, a Cochrane review found that motivational interviewing increased treatment drop-out (Terplan & Lui, 2007).

Contingency management has been trialled with pregnant drug users. It appears to improve retention in drug treatment but without necessarily affecting illicit drug use (Terplan & Lui, 2007). Contingency management is effective and cost-effective in increasing concordance with hepatitis B vaccination, hepatitis C testing, HIV testing and treatment (NICE, 2008a). NICE (2008a) recommends that contingency management (e.g. a shopping voucher for £10) be used on a one-off basis or over a limited time period to increase blood-borne virus and tuberculosis testing, and hepatitis B vaccination.

Amongst drug-related offenders, interventions involving increased testing and sanctions, and intensive supervision, produced worse outcomes in relation to subsequent arrest and recidivism compared to standard care (Perry et al, 2006). Involvement in a therapeutic community with aftercare was superior to waiting list control, which demonstrates that some forms of intervention can work (Perry et al, 2006). NICE (2008a) recommends that the range of treatments should be the same whether voluntary or legally required, including those who are in prison.

Cognitive behavioural therapy (CBT) is more effective than drugs counselling at retaining patients in treatment and reducing cocaine use (Knapp et al, 2007). Contingency management may also be an effective addition to CBT. However, NICE (2008a) did not calculate relapse-prevention CBT to be cost-effective. NICE (2008a) recommends that specialist drug services should provide contingency management programmes and behavioural couples therapy for stimulant users, although they acknowledged the issues relating to training for staff in doing so.

Motivational interviewing and CBT appear effective with those seeking help for cannabis dependence (Denis, 2006b). This systematic review found that individual motivational interviewing may be more effective than group-based CBT, while individually-delivered CBT may be more effective than brief motivational interviewing, amongst treatment-seeking adults.

- naltrexone for relapse prevention**

Naltrexone versus placebo (NICE, 2007c)
Concurrent use of illicit opioids RR 0.72 (95%CI 0.58, 0.90)
Naltrexone plus psychosocial therapy versus psychosocial therapy alone (NICE, 2007c)
Retention in treatment RR 1.08 (95%CI 0.74, 1.57)
ICER £42,500 per QALY gained

Naltrexone is an opioid antagonist that blocks the effects of drugs such as heroin. Oral naltrexone is associated with high drop out from treatment (Lobmaier et al, 2008), and is not superior to placebo in reducing drug use (Minozzi et al, 2011). Depot naltrexone reduces self-reported score for ‘needing heroin’ compared to placebo, but not ‘wanting heroin’. The average time to treatment drop out on high-dose depot naltrexone is 48 days (Lobmaier et al, 2008). Naltrexone has been shown to be effective in reducing criminal activity (Egli et al, 2009).

NICE (2007c) recommends that naltrexone be available for a "selected, highly motivated group of people...who preferred an abstinence programme, ...were fully informed of the potential adverse effects and benefits of treatment, and who were highly motivated to remain on treatment” (p.17). NICE (2008a) recommends that where naltrexone is prescribed, “staff should consider offering” (p.183) psychosocial interventions such as contingency management, behavioural couples therapy, or family-based interventions.

- specialist psychological and psychiatric care*

NICE (2008a) recommended that those who misuse cannabis or stimulants, or those abstinent or stabilised on an opioid maintenance treatment, who also experience anxiety or depression should receive recommended psychological treatments for these conditions (especially cognitive behavioural therapy).

Additionally treating those with severe mental illness with psychosocial interventions for substance misuse (including cognitive behavioural therapy and motivational therapy) does not appear to reduce substance use or improve mental state (Hunt et al, 2013), although motivational interviewing may increase attendance at first follow-up appointment after discharge.

- signposting or facilitated pathways to other services*
  o including self-help support groups**

NICE (2008a) recommends that clinical staff should provide information to clients about 12-step groups such as Narcotics Anonymous and Cocaine Anonymous, and facilitate initial contact with such groups.

