Data mining Wales:
The annual profile for substance misuse 2018-19

Annual statistical report on alcohol and drug use from health, social care, education and criminal justice services datasets in Wales
Public Health Wales exists to protect and improve health and wellbeing and reduce health inequalities for people in Wales. We work locally, nationally and internationally, with our partners and communities.

The Substance Misuse Programme works to address both the current and emerging public health threats in Wales and in line with the overarching strategic objective to ‘reduce health inequalities, and prevent or reduce communicable and non-communicable disease, wider harms and premature death related to drugs and alcohol’.

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1. Introduction

This statistical report provides a summary of routinely reported substance misuse related data currently available for Wales. Evidence is drawn from a number of data sources including NHS Wales Informatics Service, the Harm Reduction Database (HRD) Wales, the Welsh National Database for Substance Misuse (WNDSM), Office for National Statistics (ONS), Local Authority Education services and Home Office data. This report is intended for use alongside the Welsh Government Substance Misuse report on treatment data for the same period to provide a complete profile on the scale and nature of substance misuse, both drugs and alcohol, in Wales.

As in previous years, the report is structured to better explore the evidence relating to substance misuse over the life course, from prenatal and maternal use of drugs and alcohol, through to substance misuse in older people. The profile will also evidence geographic variations in the health harms related to both drugs and alcohol in terms of hospital admissions, disease rates and deaths, as well as trends over time.

Within Section 1, the report presents population-based data relating to self-reported use and objective measures including hospital admissions in order to provide an overview of the context and extent of health harms and risk behaviour related to drug and alcohol use in Wales. Subsequent sections will then focus on specific age groups: Children and young people (aged 0-24 years), working aged adults (aged 25-49 years) and older people (aged 50 years and above) and, where data is available, provide a geographic profile by health board and local authority. It is hoped that by doing so, this report will prove an essential resource both to those responsible for providing and planning health and related services that prevent and/or address the harms associated with drug and alcohol misuse in Wales and the wider UK, as well as those with a broader interest in substance misuse, wider social determinants and implications.
2. Executive Summary

Population level trends

- The number of individuals admitted to hospital for alcohol-specific conditions are 1.9 times higher than admissions for illicit drug use.

- The number of unique individuals assessed within specialist substance misuse services in Wales in 2018–19 rose by 0.7 per cent compared to the previous year, however, this number has decreased by 11.8% since 2014–15. Of all assessments, 51.7 per cent were primary problematic alcohol clients, and 48.0 per cent were primary problematic drug clients and the remainder reported problematic use of both drugs and alcohol.

- Over the last five years, psychiatric admissions for alcohol-specific conditions have increased by 21 per cent and for illicit drugs by 38.1 per cent.

- The proportion of all patients admitted for alcohol-specific conditions living in the most deprived areas was 3.3 times higher than those from the least deprived areas. In relation to illicit drug use, this figure rose to 6.0 times higher.

- Compared to 2017, deaths from drug misuse increased by 12.4 per cent to 208 deaths and alcohol specific deaths fell by 3.1 per cent to 406 deaths in 2018.

Children and young people (under 25 years)

- As at 31 March 2017, there were 4,450 children receiving care and support due to parental substance misuse. The number of children receiving care and support whose own substance misuse was identified as a problem was 600.

- There were a total of 449 school exclusions as a result of alcohol or drugs amongst school aged children, a decrease of 1.8 per cent from the previous year.

- There were 999 admissions involving young people aged under 25 with an alcohol-specific condition in 2018–19, an increase of 4.8 per cent compared with 2017–18. There was a decrease in admissions for illicit drugs of 1.2 per cent amongst this age cohort in 2018–19.

Adults aged 25–49 years

- Amongst this age cohort, hospital admissions for alcohol-specific conditions have increased by 8.4 per cent on the previous year. Admissions for illicit drugs have increased by 5.3 per cent on the previous year.

- Opioids continued to account for substantially more hospital admissions than any other illicit substance group, representing 49.1 percent of admissions for illicit drugs in this age group.

- Substantial increases were seen in assessments in which cocaine / crack was reported as the primary problematic substance. Assessments for opioid use remained stable.
Drug misuse deaths were highest in the 40–44 year old age category, with 40 deaths, accounting for 19.2 per cent of all drug misuse deaths in 2018.

**Older adults, aged 50 years and above**

- Individuals aged 50 and over made up 20.5 per cent of all those admitted to hospital in 2018-19 following illicit drug use. Admissions for alcohol-specific conditions have increased by 6.5 per cent on the previous year.
- Alcohol related deaths were highest amongst the 55–59 year age group, with 97 deaths, accounting for 18.1 per cent of all alcohol related deaths in 2018.
- Within specialist substance misuse services, alcohol was the most frequently presenting problematic substance, representing 83.7 per cent of assessments. This compares with 10.8 per cent of assessments where opioids were reported as the main substance of use.
3. Headline population trends

3.1 Alcohol-specific and illicit drug poisoning hospital admissions

Hospital admissions are a commonly used measure to describe the harms of alcohol and illicit drugs to individuals. Although likely to be reflective of harms associated with use at the more problematic end of the alcohol and drug use spectrum, figures for hospital admission can provide a useful and, importantly, consistent gauge of these harms over time. Some of the complexities and definitions involved in using hospital admissions data are described in detail in Appendices A and C of this document.

Hospital admissions for alcohol-specific conditions and illicit drugs are shown by year in Chart 1. In 2018–19, there were:

- 6,786 hospital admissions related to illicit drugs involving 5,292 unique individuals.
- 15,681 alcohol-specific admissions involving 10,388 unique individuals.

As can be seen from Chart 1, admissions for different age groups are relatively stable over time. Comparable numbers of admissions for both illicit drugs and alcohol are observed from the 10–14 age groups up to the 30–34 age group, after which admission for illicit drugs fall steadily whilst those for alcohol related conditions continue to rise, peaking in the 55–59 age group.

Since 2010–11, the most common age group admitted for alcohol-specific admissions was the over 50s, in 2018–19 accounting for 55.5 per cent of all individuals admitted compared to 37.4 per cent in the 25–49 age group and 8.1 per cent in those aged under 25 years. For hospital admissions involving illicit drugs, in 2018/19, the most common age group recorded was 25–49 year olds representing 59.4 per cent, with a further 20.5 percent in the over 50 and the remaining 20.1 per cent were under 25. 2018–19 was the first year where the number of individuals admitted for illicit drugs in the over 50s age group exceeded those recorded in the under 25 age group.
3.2  Alcohol related deaths and deaths from drug misuse

As in previous years, deaths from illicit drugs and alcohol show a distinct age-peak pattern. In 2018-19, for illicit drug deaths the peak is observed in the 40-44 age group and for alcohol deaths peaking within the 55-59 year age group, as shown in Chart 2. Deaths from illicit drugs occur within age ranges 15-19 to 65-69, with very low numbers recorded in older people, whilst a wider age range is observed for alcohol deaths, from 20-24 through to 90+ years. All data regarding deaths in this report are recorded by year of death registration.
4. Hospital admissions involving use of alcohol

4.1 Alcohol-specific and alcohol-attributable hospital admissions

‘Alcohol-specific conditions’ are commonly defined as those conditions, such as alcoholic liver disease, which are 100 per cent attributable to the use of alcohol. Recently, additional measures related to ‘alcohol-attributable conditions’ have become more frequently reported in literature evaluating alcohol harms. Alcohol-attributable measures include those conditions, which have been evaluated as partially, but not completely, caused by alcohol consumption when considered across the whole population. Alcohol-attributable figures therefore add a further dimension to analysis of alcohol harms. Both alcohol-specific and alcohol-attributable hospital admissions can be described in ‘person based’ measures (the number of individuals admitted in a given time period, with each counted only once) or ‘admission based’ measures (where all admissions of all individuals are included, as often one individual may be admitted on more than one occasion in a given year). See Appendix A for a more detailed description.

Table 1 shows detailed figures for key alcohol indicators across Wales for the most recent five years. There were 10,388 unique individuals admitted with an alcohol-specific condition in any diagnostic position in 2018–19, accounting for 15,681 admissions. The number of unique individuals admitted for alcohol-specific conditions has remained consistent over the last 5 years.

The European age standardised rate (EASR) of alcohol-specific admissions was 338 persons per 100,000 population, consistent with 2014–15 (337 persons per 100,000). An alcohol-specific condition was recorded in the primary position in 3,680 admissions, 23.5 per cent. There were 2,815 individuals (27.1 per cent) with an alcohol-specific condition recorded in the primary position.

The number of unique individuals admitted for an alcohol-attributable condition in 2018–19 was 38,033, an increase of 5.8 per cent compared to the previous year. The number of individuals admitted with an alcohol-attributable condition has increased by 8.8 per cent over the last five years. The EASR for alcohol-attributable conditions was 1,200 per 100,000 population, approximately three and a half times the rate for alcohol-specific conditions. An alcohol-attributable condition was recorded in the primary position for 13,418 individuals (35.3 per cent).

Table 1: Hospital admissions related to alcohol amongst Welsh residents, by indicator, sex and years 2014–15 to 2018–19

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>All persons</td>
<td>10,209</td>
<td>10,095</td>
<td>10,297</td>
<td>9,936</td>
<td>10,388</td>
<td></td>
</tr>
</tbody>
</table>
4.2 Alcohol related hospital admissions by local authority area of residence in Wales

There was considerable geographical variation in directly standardised rates (see Appendix F) of alcohol-specific hospital admissions across Wales as shown in Table 2. Blaenau Gwent was the Local Authority area with the highest rate, with 515 individuals per 100,000 population admitted for an alcohol-specific condition. This is 1.9 times higher than the comparable rate recorded in Ceredigion, the Local Authority with the lowest rates in Wales at 275 per 100,000 population.

Over the last year, 13 of the 22 Local Authority areas have seen an increase in rates of individuals admitted with an alcohol-specific condition. The largest increase in rates were seen in Torfaen, with an increase of 22.2 per cent from 2017–18. Figure 1 provides a visual representation of the EASR for alcohol-specific hospital admissions in 2018–19 by Local Authority area.
Table 3 and Figure 2 present the EASR per 100,000 for alcohol-attributable admissions (person-based, broad measure) in 2018-19. As with alcohol-specific admission, Blaenau Gwent was the Local Authority Area with the highest rate of alcohol-attributable admissions at 1,556 person-based admissions per 100,000 population and the lowest rate was recorded in Gwynedd with 1,018 person-based admissions per 100,000 population. The largest proportionate rate increase was recorded in Newport, which recorded a 12.4 per cent increase over the last year and a 0.7 per cent increase over the past five years.
Figure 1: Hospital admissions for an alcohol-specific condition in any position, 2018–19, by Local Authority area, European Age Standardised Rate

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2019
Table 2: European Age Standardised Rate per 100,000 population for individuals resident in Wales admitted to hospital for an alcohol-specific condition in any position, 2018-19, by Local Authority area

<table>
<thead>
<tr>
<th>Health Board area</th>
<th>Local Authority area</th>
<th>EASR per 100,000 population 2018-19</th>
<th>Change since 2017-18</th>
<th>Change since 2014-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abertawe Bro Morgannwg</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Bridgend</td>
<td>283.8</td>
<td>13.9%</td>
<td>5.2%</td>
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<tr>
<td></td>
<td>Neath Port Talbot</td>
<td>323.9</td>
<td>-3.6%</td>
<td>-6.5%</td>
</tr>
<tr>
<td></td>
<td>Swansea</td>
<td>315.2</td>
<td>-4.9%</td>
<td>-9.7%</td>
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<tr>
<td>Aneurin Bevan</td>
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<tr>
<td></td>
<td>Blaenau Gwent</td>
<td>514.6</td>
<td>11.3%</td>
<td>34.4%</td>
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<td>Caerphilly</td>
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<td>Newport</td>
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<td>Torfaen</td>
<td>389.8</td>
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<td></td>
<td>Conwy</td>
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<td>Flintshire</td>
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<td>-4.5%</td>
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<td>Gwynedd</td>
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<td></td>
<td>Isle of Anglesey</td>
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<td>Wrexham</td>
<td>334.0</td>
<td>12.3%</td>
<td>-11.0%</td>
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<td>Cardiff and Vale</td>
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<td>Cardiff</td>
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<td>Vale of Glamorgan</td>
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<td>Cwm Taf</td>
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<td></td>
<td>Merthyr Tydfil</td>
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<td>10.6%</td>
<td>10.3%</td>
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<tr>
<td></td>
<td>Rhondda Cynon Taf</td>
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<td>10.6%</td>
<td>9.6%</td>
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<tr>
<td>Hywel Dda</td>
<td>Carmarthenshire</td>
<td>328.7</td>
<td>-2.2%</td>
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<tr>
<td></td>
<td>Ceredigion</td>
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<td>10.5%</td>
<td>2.0%</td>
</tr>
<tr>
<td></td>
<td>Pembrokeshire</td>
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<td>-5.0%</td>
<td>-18.2%</td>
</tr>
<tr>
<td>Powys</td>
<td>Powys</td>
<td>278.4</td>
<td>12.0%</td>
<td>19.8%</td>
</tr>
<tr>
<td>Wales</td>
<td>Wales</td>
<td>338</td>
<td>4.3%</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2019
Figure 2: Alcohol-attributable hospital admissions, individual’s resident in Wales, episode based, broad measure, 2018-19, by Local Authority area, European Age Standardised Rate

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2019
Table 3: European Age Standardised Rate per 100,000 population for alcohol-attributable hospital admission amongst for individuals resident in Wales, person based, broad measure, 2018–19, by Local Authority area.