- community rehabilitation programmes*
- specialised employability programmes*
- access to nationally provided in-patient detoxification programmes and residential rehabilitation*

**Tier 4** interventions are provided in specialist residential units, and might include assessment, detoxification, stabilisation, crisis response, and rehabilitation.
Health service response to substance use

Intensive versus standard outpatient ORT treatment (NICE, 2008a)
Continuous abstinence at 16 weeks RR 1.94 (95%CI 0.97, 3.87)

Day treatment versus standard outpatient treatment (NICE, 2008a)
Point abstinence at 6 month follow up RR 0.89 (95%CI 0.65, 1.23)

Intensive outpatient plus reinforcement-based therapy versus standard care ORT (NICE, 2008a)
Point abstinence at 12 months follow up RR 0.82 (95%CI 0.51, 1.32)

Residential therapeutic community versus day treatment therapeutic community (NICE, 2008a)
Abstinence from crack cocaine/heroin/alcohol at 12 months RR 0.90 (95%CI 0.67, 1.22)

Residential 12-step treatment (NICE, 2008a)
versus residential CBT, abstinence at 12 months RR 1.25 (95% 1.13, 1.39)
versus residential eclectic, abstinence at 12 months RR 1.13 (95%CI 1.01, 1.25)

Residential versus non-residential baseline treatment (cohort study) (NICE, 2007c)
Continued use of non-prescribed drugs at 33 months follow-up OR 0.45 (95%CI 0.23, 0.90)

Three RCTs with no difference in treatment retention or illicit opioid use when MMT provided by primary care versus outpatient clinic, and one finding favourable result in primary care (Adi et al, 2007)

Substance misuse services should be predominantly community-based, offering psychological and pharmacological interventions that increase in intensity in relation to severity of dependence and response to initial interventions. Residential treatment should be reserved “for people who are seeking abstinence and who have significant comorbid physical, mental health or social...problems”, where they have also undergone inpatient detoxification and have previously not benefited from outpatient services (NICE, 2008a).

A Cochrane review of residential treatment found one study that reported more inpatients to be opiate free at discharge compared to outpatients, but that all the inpatients had relapsed by three months follow-up (Day et al, 2005). Residential detoxification should be reserved for those who have not benefited from community detoxification programmes, or have nursing needs due to comorbid physical or mental health problems, or require concurrent detoxification from alcohol or benzodiazepines, or are “experiencing significant social problems that will limit the benefit of community-based detoxification” (NICE, 2008b, p.14).
Health service response to substance use

6.4 Alcohol and drug services in Grampian

Services in Grampian were identified using the Alcohol and Drug Partnerships’ online service directories. A “snowballing” methodology was used to identify other services not contained in the service directories. Any service that offered interventions or resources to those with substance use issues in Grampian was included. Data was collected from services’ websites and by telephone interview. Services were asked to verify the information that was recorded. A full index of services is provided in appendices five and six. The main focus of the service was established, and is shown in figure 79.

![Figure 79: Focus on alcohol or drugs by services regionally and locally](image-url)
Recommendations

7.1 Key findings from needs assessment

The consumption of alcohol and illicit drugs is a significant cause of morbidity and mortality.

In Grampian:

- two in five adults are drinking enough alcohol to put their health at risk
- one in 10 men and one in 20 women suffers from alcohol dependence
- one in every 14 general hospital admissions is due to alcohol
- alcohol-related general hospital admissions in NHS Grampian cost £17m per year
- one in every 20 deaths is due to alcohol

- one in 60 men and one in 140 women suffers from opiate dependence
- one in every 200 general hospital admissions is due to illicit drug use
- general hospital drug-related admissions in NHS Grampian cost £1.5m per year
- one in every 125 deaths is due to illicit drug use

These issues are summarised in table 10.

<table>
<thead>
<tr>
<th>Measure</th>
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<th>Drugs</th>
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</thead>
<tbody>
<tr>
<td>Number of cases</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hazardous or harmful drinkers</td>
<td>11</td>
<td>120,000</td>
<td></td>
</tr>
<tr>
<td>Dependent drinkers</td>
<td>17</td>
<td>20,000</td>
<td></td>
</tr>
<tr>
<td>‘Problem Drug Users’</td>
<td>22</td>
<td></td>
<td>5,000</td>
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<tr>
<td>General hospital admissions</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Number of in-patients</td>
<td>42, 46</td>
<td>5,000</td>
<td>436</td>
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<tr>
<td>Number of admissions</td>
<td>42, 46</td>
<td>7,100</td>
<td>600</td>
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<tr>
<td>Costs</td>
<td>42, 46</td>
<td>£17,300,000</td>
<td>£1,500,000</td>
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<tr>
<td>Mortality</td>
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<tr>
<td>Number of deaths</td>
<td>64, 67</td>
<td>200</td>
<td>42</td>
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</table>

Chapter six set out a range of actions that NHS Grampian could take to reduce alcohol and illicit drug consumption amongst its population, to reduce the harm experienced amongst those who do consume alcohol and illicit drugs, and to effectively treat those experiencing alcohol and drug dependence.

Each of these is addressed in turn below, with recommendations for the NHS Grampian Substance Misuse Group to consider.
Recommendations

7.2 Primary and secondary prevention

7.2.1 Alcohol

The section of the population who drink alcohol at a level that can cause current or future health problems and/or premature death is a changing one: while there is a downward trend in alcohol consumption with age, a relatively large proportion of people across the age range continue to drink hazardously or harmfully, while teenage and young adult drinkers from across the population act to replenish the drinking population. While reported alcohol consumption amongst young people is falling, around one in five fifteen year olds report drinking alcohol on a weekly basis across Grampian, and young men and women (16 – 24 year olds) remain most likely to drink in excess of weekly limits.

People with alcohol-related health harms will be seen in primary and secondary care. The majority of alcohol-related general hospital admissions occur amongst those aged between 30 and 59, are usually unscheduled, and occur across a number of specialties. Admissions for alcoholic liver disease continue to increase. The cost of Grampian’s annual 7,000 alcohol-related general hospital admissions can be estimated to be greater than £17m per year. Reducing alcohol-related hospital admissions will most likely require a whole-population approach. A targeted approach, aimed at those communities with the highest alcohol-related admission rates, is unlikely to be effective as a large proportion of admissions arise in communities that are similar to, or lower than, the national average.

NHS Grampian should:

1. directly work to influence licensing boards in relation to alcohol availability (on the principle that less availability equals less consumption: WHO, 2009)
   Action by Grampian Area Licensing Action Group

2. directly provide brief interventions to hazardous drinkers in primary, maternity, community and secondary care settings
   Action by NHS Grampian Substance Misuse Group

3. consider the direct provision of skills-based family programmes for vulnerable children
   Action by Child Health Lead on behalf of NHS Grampian Substance Misuse Group

4. provide input as a partner of the three local Alcohol and Drug Partnerships in the development and evaluation of evidence-based alcohol interventions and services
   Action by NHS Grampian Substance Misuse Group

5. provide input as a partner of the three local community planning partnerships in relation to the development of ‘competing interests’ (see p. 72)
   Action by Public Health CHP Leads

7.2.2 Drugs

The section of the population who use illicit drugs is also a varying one, with a downward trend with age. While reported drug use has fallen amongst teenagers, around one in
Recommendations

twelve 15 year olds report using illicit drugs in the previous month, primarily cannabis. There is no systematic information about the healthcare demands made by those who use cannabis, cocaine, amphetamine, ecstasy, or new psychoactive substances ("legal highs"). Those who are identified as ‘drug misusers’ in primary care settings (most likely to be opiate users) present with psychological, mental health, and respiratory conditions more often than others. The cost of Grampian’s annual 600 identified drug-related general hospital admissions can be estimated to be greater than £1.5m per year. Around 60 babies are born to mothers who use drugs each year.