<table>
<thead>
<tr>
<th>Health Board area</th>
<th>Local Authority area</th>
<th>EASR per 100,000 population 2018-19</th>
<th>Change since 2017-18</th>
<th>Change since 2014-15</th>
</tr>
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<tr>
<td>Abertawe Bro Morgannwg</td>
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<tr>
<td>Bridgend</td>
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<td>3.7%</td>
<td>6.3%</td>
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<td>-0.5%</td>
<td>3.0%</td>
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<tr>
<td>Swansea</td>
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</tr>
<tr>
<td>Aneurin Bevan</td>
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<td></td>
<td></td>
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<tr>
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<tr>
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<tr>
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<td>1361.9</td>
<td>12.2%</td>
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<td>Betsi Cadwaladr</td>
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</tr>
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<tr>
<td>Wales</td>
<td></td>
<td>1200</td>
<td>5.0%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2019
5. Hospital admissions involving use of illicit drugs

5.1 Hospital admissions for poisonings with illicit drugs

The overall number of hospital admissions for poisonings with named illicit drugs has increased by 4.4 per cent from 6,488 in 2017-18 to 6,786 in 2018-19. Compared to 2014-15 there has been a 17.2 per cent increase in illicit drug admissions. The number of unique individuals admitted for illicit drugs in 2018-19 was 5,292, with males accounting for 59.0 per cent. The number of individuals admitted has increased over the last 5 years in both males and females, having risen by 22.1 and 13.3 per cent respectively. The number of individuals admitted to hospital for illicit drugs over the last ten years is shown in Chart 3.

![Chart 3: Individuals resident in Wales admitted to hospital with a condition related to illicit drugs, by year and sex 2009–10 to 2018–19](source)

5.2 Hospital admissions for poisonings by substance type

As shown in Chart 4, overall the EASR per 100,000 population for hospital admissions related to illicit drugs has risen over the past five years to 227.6 admissions per 100,000 population in 2018–19. However, observed trends differed between substance groups. The EASR per 100,000 admissions for opioids has increased by 16.2 per cent over the last 5 years. The rates for
cocaine and cannabinoids remain at historically high levels. Although the rate for benzodiazepines has decreased over the last 10 years, there has been a slight increase in 2018-19 compared to the previous year.

5.2.1 Opioids

Opioids remain the substance group related to the highest number of admissions with 3,171 opioid related admissions in 2018-19, representing an increase of 4.4 per cent on the previous year and of 19.2 per cent from 2014-15. There were a total of 2,481 individuals admitted for opioids in 2018-19, consistent with the previous year. The EASR for opioid related admissions in 2018-19 was 107.7 admissions per 100,000 population, an increase of 18.9 percent over the last 5 years.

5.2.2 Cannabinoids

Cannabinoids are the second highest substance group with 1,344 admissions in 2018-19 relating to 1,162 individuals. There was an increase of 8.7 per cent in the number of admissions compared to the previous year (1,236 admissions in 2017-18). Furthermore, admissions relating to cannabinoids have risen by 38.7 per cent over the last five-year period. The EASR for cannabinoid admissions was 44.3 per 100,000 population in 2018-19.

It is important to note that no distinction is possible in hospital admission data for differentiation between cannabinoid products: cannabis resin, stronger strains of herbal
cannabis ‘skunk,’ or newer forms of synthetic cannabinoid receptor agonists (SCRAs), sometimes referred to as ‘Spice’. WEDINOS, a project testing and profiling substances submitted from across the UK provides evidence of a substantial market for SCRAs in Wales amongst vulnerable populations, particularly those who are homeless or incarcerated. In addition, the EMCDDA have reported increases in the potency of both the resin and herb forms of cannabis over the last 10 years.

![Chart 5: Hospital admissions for poisonings with named illicit drugs, Wales 2009–10 to 2018–19](https://example.com/chart5)

**Source:** Substance Misuse Programme / NHS Wales Informatics Service, 2019

**5.2.3 Cocaine**

The largest increases in admissions have involved cocaine. In 2018–19 there were 560 cocaine related admissions involving 501 individuals. The number of admissions for cocaine has increased by 105.9 per cent over 5 years, from 272 in 2014–15. During this time, the EASR has also increased from 8.9 to 18.4 admissions per 100,000 population. This is considered to be as a

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result of the increase in availability and purity of both powdered and crack cocaine as detailed later in this report and evidenced by the EMCDDA.\textsuperscript{2,3}

5.2.4 Benzodiazepines

In 2018–19 there were 889 benzodiazepine related admissions involving 772 individuals. The EASR was 29.7 admissions per 100,000 population. Over the last 5 years, there has been little change in the number of admissions related to benzodiazepines.

5.2.5 Other stimulants

The number of admissions relating to the category ‘other stimulants’ have decreased by 17.4 per cent over the previous year, from 482 in 2017–18 to 398 in 2018–19. Over the last 5 years admissions related to other stimulants have decreased by 28.0 per cent.

5.2.6 Multiple drug use

In 2018–19, there were 882 admissions where multiple drugs were recorded, accounting for 13.0 per cent of all admissions for illicit drugs. The number of admissions in which multiple drugs were recorded has increased by 35.5 per cent over the last 5 years.

\textsuperscript{2} See page 68
5.3 Illicit drug related hospital admissions by Health Board area of residence in Wales

As with hospital admissions related to alcohol, there was geographic variation in illicit drug related admissions. As shown in Chart 6, Aneurin Bevan University Health Board (ABUHB) area has the highest EASR of admissions related to illicit drugs (294.0 per 100,000 population) and along with Betsi Cadwaladr and Cwm Taf University Health Board areas had rates above the Wales average in 2018-19.

![Chart 6](image)

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2019

Chart 6: Hospital admissions related to illicit drugs, Welsh residents, European Age Standardised Rate per 100,000 population, by drug type and Health Board area 2018-19

Chart 7 shows the rate of hospital admissions for illicit drugs by health board over the last ten years. As indicated, substantial increases have been recorded for Aneurin Bevan, Betsi Cadwaladr and Cwm Taf University Health Board areas. The rate of admissions has reduced in Abertawe Bro Morgannwg for the third consecutive year.
Chart 7: Hospital admissions related to illicit drugs, Welsh residents, European Age Standardised Rate per 100,000 population, by year and Health Board area. 2008–09 to 2018–19.

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2019
6. Hospital admissions related to substance misuse: psychiatric admissions

Substance misuse related conditions that lead to hospital admission may be complex and long-term and may relate to a range of medical specialties. Table 4 shows the number of admissions which required psychiatric treatment. Admissions involving illicit drugs were considerably more likely to involve psychiatric treatment than those for alcohol-specific conditions. The proportion of admissions receiving psychiatric treatment has increased in 2018-19 for both alcohol and illicit drug related admissions. Over the last five years, psychiatric admissions for alcohol-specific conditions have increased by 21 per cent and for illicit drugs by 38.1 per cent.

Table 4: Admission to psychiatric hospital and contact with psychiatric specialism (any hospital) related to substance misuse, numbers and proportion (%) of all admissions (person based), 2014-15 to 2018-19

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Alcohol-specific admissions (any position)</td>
<td>457 (4.5%)</td>
<td>420 (4.2%)</td>
<td>438 (4.3%)</td>
<td>470 (4.7%)</td>
<td>690 (6.6%)</td>
</tr>
<tr>
<td>Illicit drug admissions (any position)</td>
<td>502 (11.4%)</td>
<td>499 (11.7%)</td>
<td>501 (10.4%)</td>
<td>562 (10.0%)</td>
<td>693 (11.2%)</td>
</tr>
</tbody>
</table>

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2018
There is considerable evidence of a linear relationship between substance misuse and deprivation. The Welsh Government produces an index of multiple deprivation which ranks every lower super output area (LSOA, small geographical areas with stable populations of about 1,500) on measures of deprivation. These measures allow every address in Wales to be allocated to a decile of deprivation and ranked from 10 per cent most deprived to 10 per cent least deprived.

Chart 8 and Chart 9 show unique individual admissions with alcohol-specific and illicit drug related conditions respectively by each deprivation decile.

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2019

Chart 8: Unique individual admissions with an alcohol-specific condition in any position by deprivation decile, 2018–19


Note that deprivation is a measure of the area in which an individual lives, rather than an evaluation of their particular circumstances.
Chart 9: Unique individual admissions with a condition related to illicit drugs in any position by deprivation decile, 2018–19

The two charts above show a clear linear relationship between level of deprivation and patient’s resident in Wales admitted to hospital in relation to alcohol or illicit drugs in 2018–19. The proportion of all patients admitted for alcohol-specific conditions who lived in the 10 per cent of most deprived areas was 3.3 times higher than those from the least deprived areas. Amongst those admitted for conditions related to use of illicit drugs, the contrast was even more striking – admissions were 6.0 times higher amongst those from the most deprived areas compared to least deprived, perhaps reflecting the additional contribution of factors including criminalisation on deprivation and the associated impact on health and risk behaviours.
8. Specialist substance misuse service assessments

8.1 Assessments by primary presenting substance and Health Board area of residence

There were 18,435 assessments within substance misuse services in Wales in 2018-19, representing an increase of 2.8 per cent compared to the previous year (17,930 assessments). This is the first year that assessments have increased, after three consecutive years of decreases. Despite this increase, assessments are 19.0 per cent lower than 5 years ago (22,762 assessments in 2014-15). These assessments were attended by 16,149 unique individuals, a marginal increase from 16,039 in the previous year (0.7 per cent). However, the number of unique individuals has decreased by 11.8% since 2014-15. Of the individuals assessed:

- 8,344 (51.7 per cent) were primary problematic alcohol clients, of which 63.1 per cent (n=5261) were male.
- 7,750 (48.0 per cent) were primary problematic drug clients of which 71.3 per cent (n=5,524) were male.
- 55 (0.3 per cent) did not have a substance recorded.

![Chart 10: Substance misuse assessments in Wales, by year and primary substance of use reported 2014–15 to 2018–19](source: Welsh National Database for Substance Misuse, 2019)
Amongst assessment for problematic drug use, opioids, principally heroin, were cited as the most prevalent primary substance with 4,299 assessments (23.3 per cent), representing a marginal increase of 14 (less than 1 per cent) on the previous year (4,285 assessments). Cannabis was the next most frequently reported substance with 1,911 assessments (10.4 per cent) down from 1,961 assessments the previous year, a decrease of 50 (2.5 per cent). The number of assessments where the primary substance was identified as cocaine has increased from 869 in 2014–15 to 1,445 in 2018–19. This is an increase of 66.3 per cent and represents 7.8 per cent of all referrals to substance misuse services in 2018-19.