NHS Grampian should:

6. Continue the provision of a full range of harm reduction materials through needle and syringe exchange services  
   Action by SM Pharmacy Lead on behalf of NHS Grampian Substance Misuse Group

7. Continue the provision of overdose prevention training including naloxone to prevent overdose deaths  
   Action by SM Pharmacy Lead on behalf of NHS Grampian Substance Misuse Group

8. consider the direct provision of skills-based family programmes for vulnerable children  
   Action by Child Health Lead on behalf of NHS Grampian Substance Misuse Group

9. provide input as a partner of the three local Alcohol and Drug Partnerships in the development and evaluation of evidence-based drug interventions and services  
   Action by NHS Grampian Substance Misuse Group

10. provide input as a partner of the three local community planning partnerships in relation to the development of ‘competing interests’ (see p. 72)  
    Action by Public Health CHP Leads

7.3 Tertiary prevention

7.3.1 Alcohol and drugs

NHS Grampian should:

11. be able to define and quantify a definition of “adequate provision” of tier 3 and 4 specialist treatment services for those with alcohol and drug dependence, and be able to assess current service provision against this  
    Action by NHS Grampian Substance Misuse Group

12. have robust care pathways in place from local authority settings, community and voluntary organisations, HMP Grampian, primary care, maternity, community care, and psychiatric and general hospital settings to specialist treatment services, including options for clinically appropriate diversion of admissions, facilitated by the development of seamless services (potentially involving specialist service in-reach/liaison/rapid access)  
    Action by NHS Grampian Substance Misuse Group
References


Amato L, Minozzi S, Davoli M & Vecchi S (2011b) Psychosocial combined with agonist maintenance treatments versus agonist maintenance treatments alone for treatment of opioid dependence Cochrane Database of Systematic Reviews Issue 10 Art No: CD004147 DOI: 10.1002/14651858.CD004147.pub4

Amato L, Minozzi S, Davoli M & Vecchi S (2011a) Psychosocial and pharmacological treatments versus pharmacological treatments for opioid detoxification Cochrane Database of Systematic Reviews Issue 9 Art No CD005031 DOI 10.1002/14651858.CD005031.pub4


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Foxcroft DR & Tsertsvadze A (2011a) Universal school-based prevention programs for alcohol misuse in young people Cochrane Database of Systematic Reviews Issue 5 Art No CD009113 DOI: 10.1002/14651858.CD009113

Foxcroft DR & Tsertsvadze A (2011b) Universal family-based prevention programs for alcohol misuse in young people Cochrane Database of Systematic Reviews Issue 9 Art. No.: CD009308. DOI: 10.1002/14651858.CD009308
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McKeganey N, Bloor M, McIntosh J et al (2008) *Key findings from the Drug Outcome Research in Scotland (DORIS) study* University of Glasgow Centre for Drug Misuse Research: Glasgow

McQueen J, Howe TE, Allan L, Mains D & Hardy V (2011) Brief interventions for heavy alcohol users admitted to general hospital wards *Cochrane Database of Systematic Reviews* Issue 8 No CD005191 DOI: 10.1002/14651858.CD005191.pub3

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Stade BC, Bailey C, Dzendoletas D, Sgro M, Dowswell T & Bennett D (2009) Psychological and/or educational interventions for reducing alcohol consumption in pregnant women and women planning pregnancy Cochrane Database of Systematic Reviews Issue 2 Art No CD004228 DOI: 10.1002/14651858.CD004228.pub2


Appendix one

Appendix one: ICD10 alcohol-related diagnoses

*Codes marked by an asterisk are those used to by the General Register Office for Scotland to calculate alcohol-related deaths.

Wholly-attributable alcohol conditions

<table>
<thead>
<tr>
<th>ICD10 Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E24.4</td>
<td>Alcohol induced Pseudo-Cushing’s syndrome</td>
</tr>
<tr>
<td>E51.2</td>
<td>Wernicke’s Encephalopathy</td>
</tr>
<tr>
<td>*F10</td>
<td>Mental &amp; behavioural disorders due to use of alcohol</td>
</tr>
<tr>
<td>*G31.2</td>
<td>Degeneration of nervous system due to alcohol</td>
</tr>
<tr>
<td>*G62.1</td>
<td>Alcoholic polyneuropathy</td>
</tr>
<tr>
<td>G72.1</td>
<td>Alcoholic myopathy</td>
</tr>
<tr>
<td>*I42.6</td>
<td>Alcoholic cardiomyopathy</td>
</tr>
<tr>
<td>*K29.2</td>
<td>Alcoholic gastritis</td>
</tr>
<tr>
<td>*K70</td>
<td>Alcoholic liver disease</td>
</tr>
<tr>
<td>*K86.0</td>
<td>Alcohol-induced chronic pancreatitis</td>
</tr>
<tr>
<td>O35.4</td>
<td>Maternal care for (suspected) damage to foetus from alcohol</td>
</tr>
<tr>
<td>P04.3</td>
<td>Foetus and newborn affected by maternal use of alcohol</td>
</tr>
<tr>
<td>Q86.0</td>
<td>Fetal alcohol syndrome (dysmorphic)</td>
</tr>
<tr>
<td>R78.0</td>
<td>Finding of alcohol in blood</td>
</tr>
<tr>
<td>T51.0</td>
<td>Toxic effect of ethanol</td>
</tr>
<tr>
<td>T51.1</td>
<td>Toxic effect of methanol</td>
</tr>
<tr>
<td>T51.9</td>
<td>Toxic effect of alcohol, unspecified</td>
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<tr>
<td>*X45</td>
<td>Accidental poisoning by and exposure to alcohol</td>
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<tr>
<td>*X65</td>
<td>Intentional self-poisoning by and exposure to alcohol</td>
</tr>
<tr>
<td>*Y15</td>
<td>Poisoning by and exposure to alcohol undetermined intent</td>
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<td>Y57.3</td>
<td>Alcohol deterrents</td>
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<td>Y90</td>
<td>Evidence of alcohol involvement determined by blood alcohol level</td>
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<tr>
<td>Y91</td>
<td>Evidence of alcohol involvement determined by level intoxication</td>
</tr>
<tr>
<td>Z50.2</td>
<td>Alcohol rehabilitation</td>
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<tr>
<td>Z71.4</td>
<td>Alcohol abuse counselling and surveillance</td>
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<td>Z72.1</td>
<td>Alcohol Use</td>
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Partially-attributable alcohol conditions

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<tr>
<th>ICD10 Code</th>
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<tr>
<td>C00</td>
<td>Cancer of the lip</td>
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<tr>
<td>C01-C06,C09-10,C12-14</td>
<td>Cancer of the oral cavity and pharynx</td>
</tr>
<tr>
<td>C15</td>
<td>Oesophageal cancer</td>
</tr>
<tr>
<td>C18-C20</td>
<td>Colorectal cancer</td>
</tr>
<tr>
<td>C22</td>
<td>Cancer of the liver and intrahepatic bile ducts</td>
</tr>
</tbody>
</table>

Appendix one

C32 Laryngeal cancer
C50 Breast cancer
I10-I15 Hypertensive diseases
I20-25 Coronary heart disease
I47, I48 Cardiac arrhythmias
I60-I62 Haemorrhagic stroke
I63-166 Ischaemic stroke
I85, I98.2 Oesophageal varices
K22.6 Mallory-Weiss syndrome
*K73,*K74.0-2,K76.0,K76.9 Unspecified liver disease
K76.6 Portal hypertension
K80 Cholelithiasis
K85, K86.1 Acute and other chronic pancreatitis
L40 excl. L40.5 Psoriasis
O03 Spontaneous abortion
G40-G41 Epilepsy and Status epilepticus
V$ (see table footnote) Road traffic accidents - non pedestrian
V$$ (see table footnote) Pedestrian traffic accidents
V90-V94 Water transport injuries
W00-W19 Fall injuries
W24-W31,W45 Occupational work/machine injuries
W32-W34 Firearm injuries
W65-W74 Drowning
W78-W79 Inhalation/ ingestion of food obstructing respiratory tract
X00-X09 Fire injuries
X31 Accidental excessive cold
X40-X49 excl. X45 Accidental poisoning by and exposure to noxious substances
X60-X84,Y10-Y34,Y87.0,
Y87.2 excl. X65,Y15 Intentional self-harm\Event of undetermined intent
X85-Y09,Y87.1 Assault