Changes in the number of substance misuse assessments over the last five years by health board area is shown in Chart 11. The number of assessments has risen marginally over the last year in most Health Board areas. The exceptions are Betsi Cadwaladr University Health Board, where assessments have declined by 8.7 per cent, and Aneurin Bevan University Health Board, where assessments have remained consistent. A reduction in the number of assessments recorded has been observed in all health boards since 2014–15, with the exception of Hywel Dda and Powys.

Substance misuse assessments for 2018–19 by age bands and sex are shown in Chart 12. As is clear from the chart, the age of individuals assessed for alcohol support and treatment is higher than for drugs. Amongst females, a comparable number of assessments are undertaken for illicit drugs in the under 20 age groups. However, there has been increases in

Source: Welsh National Database for Substance Misuse, 2019

Chart 11: Substance misuse assessments carried out by services in Wales, by Health Board 2014–15 to 2018–19
females between the ages of 30 and 59 over the last 5 years, rising by 15.4 per cent from 1,142 in 2014–15 to 1,318 in 2018–19.

Since 2014–15 there has been a 28 per cent decrease in assessments for illicit substances for males under the age of 20 and a 14.8 per cent decrease in males aged 20 – 29. The number of males assessed aged between 30 and 59 has increased slightly from 3,310 in 2014–15 to 3,419 in 2018–19. The substance profile for assessments within specialist substance misuse services differs considerably with age as shown in subsequent chapters.

Source: Welsh National Database for Substance Misuse, 2019

Chart 12: Number of individuals assessed by substance misuse services in Wales, by primary substance reported (alcohol or illicit drugs) and by five-year age bands, 2014–15 to 2018–19.

8.2 Individuals new to specialist substance misuse services

There were 9,676 individuals assessed in 2018–19 who had not previously been recorded as having an assessment with a substance misuse service in Wales, representing 59.9 per cent of all individuals assessed in that year. Amongst those new to services, there were 5,375 assessments for primary problematic alcohol use and 4,259 assessments for primary problematic drug use. The remaining 42 did not have a substance recorded. Number of unique individuals for those new to services are shown in Chart 13 by primary problematic substance type.
The proportion of individuals assessed in 2018–19 who were new to services varied by primary problematic substance. Amongst primary problematic drug service users, just over 50 per cent (53.1%) of those new to services were aged up to 29 years, assessments reduced in all subsequent age groups. However, amongst primary problematic alcohol service users a different pattern emerges with assessments amongst those new to services more dispersed across the age groups. Just over half, (56.2 per cent), of assessments occurred in those aged up to 44 years, with numbers of assessments remaining elevated up to the 55–59 year age group and a gradual reduction observed thereafter. The proportion of males and females new to services again varied across the primary problematic substance groups: for alcohol assessments 61.0 per cent (n=3,280) were male; for drug assessments 69.0 per cent were male (n=2,937).
9. Pre and post-natal health

9.1 Conditions originating in the perinatal period: Foetal alcohol syndrome

Foetal alcohol syndrome (FAS) arises from maternal use of alcohol during pregnancy. It is a serious condition that typically results in affected children experiencing restricted growth, learning and behavioural disorders and physiological problems. There were 12 hospital admissions of Welsh residents under the age of 20 in 2018–19 in which a diagnosis of FAS was recorded in any diagnostic position, up from 11 in the previous year and 5 in 2016–17.

9.2 Foetuses and new-borns affected by maternal use of or withdrawal from drugs of addiction

Hospital admissions for foetuses and neonates affected by maternal use, or withdrawal from, alcohol or other drugs of addiction have declined over recent years (see Appendix A for detailed definition). In 2018–19 there were 48 admissions of Welsh residents in which these conditions were recorded in any diagnostic position, with a relevant condition recorded in the primary position in 22 cases (45.8 per cent). The number of admissions for these conditions was the lowest since 2009–10.

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2019

Further information on Foetal Alcohol Syndrome and related conditions is available at: http://www.nhs.uk/Conditions/foetal-alcohol-syndrome/Pages/Introduction.aspx
Chart 14: Number of hospital admissions for foetuses and neonates affected by maternal use, or withdrawal from, alcohol or other drugs of addiction, by diagnostic position 2009-10 to 2018-19.
10. Children and young people (aged up to 24 years)

10.1 Children receiving care and support with parental substance misuse

Following the introduction of the Social Services and Well-being (Wales) Act 2014, the Children in Need Census has been changed to the ‘Children Receiving Care and Support’ Census. Due to the change in methodology, figures should not be compared with data prior to 2017. Furthermore, the statistics presented are still classified as experimental by the Welsh government and caution should be taken in their interpretation.

In 2018 there were 16,080 children receiving care and support in Wales, up from 15,930 in 2017. Of these, there were 4,450 children, 27.6 per cent, with parental substance misuse listed as a factor in their referral (up from 25.5 per cent in 2017).

There is considerable variation between local authorities in the proportion of children receiving care and support with parental substance misuse, as shown in Chart 15, with the Wales average (28 per cent) shown as a red line. For children receiving care and support with parental substance misuse issues, the Local Authorities with the greatest number of cases were Swansea with 450 cases, followed by Cardiff with 340 cases. Proportionally, the Isle of Anglesey had the highest proportion of children receiving care and support with parental substance misuse indicated as a factor (42 per cent).

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8 Statistics for Children in Need are gathered by census of open cases on the 31st March of each year and reflect the number at that point.
9 The term ‘Children Receiving Care and Support’ is defined as children (under the age of 18) who have a care and support plan. Looked after children have a care and support plan and will be a subset of this population.
10 Note that statistics are classified as experimental and should be used with caution.
11 As the statistics presented are classified as experimental, comparison between years is not presented here but can be found online at Stats Wales - https://statswales.gov.wales/Catalogue/Health-and-Social-Care/Social-Services/Childrens-Services/children-receiving-care-and-support
As at 31st March 2018, there were 600 children receiving care and support where their own substance misuse was identified as a problem, representing 7.6 per cent of all children receiving care and support where data was available. The percentage of children receiving care and support with substance misuse problems by Local Authority is shown in Chart 16.

Caerphilly Local Authority area reported the largest number of cases, (n= 60) and proportion (15 per cent) of children receiving care and support with substance misuse problems.

There was no clear relationship between the proportion of children receiving care and support with substance misuse problems and the percentage with parental substance misuse problems when compared between Local Authorities.
Chart 16: Children Receiving Care and Support in Wales, percentage with a substance misuse problem by Local Authority, as at 31st March 2018.

10.2 School exclusions due to substance misuse

In 2017-18 (academic year), the number of school exclusions related to drugs or alcohol decreased overall from 457 to 449 (1.8 per cent) as shown in Chart 17, specifying type of exclusion; fixed term or permanent.

The number of permanent pupil exclusions due to drugs or alcohol decreased from 17 to 12 cases and the number of fixed term exclusions over 5 days decreased by 28.6 per cent. However, the number of exclusions of 5 days or less increased by 2.9 per cent in the last year. Of all school exclusions (any reason), drug and alcohol related exclusions accounted for 2.5 per cent in 2017-18.
10.3 Hospital admissions related to alcohol amongst children and young people

There were 999 admissions involving young people aged under-25 with an alcohol-specific condition in 2018-19, an increase of 4.8 per cent compared with the previous year. The admissions involved 839 individuals. There were 216 admissions with an alcohol-specific code in the primary position (49.5 per cent male) accounting for 21.6 per cent of all alcohol admissions for under-25s. Chart 18 shows the number of admissions for alcohol-specific conditions amongst under-25s resident in Wales in 2018-19 by sex and age group.
Chart 18: Hospital admissions for alcohol-specific conditions in Welsh residents aged under 25 years, by sex 2018-19

Chart 19 shows the number of admissions involving young people aged up to 25 with an alcohol-specific condition by year and gender. Admissions involving this age cohort have declined by 40 per cent over the last ten years, from 1,661 admissions in 2009-10. The decrease in admissions over the last 5 years was more pronounced in males (51.1 per cent decrease) compared to females (24.2 per cent). However, whilst the number of admissions in males under 25 continued to decrease in 2018-19, the number of admissions involving females in the same age cohort increased by 10.4 per cent. For the second year, there have been more alcohol specific admissions involving females than males.

The under 25s age cohort accounted for 6.4 per cent of all admissions to hospital with an alcohol-specific condition in 2018-19.
Chart 19: Admissions involving young people aged under 25 resident in Wales with an alcohol-specific condition, by year and sex 2009-10 to 2018-19.

10.4 Hospital admissions for poisoning by illicit drugs in children and young people

There were 1,225 admissions of young people aged under-25 for conditions related to illicit drugs in 2018-19, a decrease of 1.2 per cent on 2018-19. These admissions involved 1,059 individuals, and was comparable to the previous year. Individuals aged up to 24 made up 24.6 per cent of all those admitted to hospital in 2018-19 for illicit drugs. Of these admissions, 52.6 per cent were male and 47.3 per cent were female. The proportion of male admissions in this age cohort has remained consistent with the previous year. Chart 20 shows the number of young people aged under 25 resident in Wales and admitted to hospital following use of illicit drugs in 2018-19.
Chart 20: Hospital admissions for conditions related to illicit drugs amongst young people aged up to 24, Welsh resident by sex and age group, 2018-19

Chart 21 shows the number of illicit drugs related admissions by substance over the past ten years for those aged under 25. Admissions for opioid use have been steadily decreasing since a peak in 2010-11. Although the number of admissions for cannabinoids has risen marginally, they are lower than a peak of 285 observed in 2016-17. However, admissions for cocaine continue to rise with an increase over the last five years of 102.6 per cent, from 77 to 156 admissions.

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2019
Chart 21: Hospital admissions for illicit drugs involving young people aged under 25 years and resident in Wales, by year and substance type

10.5 Assessments in specialist substance misuse treatment services amongst children and young people

In 2018–19, there were 2,684 assessments of young people aged under 25, a 4.0 per cent increase compared to the previous year (2,582 assessments). Over the last 5 years the number of assessments has decreased by 28.3 per cent, with 3,741 assessments in 2014–15. The assessments were attended by 2,450 unique individuals, a 25.9 per cent decrease from 2014–15 (3,308 individuals assessed).

Chart 22 shows assessments for this age group by sex, age and primary substance reported as problematic. Young people accounted for 14.6 per cent of all assessments, a marginal increase from 14.4 per cent the previous year.

![Diagram showing assessments for young people aged under 25 by sex, age band and primary substance reported as problematic, 2018-19.]

Source: Welsh National Database for Substance Misuse, 2019

Chart 22: Young people aged under 25 assessed by substance misuse services in Wales, by sex, age band and primary substance reported as problematic, 2018-19.

Individuals may have been admitted for more than once substance group and would have been included in each relevant group.
Chart 23 shows the number of assessments by year and by primary substance reported at assessment in this age group. Despite a decrease of 16.2 per cent compared with 5 years ago, cannabis/cannabinoids remain the substance most frequently reported as problematic at assessments of young people. However, this is the fourth consecutive year that assessments for cannabis have fallen.

Cocaine and crack cocaine is the substance group which has seen the highest rise in assessments, rising by 18.4 per cent over 5 years. However, it should be noted that 2014–15 reported an unusually high number of admissions compared to previous years.\footnote{Public Health Wales 2018: Data mining Wales: The annual profile for substance misuse 2017–18. Available at http://www.wales.nhs.uk/sitesplus/888/documentmap?search=true&metatype=&filetype=&libraryid=31416&keywords=&go=Find}

The number of assessments involving opioids has decreased by 4.5% compared to the previous year and by 55.6% since 2014–15. There has been a slight increase in both alcohol and amphetamines treatments, however both remain lower than 5 years ago.

\renewcommand{	hefigure}{23}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{chart23}
\caption{Substance misuse assessments amongst young people under 25, by year and primary problematic substance reported 2014–15 to 2018–19, Wales}
\end{figure}

\footnote{Where an individual was assessed more than once, details were taken from the first assessment}
11. Adults aged 25 to 49 years

11.1 Hospital admissions for alcohol-specific conditions, adults 25–49 years

There were a total of 5,859 hospital admissions for alcohol-specific conditions amongst adults aged 25–49 in 2018–19, representing an increase of 8.4 per cent on the previous year. However, admissions in this age cohort have decreased by 13.2 per cent over the last decade. In 2018–19, 1,677 (28.6 per cent) of these admissions included an alcohol-specific code in the primary position.