V$: V12-V14 (.3 -.9), V19.4-V19.6, V19.9, V20-V28 (.3 -.9), V29-V79 (.4 -.9), V80.3-V80.5, V81.1, V82.1,
V82.9, V83.0-V86 (.0 -.3), V87.0-V87.9, V89.2, V89.3, V89.9
V$$: V02-V04 (.1, .9), V06.1, V09.2, V09.3
## Appendix two: ICD10 drug-related diagnoses

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<th>ICD10 Code</th>
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<tr>
<td>F12</td>
<td>Cannabis related disorders</td>
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<tr>
<td>F13</td>
<td>Sedative, hypnotic, or anxiolytic related disorders</td>
</tr>
<tr>
<td>F14</td>
<td>Cocaine related disorders</td>
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<td>F15</td>
<td>Other stimulant related disorders</td>
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<td>F16</td>
<td>Hallucinogen related disorders</td>
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<tr>
<td>F17</td>
<td>Nicotine dependence</td>
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<td>Inhalant related disorders</td>
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<td>Other psychoactive substance related disorders</td>
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## Appendix three

### Appendix three: Primary Care Read Codes

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<th>Read code</th>
<th>Description</th>
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<td>Hazardous alcohol use</td>
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<tr>
<td>136T</td>
<td>Harmful alcohol use</td>
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<td>1B1c</td>
<td>Alcohol induced hallucinations</td>
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<td>63C7</td>
<td>Maternal alcohol abuse</td>
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<td>66e</td>
<td>Alcohol disorder monitoring</td>
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<td>66e0</td>
<td>Alcohol abuse monitoring</td>
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<td>7P221</td>
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<td>8H35</td>
<td>Admitted to alcohol detoxification centre</td>
</tr>
<tr>
<td>8H7p</td>
<td>Referral to community alcohol team</td>
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<tr>
<td>8HkG</td>
<td>Referral to specialist alcohol treatment service</td>
</tr>
<tr>
<td>8IAF</td>
<td>Brief intervention for excessive alcohol consumption declined</td>
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<tr>
<td>8IAJ</td>
<td>Declined referral to specialist alcohol treatment service</td>
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<tr>
<td>8IAt</td>
<td>Extended intervention for excessive alcohol consumption declined</td>
</tr>
<tr>
<td>8IEA</td>
<td>Referral to community alcohol team declined</td>
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<tr>
<td>9k1</td>
<td>Alcohol misuse - enhanced services administration</td>
</tr>
<tr>
<td>9k10</td>
<td>Community detoxification registered</td>
</tr>
<tr>
<td>9k11</td>
<td>Alcohol consumption counselling</td>
</tr>
<tr>
<td>9k12</td>
<td>Alcohol misuse - enhanced service completed</td>
</tr>
<tr>
<td>9k13</td>
<td>Alcohol questionnaire completed</td>
</tr>
<tr>
<td>9k14</td>
<td>Alcohol counselling by other agencies</td>
</tr>
<tr>
<td>9k15</td>
<td>Alcohol screen - AUDIT completed</td>
</tr>
<tr>
<td>9k16</td>
<td>Alcohol screen - fast alcohol screening test completed</td>
</tr>
<tr>
<td>9k17</td>
<td>Alcohol screen - AUDIT C completed</td>
</tr>
<tr>
<td>9k18</td>
<td>Alcohol screen - AUDIT PC completed</td>
</tr>
<tr>
<td>9k19</td>
<td>Alcohol assessment declined - enhanced services admin</td>
</tr>
<tr>
<td>9k1A</td>
<td>Brief intervention for excessive alcohol consumpmtn completed</td>
</tr>
<tr>
<td>9k1B</td>
<td>Extended intervention for excessive alcohol consumpmtn complt</td>
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<tr>
<td>9NN2</td>
<td>Under care of community alcohol team</td>
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<tr>
<td>C1505</td>
<td>Alcohol-induced pseudo-Cushing's syndrome</td>
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<tr>
<td>E01</td>
<td>Alcoholic psychoses</td>
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<tr>
<td>E010</td>
<td>Alcohol withdrawal delirium</td>
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<tr>
<td>E011</td>
<td>Alcohol amnestic syndrome</td>
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<tr>
<td>E0110</td>
<td>Korsakov's alcoholic psychosis</td>
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<tr>
<td>E0111</td>
<td>Korsakov's alcoholic psychosis with peripheral neuritis</td>
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<tr>
<td>E0112</td>
<td>Wernicke-Korsakov syndrome</td>
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<tr>
<td>E011z</td>
<td>Alcohol amnestic syndrome NOS</td>
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</tbody>
</table>
Appendix three