A total of 3,885 individual patients were admitted in 2018–19, of which 1,227 (31.6 per cent) had an admission which contained an alcohol-specific code in the primary position. The majority of patients, 63.3 per cent, admitted for alcohol-specific conditions in this age group were male, a proportion that has been stable over the past five years. Adults aged 25–49 represented 37.4 per cent of all individuals admitted for alcohol-specific conditions in 2018–19. Chart 24 shows individuals aged 25–49 admitted to hospital in 2018–19 with an alcohol-specific condition by sex and age group.¹⁵

![Chart showing hospital admissions for alcohol-specific conditions among adults aged 25–49 in 2018–19 by sex, age, and diagnostic position of alcohol-related condition.]

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2019

Chart 24: Adults aged 25–49 resident in Wales admitted to hospital with an alcohol-specific condition, by sex, age and diagnostic position of alcohol related condition, 2018–19.

¹⁵ Where an individual was admitted more than once in the year, the diagnostic position of first admission was included
11.2 Hospital admissions for poisoning by illicit drugs in adults aged 25–49

There were 4,149 admissions related to the use of illicit drugs for this age cohort in 2018–19, involving 3,122 individuals. These numbers represent an increase of 5.3 percent in admissions and 6.0 per cent in individuals admitted when compared with 2017–18.

Individuals aged 25–49 made up 59.4 per cent of all those admitted for illicit drug related conditions in 2018–19, a marginal increase on the previous year. The sex split in this age cohort was substantially different to that found amongst younger people, with males accounting for 62.2 per cent of those admitted in 2018–19.

Within this age cohort, 30–39 was the age band in which the highest proportion of individual admissions were recorded, representing 26.2 per cent (n=1,317) of all person-based admissions. Chart 26 shows the number of individuals resident in Wales and admitted to hospital following use of illicit drugs in 2018–19.
Chart 26: Adults aged 25–49 resident in Wales admitted to hospital with a condition related to illicit drugs, by sex and age group, 2018–19

Chart 27 shows the number of illicit drug related admissions by substance type over the past five years for those aged 25–49 years. The most common substance group are opioids, involved in 49.1 per cent of admissions in this age cohort. Admissions have risen compared to the previous year and remain compared to 2016–17, the highest year for opioid related admissions in the last 10. Admissions for cannabinoids have also increased compared to the previous year. Although there has been a slight decrease in the number of admissions involving cocaine, admissions have increased by 100 per cent over the last 5 years.
Chart 27: Hospital admissions for named illicit drugs amongst adults aged 25–49, resident in Wales by year and substance type, 2018–19

11.3 Assessment by substance misuse treatment services, adults aged 25–49 years

There were 12,151 assessments within specialist substance misuse services amongst individuals aged 25–49 in 2018–19, an increase of 2.8 per cent from 2017–18. The assessments involved 10,516 unique individuals, representing 65.1 per cent of all individuals assessed in 2018–19. Of these, 31.8 per cent were women. The 35–39 age band contained the most individuals across all age bands, with 2,363 individuals (14.6 per cent). Chart 28 shows individuals assessed by substance misuse services in Wales in 2018–19 by age, sex and primary problematic substance type.

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11 Individuals may have been admitted for more than once substance group and would have been included in each relevant group.
Chart 28: Adults aged 25–49 assessed by substance misuse services in Wales, by sex, age band and primary substance reported as problematic, 2018–19.\(^7\)

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\(^7\) Where an individual was assessed more than once, details were taken from the first assessment.

Alcohol was the most frequently reported problematic substance reported at assessment by this age group, with 5,885 assessments, a reduction of 3.8 per cent compared with the previous year. Substantial increases were seen in assessments in which crack/powder cocaine was reported as the primary problematic substance (24.5 per cent). This is the third consecutive year where a substantial increase has been reported in cocaine assessments, and an increase of 87.5 per cent since 2013–14.

The number of assessments in which opiates were recorded as the primary problematic substance have decreased marginally, 3,717 assessments compared with 3,726 in the previous year. There has been small but repeated decreases in the number of assessments involving amphetamines each year since 2014–15. The number of assessments involving cannabis has remained consistent over this time period.
12. **Self-reported use of illicit drugs in the past year: adults aged 16–59 years**

The Crime Survey for England and Wales (CSEW) is carried out annually. Whilst its principal purpose is to survey a representative sample of the population on their experiences of crime, it also includes a number of questions relating to individuals’ own use of, and attitudes towards, illicit drugs. The CSEW advised that whilst “It is recognised as a good measure of recreational drug use… it does not provide good coverage of the problematic drug use population, as many such users may not be a part of the household resident population which is covered by the survey”

Chart 30 Error! Reference source not found. shows the percentage of adults in Wales’s self-reporting use of selected illicit substances.

![Bar chart showing percentage of adults in Wales’s aged 16–59 self-reporting use of selected illicit drugs in past 12 months, 2009–10 to 2018–19.](source)

Data from the CSEW for 2018–19 suggests that use of illicit drugs within the last 12 months has increased from 8.6 per cent in 2017–18 to 9.5 per cent in 2018–19. This is the second consecutive year where an increase has been observed. The proportion of adults reporting the use of illicit substances is comparable between Wales and England (9.5 per cent and 9.4 per cent respectively). Compared to the previous year, the self-reported use of:

- Any Class A drug has increased for the third year from 2.8 per cent to 3.1 per cent

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- Powder Cocaine has increased from 1.7 per cent to 2.4 percent.
- Cannabis has increased from 6.4 percent to 8.1 per cent.

The CSEW also reports on the proportion of adults who have taken non-prescribed prescription-only painkillers for medical reasons. In Wales, the proportion of adults who reported use of non-prescribed prescription-only painkillers for medical reasons has reduced from 10.7 percent in 2015-16 (the first year of data collection) to 8.4 per cent in 2018-19. However, this proportion remains higher than in England (6.3 per cent). Wales reported the highest proportion compared to geographical regions in England in two of the four years reported, including in 2018-19.
13 Older adults aged 50 years and above

13.1 Hospital admissions for alcohol-specific conditions, older adults

There were 8,821 hospital admissions for alcohol-specific conditions in 2018-19 where the patient was 50 or older, an increase of 6.5 per cent on the previous year. Of these admissions, 1,677 (19.0 per cent) were for alcohol-specific conditions in the primary position. There were 5,664 individual patients admitted, of which 1,392 (23.7 per cent) were for conditions in the primary position. Males accounted for 67.3 per cent of admissions, comparable to previous years. The 50+ age cohort made up 54.5 per cent of all those admitted for alcohol-specific conditions in 2018-19.

The five-year age band with the greatest number of individuals admitted falls within this cohort, with those aged 55-59 making up 11.4 per cent, or approximately one in eight of all alcohol-specific hospital admissions in 2018-19. Chart 31 shows the number of individuals aged 50+ admitted to hospital with an alcohol-specific condition in any diagnostic position in 2018-19 by sex and age group.

Source: Substance Misuse Programme / NHS Wales Informatics Service, 2019

Chart 31: Older people aged 50+ resident in Wales admitted to hospital with an alcohol-specific condition, by age band and sex and age 2018-19.

Chart 32 shows the number of admissions involving those aged 50 years or more involving an alcohol-specific condition. Since 2009-10, there has been a 37.8 per cent increase in the number of admissions involving individuals over the age of 50.
13.2 Hospital admissions for poisoning with illicit drugs in older adults

There were 1,353 illicit drugs related admissions involving individuals aged 50 years or older, an increase of 14.0 per cent on 2017–18. These admissions related to 1,077 individuals. Of these 53.9 per cent of patients were male. Males have had a higher proportion of admissions in this age category since 2014–15. In the five years prior (i.e. 2009–10 to 2013–14), a higher proportion of individuals admitted were female.

Individuals aged 50 and over made up 20.5 per cent of all those admitted in 2018–19 following illicit drug use.

Within this broad age cohort, the 50–54 age category reported the largest number of individuals, representing 5.9 per cent of all individuals admitted for illicit drugs across all age categories. Chart 33 shows the number of older individuals resident in Wales and admitted to hospital following use of illicit drugs in 2018–19.
Chart 33: Older people aged 50+ resident in Wales admitted to hospital with a condition related to illicit drugs, by sex and age, 2018-19.

Chart 34 shows the number of illicit drugs related admissions by substance type over the past ten years for those aged 50+. Opioids were the drug most frequently reported with 733 admissions. This represented a rise of 45.4 per cent increase from 2014-15.

There were considerably fewer admissions involving other illicit drugs within this age category, however, the rise in cannabinoid-related admissions is notable, increasing by 57.0 percent since 2014-15. The number of admissions following use of cocaine has increased over the last 5 years, however numbers remain low.
13.3 Assessment by substance misuse treatment services, older adults

There were 3,600 assessments of individuals aged 50 and over recorded on the Welsh National Database for Substance Misuse in 2018–19, an increase of 2 per cent on 2017–18. These assessments involved 3,183 unique individuals, of which 36.2 per cent (n=1,134) were female. A substantial majority of those assessed within this age cohort, 70.7 per cent (n=2,251), were aged 50–59 years. Chart 35 shows individuals aged 50 and over assessed by specialist substance misuse services in Wales by age, sex and primary problematic substance reported.

As shown in Chart 36, alcohol was the most frequently presenting problematic substance, representing 83.7 per cent of assessments (n=3,016). This compares with 10.8 percent (n=390) of assessments where opioids were reported as the main problematic substance. The number of assessments involving opioids has increased over each of the last four years rising by 21.3 per cent over the last 5 years.
In 2018–19 there were 40 assessments reporting stimulants, 67 reporting cannabis and 36 reporting cocaine or crack.

Chart 36: Substance misuse assessments amongst older adults aged 50+, by primary problematic substance reported, Wales 2014–15 to 2018–19.

Source: Welsh National Database for Substance Misuse, 2019
14. Injecting drug use: risk behaviours and blood borne viruses

14.1 People who inject drugs and access Needle and Syringe Programmes

In 2010, Public Health Wales, supported by Welsh Government, introduced the Harm Reduction Database (HRD) in all statutory and voluntary sector specialist Needle and Syringe Programmes (NSPs) across Wales. Since April 2014, community pharmacy provision of injecting equipment has also been included. Details of how data is gathered through the HRD and the most recent HRD activity reports are available online.20

An individual was considered a ‘regular’ user of NSPs in Wales if they had:

- Accessed NSP services at least two or more times in the current year
- Accessed NSP services for injecting image and performance enhancing drugs (IPEDs) and accessed services at least once in the current and previous year.

This distinction is made to limit the impact on the data of individuals who may use different reference details when presenting for injecting equipment or who are people who inject drugs infrequently.

Data is reported by substance group: opioids, stimulants and IPEDs.2122 As injecting and problematic drug use often involves use of more than one substance, individuals may be included in multiple substance groups.

In 2018–19, a total of 25,571 individuals accessed NSP services at least once in Wales. Of these, 14,172 were defined as people who inject drugs (PWID) regularly and access NSP services. The remaining 11,399 individuals (44.6 per cent) attended an NSP service only once in 2018–19. Chart 37 shows the number of regular individuals accessing NSP services between 2014–15 and 2018–19, by age and substance group.

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21 Stimulants include amphetamine, crack and cocaine, mephedrone and other cathinone substances.

22 Includes Injectable and oral Anabolic and Androgenic Steroids, Peptides (including Growth Hormone), Melanotan, Insulin and Insulin Growth Factors
Chart 37: People who inject drugs and regularly accessing Needle and Syringe Programmes in Wales, by age group, year and substance group, 2014–15 to 2018–19

14.1.1 Young people aged up to 25

In 2018–19, young people represented 6.9 per cent (n=1,088) of all individuals regularly attending NSP services, down from 7.7 per cent in the previous year. This is the fourth consecutive year that the proportion of NSP clients in this age group has decreased. This trend was observed across all substance groups.

Of all regular NSP service attendees aged under 25:

- 91.0 per cent (n = 895) of were male
- 81.5 per cent (n=801) reported IPED use
- 20.1 per cent (n=198) reported opioid use
- 5.5 per cent (n=54) reported stimulant use

There were a further 957 records for young people who attended an NSP service only once in 2018–19. Of these 88.0 per cent were male.

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23 A regular user is defined as an individual who accessed a needle and syringe programme on at least two or more occasions in a given calendar year or reported IPED use in and accessed NSP in both the current and previous year.
14.1.2 Adults aged 25–49 years

People who inject drugs aged 25–49 years made up the majority of those regularly accessing NSPs in Wales, with a total of 11,945 individuals (84.3 per cent) in 2018–19. This represents a two per cent increase (per cent) from the previous year. Of this total:\(^\text{24}\):

- 87.0 per cent (n=10,392) were male
- 52.6 per cent (n=6,286) reported IPED use
- 52.8 per cent (n=6,304) reported opioid use
- 15.6 per cent (n=1,860) reported stimulant use

The number of individuals reporting opioid use has increased each year since 2014–15. The proportion of male to female PWID varied by primary drug type as shown in Chart 38.

\[\text{Source: Harm Reduction Database Wales 2019}\]

Chart 38: Number of people who inject drugs, regularly accessing NSP services by sex, age group and substance group, Wales, 2018–19.

There were an additional 9,291 records for adults aged 25–49 who attended NSP services only once in 2018–19, of which 86.9 per cent were male.

14.1.3 Older aged adults 50+

There were 1,241 individuals aged 50 years or more regularly attending NSP services in 2018–19, representing 8.8 per cent of the total. This is an increase of 14.1 percent compared to the previous year, a trend that has been observed each year since 2014–15 and in all three substance groups.

Of the 1,241 older people accessing NSPs:

- 90.2 per cent (n=1,120) were male
- 35.0 per cent (n=434) reporting IPED use
- 64.5 per cent (n=801) reported opioid use

\(^{24}\) Individuals reporting poly-drug use may be included in more than one substance group.
• 20.4 per cent (n=253) reported stimulant use

There were an additional 1,153 records for older aged adults who attended NSP only once in 2017-18 of which 87.1 per cent were male.

14.2 Risk behaviours amongst people who inject drugs

Injecting drug use, in particular when involving sharing of injecting equipment, both direct (the sharing of needles and syringes) and indirect (the sharing of other injecting-related equipment including spoons/cookers, filters, water), has a clear impact on the prevalence of blood borne viral infections, including hepatitis B, hepatitis C, HIV and bacterial infections. Evidence on direct and indirect sharing and blood borne virus (BBV) testing and prevalence is available from two sources: the Unlinked Anonymous Monitoring (UAM) Survey of People Who Inject Drugs (PWID), and Public Health Wales Harm Reduction Database (HRD) Blood Borne Virus module.

14.2.1 Unlinked Anonymous Monitoring Survey of people who inject drugs

The Unlinked Anonymous Monitoring (UAM) Survey of People Who Inject Drugs (PWID), is an annual survey of PWID accessing specialist drug services in England, Wales and Northern Ireland, co-ordinated by Public Health England.25 The UAM carries out a dry blood spot test for hepatitis B and C and HIV, in addition to requesting that participants complete an anonymous survey on risk behaviours. In 2018, there were 169 UAM survey participants in Wales.26

Direct and indirect sharing

A total of 20 per cent (n=21) of respondents reported direct sharing of injecting equipment (needles and syringes previously used by someone else) during the last 28 days, consistent with the previous year. This rose to 36 per cent (n=39) when accounting for direct and indirect sharing (injecting paraphernalia including filters and cookers) in the last 28 days.

Prevalence of blood borne virus infection amongst people who inject drugs

A total of 18 of 169 respondents in Wales provided dry blood spots which tested positive for hepatitis B (hepatitis B core antigen), a rate of 11 per cent, up from 7.5 per cent in 2018. However, the rate in 2018 remains consistent with the 5 years prior to 2017.

The uptake of hepatitis B vaccination amongst UAM participants in Wales was reported at 70 per cent (n=116), down from 76 percent in 2016. With the exception of 2016, the proportion has remained stable since 2011.

The proportion with reactive test results for hepatitis C antibodies was 56 per cent (94 of 169 respondents). Exposure rates to hepatitis C have risen substantially in Wales over the last decade. However, with the advent of highly effective, available and tolerable treatment, along

25 Further information and data from the Unlinked Anonymous Monitoring Survey is available at: https://www.gov.uk/government/statistics/people-who-inject-drugs-hiv-and-viral-hepatitismonitoring#history
26 Not every question was answered by all interviewees
with the introduction of routine community opt-out testing, diagnosis and referral to treatment, it is expected that this trend will be reversed in the coming years.

The rate of HIV infection was 1.8 per cent amongst those from Wales participating in the UAM in 2018, a rate that has remained stable over time.

In addition to data from the UAM, Public Health England reports the number of new diagnoses of HIV in the UK and constituent countries on an annual basis, along with the probable reason for exposure to the virus where known. In 2018, there were 135 new cases of HIV amongst Welsh residents of which none where reportedly from injecting drug use27.

### 14.2.2 Harm Reduction Database: Blood Borne Virus module

The second source of data is the Public Health Wales Harm Reduction Database (HRD) Blood Borne Virus module.28 This national surveillance system records all patient-level activity relating to blood borne viruses in substance misuse and related community services, from screening to treatment outcomes over time. It was developed to compliment and support the implementation of routine opt-out screening across Wales as part of the Welsh Government’s action to achieve WHO Hepatitis C elimination targets.29

In 2018-19, the second year of data collection, there were:

- 2,882 individuals tested for hepatitis C within specialist substance misuse services. Overall 17.5 per cent (n= 434) of cases had antibodies detected (reactive); amongst individuals who reported ever injecting drugs the rate was 28.1 per cent. In recent initiates to injecting the rate was 19.4%.28,31

- 2,765 individuals tested for hepatitis B. Less than 1 per cent of individuals screened positive for hepatitis B surface antigen (HBsAg).

- 2,673 individuals tested for HIV, only 1 individual was identified as positive for HIV antibodies, indicative of infection, and was referred immediately into specialist clinical treatment

### 14.3 Estimates of problematic drug use in Wales

Problem drug use (PDU) is defined by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) as “injecting drug use or long duration or regular use of opioids, cocaine

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27 Public Health England (2018) HIV surveillance data in the UK by demographic characteristics and geographical region


30 Started injected within the last 36 months

31 Of those with valid results.
and/or amphetamines [including amphetamine type substances]." Provisional headline figures for problem drug use estimates in Wales, including populations not in contact with any services, suggest that the total number of problem drug users in 2017-18 was 52,600 (95% confidence interval (CI) 45,230 – 65,050). Details of the methods used to produce PDU figures for Wales is given in Appendix G.

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15. Alcohol related deaths

15.1 Alcohol-specific deaths by year of registration

As described in Appendix B, there are two methods of calculating alcohol related deaths: one used by the Office for National Statistics (ONS) and the other using Alcohol-Attributable Fractions (AAF). This subsection of alcohol-specific deaths describes deaths by year as counted utilising ONS data. This allows for comparison with reports in previous years and with figures from other UK countries. There has recently been an update to the definition of an alcohol specific compared to an alcohol related death which has been used in this report in previous years. Both has been presented here for continuity. Subsequent subsections will present more detailed figures produced by the NHS Wales Informatics Service (NWIS) using the AAF method.

Using the ONS definition, in 2018 there were 540 alcohol-related deaths and 406 alcohol specific deaths registered in Wales. This represents a decrease of 0.9 and 3.1 per cent respectively compared to the previous year. Of the alcohol specific deaths, 65.5 per cent (n=266) of deaths involved males. Chart 39 shows the number of alcohol-specific deaths registered in Wales in each of the past ten years using the ONS method by year.

![Chart 39: Number of alcohol-specific deaths by registered year of death in Wales 2009–2018](image)

Source: Office for National Statistics, 2019

15.2 Rates of alcohol-specific deaths in Wales by sex and Health Board area of residence

The three year rolling average of deaths from alcohol-specific causes over the most recent five years shows that the EASR of deaths per 100,000 population has increased by 4.0 per cent since 2012–14 from 12.6 deaths to 13.1 in 2016–18. The increase has been observed in both males and females.
There was considerable geographic variation in three-year rolling averages of alcohol-specific mortality for 2016–18, as can be seen in Chart 41. The highest rates were recorded in ABMU (17.9 deaths per 100,000 population) and Cwm Taf (15.8 deaths per 100,000 population) Health Board areas. These were more than twice the rate recorded in the Powys Teaching Health Board area, with an average of 8.8 alcohol related deaths per 100,000 over the period 2016–18.
15.3 Alcohol-attributable mortality

Between 2016–18 the rate of alcohol-attributable mortality in Wales was 53.2 deaths per 100,000 population, an increase of 5.6 percent compared to 2012–14. Alcohol-attributable mortality is at the highest rate in 5 years. The rolling average rates of alcohol-attributable mortality are shown in Chart 42. The EASR for males increased by 6.6 per cent compared to 2.2 per cent for females for the period 2016–18 compared to 2012–14.

![Chart 42: European Age Standardised Rate of alcohol-attributable deaths, AAF method, Wales, three year rolling averages, by sex and year of death registered, 2012-14 to 2016-18.](image)

Source: Office for National Statistics and NHS Wales Informatics Service, 2019

Chart 42 shows alcohol-attributable mortality by Health Board for the five most recent three-year rolling average periods. The pattern amongst Health Boards is similar to that for alcohol-specific mortality described above, although the differences between Health Boards are proportionately smaller. For the population of Wales, the standardised rate is 53.2 per 100,000 population. ABMU was the Health Board with the highest EASR for alcohol-attributable mortality at 61.6 per 100,000 population; Powys Teaching recorded the lowest average rate for 2015–17 with 42.7 per 100,000 population.
Chart 43: European age standardised rate of alcohol-attributable deaths, AAF method, Wales, three year rolling averages, deaths registered in 2016-18, by Health Board

Source: Office for National Statistics and NHS Wales Informatics Service, 2019
16. Drug related deaths

The Office for National Statistics (ONS) reports two main measures in relation to drug deaths. ‘Deaths related to drug poisoning’ which includes all deaths in which the underlying cause references an ICD-10 related to both licit and illicit drugs (not including alcohol and tobacco). ‘Deaths related to drug misuse’ is the subset of drug poisoning deaths involving only illicit drugs. A more detailed description of these measures is provided in Appendix D. Due to delays in reporting drug deaths, all figures in this section are for deaths registered in a given year and not the year of death.33

16.1 Deaths by drug poisoning and drug misuse deaths by sex and age group

In 2018, 327 deaths due to drug poisoning were registered in Wales, an increase of 25.8 per cent from the previous calendar year. Of all drug-poisoning deaths, 208 (63.6 per cent) were identified as a drug misuse death, an increase of 12.4 per cent 185 deaths in 2017. Both the number of drug misuse deaths and other drug poisonings are the highest reported over the last 10 years.

16.2 Drug misuse deaths by sex and age group

As shown in Chart 45, the most common age group for drug related deaths is between 30 and 50, representing 78% of all drug deaths. The proportion of deaths amongst those aged under 30 have decreased over the last 5 years, from 19.5 per cent in 2014 to 14.4 per cent in 2018. However the number of deaths in this age category has increased from 22 in 2014 to 30 in 2018.

Source: Office for National Statistics, 2019

Chart 44: Number of drug poisoning and drug misuse deaths in Wales by year of registration 2009-18

As with previous years there were more deaths in 2018 involving males than those involving females, although amongst those aged 50 years and older, the proportion of male to female deaths has become smaller. Females who died from drug misuse tend to be older than males.

![Chart 45: Number of drug misuse deaths in Wales by 5-year age band and sex for deaths registered in 2014–2018.](chart45)

### 16.3 Drug misuse deaths by substances reported

**Note:** more than one substance may be recorded for each death. The figures in this section relate to all drugs recorded and therefore one death may be represented in relation to more than one substance.

Deaths involving opioids remain by far the most common substance group in relation to drug misuse deaths, with the most common being those involving heroin/morphine as shown in Chart 47. The number of deaths involving heroin/morphine in 2018 has increased from 83 to 108 deaths. This is the first year an increase has been overserved in three years after remaining consistent between 2015 and 2017. In 2019, there were 78 deaths involving opioids other than heroin / morphine, of which 20 also involved heroin/morphine and 58 did not.