E012  Other alcoholic dementia
E0120 Chronic alcoholic brain syndrome
E013  Alcohol withdrawal hallucinosis
E014  Pathological alcohol intoxication
E015  Alcoholic paranoia
E01y  Other alcoholic psychosis
E01y0 Alcohol withdrawal syndrome
E01yz Other alcoholic psychosis NOS
E01z  Alcoholic psychosis NOS
E23   Alcohol dependence syndrome
E230  Acute alcoholic intoxication in alcoholism
E2300 Acute alcoholic intoxication, unspecified, in alcoholism
E2301 Continuous acute alcoholic intoxication in alcoholism
E2302 Episodic acute alcoholic intoxication in alcoholism
E2303 Acute alcoholic intoxication in remission, in alcoholism
E230z Acute alcoholic intoxication in alcoholism NOS
E231  Chronic alcoholism
E2310 Unspecified chronic alcoholism
E2311 Continuous chronic alcoholism
E2312 Episodic chronic alcoholism
E2313 Chronic alcoholism in remission
E231z Chronic alcoholism NOS
E23z  Alcohol dependence syndrome NOS
E250  Nondependent alcohol abuse
E2500 Nondependent alcohol abuse, unspecified
E2501 Nondependent alcohol abuse, continuous
E2502 Nondependent alcohol abuse, episodic
E2503 Nondependent alcohol abuse in remission
E250z Nondependent alcohol abuse NOS
Eu10  [X]Mental and behavioural disorders due to use of alcohol
Eu100  [X]Mental & behav dis due to use alcohol: acute intoxication
Eu101  [X]Mental and behav dis due to use of alcohol: harmful use
Eu102  [X]Mental and behav dis due to use alcohol: dependence syndr
Eu103  [X]Mental and behav dis due to use alcohol: withdrawal state
Eu104  [X]Men & behav dis due alcohol: withdrawal state with delirium
Eu105  [X]Mental & behav dis due to use alcohol: psychotic disorder
Eu106  [X]Mental and behav dis due to use alcohol: amnesic syndrome
Eu107  [X]Men & behav dis due alcohol: resid & late-onset psychot dis
Eu108  [X]Alcohol withdrawal-induced seizure
Eu10y  [X]Men & behav dis due to use alcohol: oth men & behav dis
Eu10z  [X]Ment & behav dis due use alcohol: unsp ment & behav dis
F11x0 Cerebral degeneration due to alcoholism
F1440 Cerebellar ataxia due to alcoholism
F3747 Polyneuropathy in pellagra
F375  Alcoholic polyneuropathy
F3941 Alcoholic myopathy
G555  Alcoholic cardiomyopathy
G8523 Oesophageal varices in alcoholic cirrhosis of the liver
Appendix three