The number of deaths involving cocaine has increased year on year from 6 in 2009 to 31 in 2018. The number of deaths involving New Psychoactive Substances has dropped from a peak of eight in 2015 to 4 deaths in 2018.
Chart 46: Number of drug misuse deaths in Wales in which selected substances were recorded, deaths registered 2009–2018.

16.4 Drug misuse deaths by Health Board area

The European age standardised rate (EASR) for drug misuse deaths registered in 2018 in Wales was 7.2 deaths per 100,000 population compared with 6.4 deaths per 100,000 population in 2017. Rates varied substantially across Health Board areas with Abertawe Bro Morgannwg University (ABMU) Health Board recording the highest rate at 12.7 deaths per 100,000 population in 2018 as shown in Chart 47. Alongside ABMU, the largest increase in rate of death was recorded in Cwm Taf from 6.7 to 10.0 deaths per 100,000 population. Rate of deaths in Hywel Dda are also above the national rates.

The rate of drug misuse deaths in Wales (7.2 deaths per 100,000 population) remains higher than deaths recorded in England (4.9 deaths per 100,000 population).34

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Chart 47: European Age Standardised Rate per 100,000 population of drug misuse deaths in Wales, by Health Board area 2014 – 2018, along with the 2017 national rates for Wales (red).

As the figures presented in the previous subsections suggest, greater numbers of deaths involving heroin/morphine and cocaine has driven the increase in rates over the year. The highest rate of deaths involving heroin/morphine were recorded in ABMU (6.5 deaths per 100,000) and Cwm Taff (5.2 deaths per 100,000).

Chart 48 shows the EASR per 100,000 population for 2018 by Local Authority and illustrates the geographical variation in drug misuse deaths. Over this period Swansea had the highest EASR at 15.6 drug misuse deaths per 100,000 population. Although this has decreased from the previous year (19.4 deaths per 100,000), the three year average published by ONS shows Swansea to have the second highest number of deaths in England and Wales, after Blackpool.

The lowest number of deaths were recorded in Monmouthshire where only one death was reported. These figures, alongside those for Health Board areas above demonstrate that there are complex patterns across areas over time in relation to drug misuse deaths.
Chart 48: European age standardised rate per 100,000 population of deaths from drug misuse registered in Wales 2018, by Local Authority.

17. Police recorded drugs offences and purity of drugs seized by the police: all ages

17.1 Recorded drugs offences in Wales

Police Forces in Wales recorded a total of 8,974 drugs offences in Wales in 2018–19, an increase of 10.7 per cent compared with 2017–18. As in previous years, South Wales recorded the greatest number of drug offences, and observed the largest increase of 19.5 per cent from the previous year. The lowest number of drug offences was recorded in North Wales. The number of drug offences recorded by Welsh Police Forces for the five years to 2018–19 is shown in Chart 49.35

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35 The data for police activity in Wales was sourced from the Office of National Statistics and is available at https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice.
Chart 49: Number of drug offences recorded by police forces in Wales by year and police force, 2014–15 to 2018–19.

However, the number of residents in these police territories varies considerably and, therefore, the rate of drug offences occurring in each area is a more appropriate comparable measure. In 2017–18, the highest rate per 1,000 population of drug offences was recorded in Dyfed Powys, with 3.6 drug offences recorded per 1,000 residents, up from 3.4 per 1,000 the previous year. The lowest rate was recorded in North Wales, with 2.0 offences per 1,000 population. The overall rate of recorded drugs offences for Wales was 2.6 per 1,000 population. This is marginally lower than the rate recorded in England (2.5 drug offices per 1,000 population). The rate of police recorded crimes by year and Police Force area for Wales is shown in Chart 50.
Chart 50: Rate per 1,000 population of drug offences recorded by Police Forces in Wales by year and police force, 2014-15 to 2018-19, with the Wales average rate (red dot).
17.2 Seizures of illicit drugs in Wales

There were 7,393 seizures of illicit drugs by Police Forces in Wales in 2017-18, the most recent year for which data are available, a fall of 4.7 per cent compared with 2016-17. This represents an average of 2.4 seizures per 1,000 population in Wales, a decrease from 2.5 per 1,000 population the previous year. The rate of seizures in England was 2.2 per 1,000 population. The majority, 71.4 per cent, of seizures involved cannabis (n = 5,285) with a further 12.7 per cent of all seizures accounted for by cocaine or crack cocaine (n = 942). 6.0 per cent amphetamines and 6.3 per cent heroin.

South Wales Police accounted for 46.2 per cent of all seizures. South Wales Police also recorded higher proportions of seizures of Class A drugs including 58.5 per cent of all heroin seizures and 47.1 per cent of all cocaine seizures in 2017-18. Wales has accounted for between 5.7 and 6.3 per cent of all drug seizures in the UK since 2006-7, with 5.7 per cent of UK seizures occurring in Wales in 2017-18. The number of seizures recorded by police force for selected drugs is shown in Chart 51.

![Chart 51: Number of seizures by Welsh Police Forces, 2018-19, selected drugs.](source: Home Office, 2019)

Differences in the rate of seizures between Police Forces in Wales mirror differences in the number of recorded drug offences, with Dyfed-Powys recording the highest rate of seizures and North Wales and Gwent forces recording the lowest rates. Chart 52 shows the rate of seizures per 1,000 population for each of the four Welsh Police Forces and the Wales average between 2013-14 and 2017-18.
Chart 52: Rate of seizures of illicit drugs by Police Forces in Wales per 1,000 population, by police force and Wales average (red dot), 2013–14 to 2017–18.

The quantity of illicit drugs seized is reported in kilograms for some drugs and doses for others. Across Wales, cannabis was seized in greater quantities than any other illicit drug, with 99.65 kg of herbal cannabis and 50.2 kg of cannabis resin seized in 2017–18, an increase of 14.3 per cent on the previous year. After cannabis, the illicit drugs seized in the greatest quantities by weight in Wales in 2017–18 were cocaine was 25.5 kg, up from 13.5 kg in 2016–17. Chart 53 shows the quantity of selected drugs seized by Police Forces in Wales in 2016–17.
For illicit drug seizures measured by dose, benzodiazepines accounted for the majority of drugs seized with over 346,000 doses seized in 2017–18. Of all benzodiazepine doses seized in England and Wales, 66.4 per cent were seized in Wales.

Anabolic steroids were the next most commonly seized substance in 2016–17 with 9,500 doses, followed by Methadone with 4,800 doses seized, a decrease of 41.8 per cent on the previous year.
17.3 Price and purity of selected illicit drugs – UK

Note: An update to the focal report has not been published as of the writing of this report. As a result, this section of the report has not been updated and remains the same as the previous year.

Price and purity of selected drugs are reported by UK Focal Point, which provides data on drug trends to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). In this context, purity of a drug describes the degree to which a quantity of the drug has remained free from other substances that may be added to increase the quantity and therefore resale value. Prices are calculated based on data from law enforcement agencies and are adjusted to reflect different levels of purity at different times. These data are not currently broken down by region, therefore the figures presented in this section relate to the UK as a whole. Chart 55 shows the typical street prices of selected illicit drugs in the UK to 2016, the most recent year for which data are available.

![Chart 55: Typical street price of selected illicit drugs based on law enforcement agency reports, UK, 2008–16.](chart55)

Data for the UK suggests that drug prices have remained relatively stable in recent years.

As shown in Chart 55, the purity of small quantity seizures of both cocaine and crack cocaine have been increasing since 2009 and are at the highest purity levels seen in the last 10 years. The purity of heroin has remained consistent with the previous year, and is at levels comparable to those observed before the heroin drought in the first half of this decade.

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36 UK Focal Point annual reports are available at [http://www.nta.nhs.uk/focalpoint.aspx](http://www.nta.nhs.uk/focalpoint.aspx)
37 Data for Mephedrone was not available for 2013 to 2015.
Although data on the mean purity of seizures of MDMA tablets is not available in the Focal point report, evidence from WEDINOS suggests that purity of MDMA tablets remains high.\textsuperscript{38}

\textbf{Chart 55: Mean percentage purity of small quantity drug seizures in England and Wales, 2008-16, by selected drugs}\textsuperscript{39}.


\textsuperscript{39} Data for MDMA was not available for 2013, 2015 and 2016.
18. Appendices

Appendix A: Hospital admissions related to alcohol – definitions

When an individual is admitted to hospital, the period between admission and discharge or death is described as a ‘spell’. A spell may be made up of a number of distinct ‘episodes’ during which the patient is under the care of a named consultant. A new episode will begin when a patient is transferred to the care of another consultant, whether this is because a different medical need has been identified, because the patient has reached a transition point in their recovery or need for care, or for some other reason. For each episode, the condition which is identified as the most relevant in relation to their admission or ongoing treatment is recorded by medical staff, alongside further, secondary conditions which affect treatment and any external factors which relate to the admission. These records are coded to a standard framework called the International Statistical Classification of Diseases and Related Health Problems, now in its tenth edition and therefore known as the ‘ICD-10’. Full descriptions of the conditions associated with every ICD-10 code are available from the World Health Organization at http://apps.who.int/classifications/icd10/browse/2010/en.

There are four key dimensions for measuring the impact of alcohol on the health of the population and on the healthcare services that provide medical care through hospital admissions. These dimensions are described in Table 5.

Table 5: Dimensions used to measure impact of alcohol on populations and healthcare services

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description and options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Selection of core ICD-10 codes</strong></td>
<td>The choice of ICD-10 codes to include in analysis. For alcohol related admissions, this report uses ICD-10 codes originally produced by Centre for Public Health, Liverpool John Moores University(^{40}) and adopted by Public Health England(^{41}). These are often referred to as ‘Alcohol-attributable Fractions’ ('AAF'). Note that analysis of alcohol related deaths in this report used both the AAF definition and the definition used by the Office for National Statistics ('ONS'). See Appendix B. A list of all AAF ICD-10 codes is shown in Table 6 below.</td>
</tr>
<tr>
<td><strong>‘Specific’ or ‘attributable’</strong></td>
<td>‘Alcohol-specific conditions’ are commonly defined as those conditions, such as alcoholic liver disease, which are 100 per cent attributable to the use of alcohol. However, alcohol also plays a role</td>
</tr>
</tbody>
</table>

---


in a wider range of 'alcohol-attributable conditions'. For example, it is estimated that alcohol plays a causative role in 25–33 per cent of cardiac arrhythmias, with the proportion varying by sex and age\(^\text{42}\). Some external cause codes also have an alcohol-attributable fraction: it has been estimated that 27 per cent of assaults are alcohol-related\(^\text{42}\). As described above, Alcohol-attributable fractions (AAF), describing the causative contribution accounted for by alcohol across the population have been calculated for a range of conditions and NWIS has used these fractions to produce figures for alcohol-attributable admissions which are presented in this report. ‘Alcohol-attributable conditions’ includes all ‘alcohol-specific conditions’, since these are by definition 100 per cent caused by alcohol. A list of all AAF ICD-10 codes is shown in Table 6 below.

| Diagnostic position | Records can be counted if they include any relevant code in the primary diagnostic position or if they include any relevant code in any (primary or secondary) diagnostic position. When considering alcohol-specific conditions (see above) the measure most frequently used is admissions with an alcohol related condition in any position (\textit{any position}); however, figures for admissions with an alcohol related condition in the primary position are also occasionally cited (\textit{primary position}).

| Diagnostic position | The methods for producing figures for alcohol-attributable conditions (see above) also involve calculating measures based on primary and secondary diagnosis; however, there are a number of differences between these calculations and those used to produce alcohol-specific figures. A ‘narrow measure’ includes all records in which the primary diagnosis was an alcohol-attributable condition, OR any secondary diagnosis was an ‘external cause’ (see Table 6 and Table 9). A ‘broad measure’ includes all records in which any alcohol-attributable condition appeared in any diagnostic position. In both cases, where more than one alcohol-attributable condition appears in the record, the condition with the highest alcohol-attributable fraction is selected.

| Diagnostic position | Also, see below for interactions between diagnostic position and person/episode-based figures.

Figures can be calculated for the number of individuals admitted (‘person-based’) or for the total number of admissions (‘admission-based’), bearing in mind that some individuals will be admitted more than once in a given time period. Person based measures may offer a more useful picture of the health of the population; admission-based figures may be more relevant when considering the burden that particular conditions place on services. In general, this report uses person-based measures.

Following the conventions adopted by Public Health England, Public Health Wales counts person-based substance misuse admissions on the basis of a relevant ICD-10 code appearing for any episode of the spell. For admission-based figures, only admissions for which the relevant condition appears in the record for the admitting episode are included.

There is a wide range of technical considerations relating to the development of measures over time and the methods of extracting and analyzing data. Where comparisons between Wales and England are described in this report, figures are considered comparable; however, there may be minor differences in how data are defined and processed. For a more detailed discussion on how alcohol related admissions figures are produced for Wales, please see Public Health Wales Observatory (2014) Alcohol and health in Wales 2014, Technical Guide (http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/85c50756737f79ac80256f2700534ea3/65ed28d06e1f44fd80257d73002a4e75/$FILE/AlcoholAndHealthInWales_TechnicalGuide_v2a.pdf)


The most recent ICD-10 codes for alcohol-specific and alcohol-attributable conditions were published in 2013 and are set out in Table 6. Note that updated codes in the 2013 edition of the Alcohol-attributable Fractions added seven codes to the alcohol-specific set of codes set out in the previous (2008) edition which was used for previous versions of this report. These codes, noted in Table 3, together accounted for 250 admissions with an alcohol-specific diagnosis in any position in 2013-14, 1.6 per cent of the total.

**Table 6: ICD-10 codes for alcohol-specific and alcohol-attributable conditions, as defined by the Alcohol-attributable Fractions (2013)**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol-specific conditions (100 per cent caused by alcohol)</td>
<td></td>
</tr>
<tr>
<td>Condition</td>
<td>Code</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Alcohol-induced pseudo-Cushing's syndrome</td>
<td>E24.4</td>
</tr>
<tr>
<td>Mental and behavioural disorders due to use of alcohol</td>
<td>F10</td>
</tr>
<tr>
<td>Degenerative nervous system due to alcohol</td>
<td>G31.2</td>
</tr>
<tr>
<td>Alcoholic polyneuropathy</td>
<td>G62.1</td>
</tr>
<tr>
<td>Alcoholic myopathy</td>
<td>G72.1</td>
</tr>
<tr>
<td>Alcoholic cardiomyopathy</td>
<td>I42.6</td>
</tr>
<tr>
<td>Alcoholic gastritis</td>
<td>K29.2</td>
</tr>
<tr>
<td>Alcoholic liver disease</td>
<td>K70</td>
</tr>
<tr>
<td>Alcohol-induced acute pancreatitis*</td>
<td>K85.2*</td>
</tr>
<tr>
<td>Alcohol-induced chronic pancreatitis</td>
<td>K86.0</td>
</tr>
<tr>
<td>Foetal alcohol syndrome (dysmorphic)*</td>
<td>Q86.0*</td>
</tr>
<tr>
<td>Excess alcohol blood levels*</td>
<td>R78.0*</td>
</tr>
<tr>
<td>Ethanol poisoning</td>
<td>T51.0</td>
</tr>
<tr>
<td>Methanol poisoning</td>
<td>T51.1</td>
</tr>
<tr>
<td>Toxic effect of alcohol, unspecified</td>
<td>T51.9</td>
</tr>
<tr>
<td>Accidental poisoning by and exposure to alcohol</td>
<td>X45</td>
</tr>
<tr>
<td>Intentional self-poisoning by and exposure to alcohol*</td>
<td>X65</td>
</tr>
<tr>
<td>Poisoning by and exposure to alcohol, undetermined intent*</td>
<td>Y15</td>
</tr>
<tr>
<td>Evidence of alcohol involvement determined by blood alcohol</td>
<td>Y90</td>
</tr>
<tr>
<td>Evidence of alcohol involvement determined by level of</td>
<td>Y91</td>
</tr>
</tbody>
</table>

*Codes added to list of alcohol-specific conditions in 2013*

<table>
<thead>
<tr>
<th>Partially alcohol-attributable conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic conditions</td>
</tr>
<tr>
<td>Infectious and parasitic diseases</td>
</tr>
<tr>
<td>Tuberculosis</td>
</tr>
<tr>
<td>Malignant neoplasm</td>
</tr>
<tr>
<td>Malignant neoplasm of lip, oral cavity and pharynx</td>
</tr>
<tr>
<td>Malignant neoplasm of oesophagus</td>
</tr>
<tr>
<td>Malignant neoplasm of colorectal</td>
</tr>
<tr>
<td>Malignant neoplasm of liver and intrahepatic bile ducts</td>
</tr>
<tr>
<td>Malignant neoplasm of larynx</td>
</tr>
<tr>
<td>Malignant neoplasm of breast</td>
</tr>
<tr>
<td>Diseases of the nervous system</td>
</tr>
<tr>
<td>Epilepsy and Status epilepticus</td>
</tr>
<tr>
<td>Cardiovascular disease</td>
</tr>
<tr>
<td>Hypertensive diseases</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
</tr>
</tbody>
</table>
Cardiac arrhythmias 147-148
Haemorrhagic stroke I60-I62, I69.0-I69.2
Ischaemic stroke I63-I66, I69.3-I69.4
Oesophageal varices I85

**Respiratory infections**

Pneumonia J10.0, J11.0, J12-J15, J18

**Digestive disease**

Unspecified liver disease K73, K74
Cholelithiasis (gall stones) K80
Acute and chronic pancreatitis K85, K86.1

**Pregnancy and childbirth**

Spontaneous abortion O03
Low birth weight P05-P07

**Acute conditions**

**Unintentional injuries**

Road/pedestrian traffic accidents *
Poisoning X40-X49
Fall injuries W00-W19
Fire injuries X00-X09
Drowning W65-W74
Other unintentional injuries *

**Intentional injuries**

Intentional self-harm X60-X84, Y87.0
Event of undetermined intent Y10-Y34, Y87.2
Assault X85-Y09, Y87.1

In addition to reporting on numbers and rates for all alcohol-specific and alcohol-attributable conditions, this report also reports on three subcategories of alcohol related admissions: those related to foetal alcohol syndrome (FAS), foetal/maternal withdrawal from alcohol and other drugs of addiction and alcohol related brain damage (ARBD). The ICD-10 codes used to define these conditions in this report are shown in Table 7.

**Table 7: ICD-10 codes used to define foetal alcohol syndrome, maternal withdrawal from alcohol and drugs of addiction and alcohol related brain damage in this report**

<table>
<thead>
<tr>
<th>Conditions</th>
<th>ICD-10 codes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Of particular interest in analysis of morbidity and mortality arising from drug and alcohol use are the ICD-10 codes related to 'Mental and behavioural disorders due to psychoactive drug use', coded F10-F19. Each three-figure code (F10, F11, etc.) relates to a specific substance or class of substances. An additional, fourth figure may be added to provide further detail concerning the condition from which an individual may be suffering. The fourth character details are summarised in Table 8.

Table 8: Details of conditions denoted by the fourth character of ICD-10 codes beginning with ‘F’

<table>
<thead>
<tr>
<th>Fxx0</th>
<th>Acute intoxication</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A condition that follows the administration of a psychoactive substance resulting in disturbances in level of consciousness, cognition, perception, affect or behaviour, or other psycho-physiological functions and responses. The disturbances are directly related to the acute pharmacological effects of the substance and resolve with time, with complete recovery, except where tissue damage or other complications have arisen. Complications may include trauma, inhalation of vomitus, delirium, coma, convulsions, and other medical complications. The nature of these complications depends on the pharmacological class of substance and mode of administration.</td>
</tr>
<tr>
<td></td>
<td>Acute drunkenness in alcoholism</td>
</tr>
<tr>
<td></td>
<td>&quot;Bad trips&quot; (drugs) Drunkenness NOS Pathological intoxication</td>
</tr>
<tr>
<td></td>
<td>Trance and possession disorders in psychoactive substance intoxication</td>
</tr>
<tr>
<td></td>
<td><strong>Excludes:</strong> intoxication meaning poisoning</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fxx1</th>
<th>Harmful use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A pattern of psychoactive substance use that is causing damage to health. The</td>
</tr>
</tbody>
</table>
damage may be physical (as in cases of hepatitis from the self-administration of injected psychoactive substances) or mental (e.g. episodes of depressive disorder secondary to heavy consumption of alcohol).

**Psychoactive substance abuse**

<table>
<thead>
<tr>
<th>Fxx2</th>
<th><strong>Dependence syndrome</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A cluster of behavioural, cognitive, and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.</td>
</tr>
<tr>
<td></td>
<td>The dependence syndrome may be present for a specific psychoactive substance (e.g. tobacco, alcohol, or diazepam), for a class of substances (e.g. opioid drugs), or for a wider range of pharmacologically different psychoactive substances.</td>
</tr>
<tr>
<td></td>
<td>Chronic alcoholism</td>
</tr>
<tr>
<td></td>
<td>Dipsomania</td>
</tr>
<tr>
<td></td>
<td>Drug addiction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fxx3</th>
<th><strong>Withdrawal state</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A group of symptoms of variable clustering and severity occurring on absolute or relative withdrawal of a psychoactive substance after persistent use of that substance. The onset and course of the withdrawal state are time-limited and are related to the type of psychoactive substance and dose being used immediately before cessation or reduction of use. The withdrawal state may be complicated by convulsions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fxx4</th>
<th><strong>Withdrawal state with delirium</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A condition where the withdrawal state as defined in the common fourth character .3 is complicated by delirium as defined in F05. –. Convulsions may also occur. When organic factors are also considered to play a role in the etiology, the condition should be classified to F05.8.</td>
</tr>
<tr>
<td></td>
<td>Delirium tremens (alcohol-induced)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fxx5</th>
<th><strong>Psychotic disorder</strong></th>
</tr>
</thead>
</table>
A cluster of psychotic phenomena that occur during or following psychoactive substance use but that are not explained on the basis of acute intoxication alone and do not form part of a withdrawal state. The disorder is characterized by hallucinations (typically auditory, but often in more than one sensory modality), perceptual distortions, delusions (often of a paranoid or persecutory nature), psychomotor disturbances (excitement or stupor), and an abnormal affect, which may range from intense fear to ecstasy. The sensorium is usually clear but some degree of clouding of consciousness, though not severe confusion, may be present.

Alcoholic:

- hallucinosis
- jealousy
- paranoia

Excludes: alcohol- or other psychoactive substance-induced residual and late-onset psychotic disorder (F10–F19 with common fourth character .7)

<table>
<thead>
<tr>
<th>Fxx6</th>
<th>Amnesic syndrome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A syndrome associated with chronic prominent impairment of recent and remote memory. Immediate recall is usually preserved, and recent memory is characteristically more disturbed than remote memory. Disturbances of time sense and ordering of events are usually evident, as are difficulties in learning new material. Confabulation may be marked but is not invariably present. Other cognitive functions are usually relatively well preserved and amnesic defects are out of proportion to other disturbances.</td>
</tr>
<tr>
<td></td>
<td>Amnestic disorder, alcohol- or drug-induced Korsakov's psychosis or syndrome, alcohol- or other psychoactive substance-induced or unspecified</td>
</tr>
<tr>
<td></td>
<td>Excludes: nonalcoholic Korsakov's psychosis or syndrome (F04)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fxx7</th>
<th>Residual and late-onset psychotic disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A disorder in which alcohol- or psychoactive substance-induced changes of cognition, affect, personality, or behaviour persist beyond the period during which a direct psychoactive substance-related effect might reasonably be assumed to be operating. Onset of the disorder should be directly related to the use of the psychoactive substance. Cases in which initial onset of the state occurs later than episode(s) of such substance use should be coded here only where clear and strong evidence is available to attribute the state to the residual effect of the</td>
</tr>
</tbody>
</table>
psychoactive substance. Flashbacks may be distinguished from psychotic state partly by their episodic nature, frequently of very short duration, and by their duplication of previous alcohol- or other psychoactive substance-related experiences.