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J153</td>
<td>Alcoholic gastritis</td>
</tr>
<tr>
<td>J610</td>
<td>Alcoholic fatty liver</td>
</tr>
<tr>
<td>J611</td>
<td>Acute alcoholic hepatitis</td>
</tr>
<tr>
<td>J612</td>
<td>Alcoholic cirrhosis of liver</td>
</tr>
<tr>
<td>J6120</td>
<td>Alcoholic fibrosis and sclerosis of liver</td>
</tr>
<tr>
<td>J613</td>
<td>Alcoholic liver damage unspecified</td>
</tr>
<tr>
<td>J6130</td>
<td>Alcoholic hepatic failure</td>
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<tr>
<td>J617</td>
<td>Alcoholic hepatitis</td>
</tr>
<tr>
<td>J6170</td>
<td>Chronic alcoholic hepatitis</td>
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<tr>
<td>J6710</td>
<td>Alcohol-induced chronic pancreatitis</td>
</tr>
<tr>
<td>SLH3</td>
<td>Alcohol deterrent poisoning</td>
</tr>
<tr>
<td>ZV57A</td>
<td>[V]Alcohol rehabilitation</td>
</tr>
<tr>
<td>ZV6D6</td>
<td>[V]Alcohol abuse counselling and surveillance</td>
</tr>
</tbody>
</table>
Agencies where alcohol misuse might be identified, and who provide information regarding the need to seek further advice and assistance (Tier 1) e.g. Schools, colleges & universities; workplaces; NHS 24; community pharmacists; housing and homelessness agencies; police service; generic voluntary agencies; generic social services; primary health care; A&E; Acute Hospitals; Antenatal Services; Occupational Health Services; Mental Health Services

Nonspecialist agencies expected to use screening and assessment tools to determine nature of alcohol problem, and provide brief intervention and/or appropriate referral as indicated (Tier 2) With training and support: Acute Hospitals; A&E/MIU; Antenatal, Occupational Health, Mental Health, Prison, Probation, Homelessness, and Primary Health Care Services

Specialist agencies expected to provide a range of evidence-based interventions for alcohol use disorders of increasing severity (Tiers 3 & 4) e.g. Drugs Action; NHS SMS

Tier 1 advice: where can clients go?
- Phone the confidential Drinkline 0800 917 8282
- Phone or attend Drugs Action
- Discuss with their GP, health visitor, or practice nurse
- Discuss with a trusted worker from another tier 2 agency (if already involved)

Tiers 2 & 3: Screening & Assessment for Alcohol Misuse
- Social and Clinical indicators (e.g. problems, symptoms, biochemical results) can help inform the need for screening
- Screening tool e.g. the Fast Alcohol Screening Test (FAST)
- Assessment tool e.g. the Alcohol Use Disorders Identification Test (AUDIT)

Hazardous drinking identified
AUDIT score 8 – 15

Provide Brief Intervention (BI)
- Use BI assessment to provide feedback; provide motivational interviewing to support behaviour change and facilitate referral
- Review status at 6 – 12 months; BI ineffective & open to further help

Possible alcohol dependence
AUDIT score 20+

Urgent Treatment Required

Default “Emergency” Services

Possible alcohol dependence
AUDIT score 20+

Alcohol counselling for low to moderate severity dependence (SADQ 0 – 34)

NHS SMS for moderate to high severity dependence (SADQ 20 – 60)

and/or referral to Social Work Team if significant social issues

Harmful drinking identified
AUDIT score 16 – 19

Possible alcohol dependence
AUDIT score 20+

Urgent Treatment Required

Default “Emergency” Services

Possible alcohol dependence
AUDIT score 20+

Alcohol counselling for low to moderate severity dependence (SADQ 0 – 34)

NHS SMS for moderate to high severity dependence (SADQ 20 – 60)

and/or referral to Social Work Team if significant social issues

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- Use BI assessment to provide feedback; provide motivational interviewing to support behaviour change and facilitate referral
- Review status at 6 – 12 months; BI ineffective & open to further help

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AUDIT score 20+

Urgent Treatment Required

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AUDIT score 20+

Urgent Treatment Required

Default “Emergency” Services

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and/or referral to Social Work Team if significant social issues