Alcoholic dementia NOS

Chronic alcoholic brain syndrome

Dementia and other milder forms of persisting impairment of cognitive functions

Flashbacks

Late-onset psychoactive substance-induced psychotic disorder

Post hallucinogen perception disorder

Residual:

· affective disorder

· disorder of personality and behaviour

*Excludes*: alcohol- or psychoactive substance-induced:

· Korsakow's syndrome ([F10–F19](#) with common fourth character .6)

· psychotic state ([F10–F19](#) with common fourth character .5)

<table>
<thead>
<tr>
<th>Fxx8</th>
<th>Other mental and behavioural disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fxx9</td>
<td>Unspecified mental and behavioural disorder</td>
</tr>
</tbody>
</table>
Appendix B: Alcohol related deaths – definitions

As described in Appendix A, there are two sets of figures available to describe alcohol related deaths, one used by Public Health England (the Alcohol-attributable Fractions, AAF) and one produced by the Office for National Statistics (ONS). Both methodologies define an ‘alcohol related death’ in terms of the ‘underlying cause’ (i.e. the cause which was identified by the attending doctor as having initiated the sequence of events that led to death) and do not consider the impact of other alcohol related conditions that may be mentioned on the death record. Both methodologies can be used to produce ‘alcohol-specific’ figures (i.e. including those conditions which are entirely attributable to alcohol – see Appendix A). As shown in Table 9, the ICD-10 codes (see Appendix A) used to define each set of ‘alcohol-specific’ figures overlap considerably, but are not identical.

Table 9: Conditions used to calculate alcohol related deaths, Alcohol-attributable Fractions and Office for National Statistics definitions. Note that the AAF conditions used to define alcohol-specific deaths are identical to those used to define alcohol-specific hospital admissions

<table>
<thead>
<tr>
<th>Condition</th>
<th>ICD-10 Code</th>
<th>Included in ONS definition?</th>
<th>Included in ONS Alcohol specific definition?</th>
<th>Included in AAF definition?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol-induced pseudo-Cushing's syndrome</td>
<td>E24.4</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mental and behavioural disorders due to use of alcohol</td>
<td>F10*</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Degeneration of nervous system due to alcohol</td>
<td>G31.2</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Alcoholic polyneuropathy</td>
<td>G62.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Alcoholic myopathy</td>
<td>G72.1</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcoholic cardiomyopathy</td>
<td>I42.6</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Alcoholic gastritis</td>
<td>K29.2</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Alcoholic liver disease</td>
<td>K70*</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Chronic hepatitis not elsewhere classified</td>
<td>K73*</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition</td>
<td>Code</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>--------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Fibrosis and cirrhosis of liver (Excluding K74.3-K74.5 - Biliary cirrhosis)</td>
<td>K74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol-induced acute pancreatitis</td>
<td>K85.2</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>Alcohol-induced chronic pancreatitis</td>
<td>K86.0</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>Foetal alcohol syndrome (dysmorphic)</td>
<td>Q86.0</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>Excess alcohol blood levels</td>
<td>R78.0</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>Ethanol poisoning</td>
<td>T51.0</td>
<td></td>
<td></td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>Methanol poisoning</td>
<td>T51.1</td>
<td></td>
<td></td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>Toxic effect of alcohol, unspecified</td>
<td>T51.9</td>
<td></td>
<td></td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>Accidental poisoning by and exposure to alcohol</td>
<td>X45*</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>Intentional self-poisoning by and exposure to alcohol</td>
<td>X65*</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>Poisoning by and exposure to alcohol, undetermined intent</td>
<td>Y15*</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>Evidence of alcohol involvement determined by blood alcohol level</td>
<td>Y90</td>
<td></td>
<td></td>
<td>(\checkmark)</td>
</tr>
<tr>
<td>Evidence of alcohol involvement determined by level of intoxication</td>
<td>Y91</td>
<td></td>
<td></td>
<td>(\checkmark)</td>
</tr>
</tbody>
</table>

*includes all four character codes falling under this three character code

In addition to alcohol-specific mortality, the AAF methodology can be used to produce figures for ‘alcohol-attributable’ mortality. As described in detail in Appendix A, figures for ‘alcohol-attributable’ conditions reflect the fact that alcohol is implicated in a proportion of a range of medical conditions when considered across the entire population. NWIS uses the AAF methodology used to produce figures for alcohol-attributable mortality in Wales.
More detailed descriptions of the methodologies underlying these methods of producing alcohol related mortality figures can be found for the ONS at:


(http://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/methodologies/userguidetomortalitystatistics)

And for Alcohol-attributable Fractions at:

(http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/85c50756737f79ac80256f2700534ea3/65ed28d06e1f44fd80257d73002a4e75/$FILE/AlcoholAndHealthInWales_TechnicalGuide_v2a.pdf)


Issues of comparability and consistency, both over time and between geographies, mean that both sets of figures are used.
Appendix C: Hospital admissions for poisoning by illicit drugs – definitions

For details of the different ways to measure hospital admissions for substance misuse in general, see Appendix A. This Appendix deals specifically with the different ICD-10 codes (see Appendix A) that are used to produce figures for poisoning by illicit drugs that appear in this report.

ICD-10 codes for illicit drugs are found in a number of different categories across the coding system. A number of different methodologies have been used to identify hospital admission records related to the use of specific drugs and also to provide headline figures that can be meaningfully compared over different time periods and geographies.

The ICD-10 codes used to define hospital admissions related to illicit drugs in this report are shown in Table 10. Table 10 groups codes by substance and also presents the definitions used by NHS Digital, which produces comparable statistics for England.

Table 10: ICD-10 codes used to define hospital admissions for poisoning by illicit drugs in the primary position. Full details of ICD-10 codes can be found at: http://apps.who.int/classifications/icd10/browse/2010/en

<table>
<thead>
<tr>
<th>Measure</th>
<th>ICD-10 codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any illicit drug use</td>
<td>F11-F16, F18, F19, T40, T424, T436</td>
</tr>
<tr>
<td>Any mental/behavioural condition (NHS Digital definition)</td>
<td>F11-16, F18, F19</td>
</tr>
<tr>
<td>Any poisoning by illicit drugs (NHS Digital definition)</td>
<td>T400-T403, T405-T409, T436</td>
</tr>
<tr>
<td>Opioids</td>
<td>F11, T400-T403</td>
</tr>
<tr>
<td>(Note that although T404 includes opioids such as pethidine and tramadol which may be used illicitly, this code has been excluded in line with current NHS Digital methodology. This exclusion may be reviewed in future years.)</td>
<td></td>
</tr>
<tr>
<td>Cannabinoids</td>
<td>F12, T407</td>
</tr>
<tr>
<td>Sedatives and hypnotics</td>
<td>F13, T408, T409</td>
</tr>
<tr>
<td>Cocaine</td>
<td>F14, T405</td>
</tr>
<tr>
<td>Other stimulants</td>
<td>F15, T436</td>
</tr>
<tr>
<td>Multiple drug use</td>
<td>F19</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>T424</td>
</tr>
</tbody>
</table>
Appendix D: Drug related deaths - definitions

The figures for drug related deaths presented in this report are taken from data gathered by the Office for National Statistics (ONS). For details of how mortality data are gathered by the ONS see Appendix B. The ONS reports two measures of drug related death. ‘Deaths related to drug poisoning’ includes all deaths in which the underlying cause references an ICD-10 related to both legal and illegal drugs (not including alcohol and tobacco). ‘Deaths related to drug misuse’ is the subset of drug poisoning deaths which includes all deaths in which ICD-10 codes F11–F16 and F18–19 (i.e. those codes which specifically refer to illicit drugs) and the remaining deaths coded as drug poisoning where an illicit drug was mentioned on the death record. The ICD-10 codes used by the ONS to define drug related deaths are shown in Table 7.

‘Illicit drugs’ are defined in terms of the 1971 Misuse of Drugs Act, which may be amended by the Home Secretary to add or remove drugs. For the 2013 figures for deaths from drug misuse, the ONS used a list of ‘illicit drugs’ that contained 20 newly controlled drugs compared to the previous year. The ONS also recalculated the figures for deaths from drug misuse for previous years. This new methodology changed the number of deaths in Wales that are considered to be caused by drug misuse. For example, for 2012 the number of deaths rose from 131 using the old methodology to 135. Therefore, figures presented in this report may differ from figures presented in previous reports. A list of substances added to the definition of ‘illicit drugs’ for the ONS report on drug related deaths in 2013 is given in Table 8.

Table 11: ICD-10 codes used by the ONS to define ‘drug related deaths’.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>All deaths in which the following conditions are noted as the underlying cause</td>
<td></td>
</tr>
<tr>
<td>Mental and behavioural disorders due to opioids, cocaine, sedatives or hypnotics, cocaine, other stimulants including caffeine, hallucinogens, multiple drug use</td>
<td>F11–F16, F19</td>
</tr>
<tr>
<td>All deaths in which the following conditions are noted as the underlying cause AND a drug controlled by the 1971 Misuse of Drugs Act is noted on the death record</td>
<td></td>
</tr>
<tr>
<td>Mental and behavioural disorders due to volatile solvents</td>
<td>F18</td>
</tr>
<tr>
<td>Accidental poisoning by drugs, medicaments and biological substances</td>
<td>X40–X44</td>
</tr>
<tr>
<td>Intentional self-poisoning by drugs, medicaments and biological substances</td>
<td>X60–X64</td>
</tr>
<tr>
<td>Assault by drugs, medicaments and biological substances</td>
<td>X85</td>
</tr>
</tbody>
</table>
Poisoning by drugs, medicaments and biological substances, undetermined intent


As described above, the term “new psychoactive substances” has been legally defined by the European Union as a new narcotic or psychotropic drug, in pure form or in preparation, that is not scheduled under the Single Convention on Narcotic Drugs of 1961 or the Convention on Psychotropic Substances of 1971, but which may pose a public health threat comparable to that posed by substances listed in those conventions. (Council of the European Union decision 2005/387/JHA). In 2016, the Office for National Statistics published a list of substances mentioned on death certificates in England and Wales. These substances are listed in Table 12.

Table 12: Substances listed by the Office for National Statistics as ‘new psychoactive substances’

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(Benzofuran-6-yl)-propan-2-amine</td>
<td>GHB</td>
</tr>
<tr>
<td>2-(1H-Indol-5-yl)-1-methylethylamine</td>
<td>Khat</td>
</tr>
<tr>
<td>4-Fluoroephedrine</td>
<td>Legal high</td>
</tr>
<tr>
<td>4-Fluoromethcathinone</td>
<td>Mephedrone</td>
</tr>
<tr>
<td>4-Methylenedioxypyrovalerone</td>
<td>Desoxypipradrol</td>
</tr>
<tr>
<td>4-Methylamphetamine</td>
<td>Methiopropamine</td>
</tr>
<tr>
<td>4-Methylmethcathinone</td>
<td>Methoxetamine</td>
</tr>
<tr>
<td>Alpha-methyltryptamine</td>
<td>Methyleneoxytocopherine</td>
</tr>
<tr>
<td>BZP</td>
<td>Methyldone</td>
</tr>
<tr>
<td>Cathinone</td>
<td>Synthetic cannabinoid</td>
</tr>
<tr>
<td>Fluoromethcathinone</td>
<td>TFMPP</td>
</tr>
</tbody>
</table>
Appendix E: Confidence intervals

The following description and definition of Confidence Intervals as they are used in public health is taken from the Association of Public Health Observatories Technical Briefing 3.\textsuperscript{43}

Confidence intervals

A confidence interval is a range of values that is used to quantify the imprecision in the estimate of a particular value. Specifically, it quantifies the imprecision that results from random variation in the estimation of the value; it does not include imprecision resulting from systematic error (bias).

In many studies the source of this random variation is sampling. Even in the best designed studies there will be random differences between the particular sample group selected and the overall target population of inference.

Any measurement taken from the sample group therefore provides an imprecise estimate of the true population value. In public health many indicators are based on what can be considered to be complete data sets and not samples, e.g. mortality rates based on death registers. In these instances, the imprecision arises not as a result of sampling variation but of ‘natural’ variation. The indicator is considered to be the outcome of a stochastic process, i.e. one which can be influenced by the random occurrences that are inherent in the world around us. In such instances the value actually observed is only one of the set that could occur under the same circumstances. Generally, in public health, it is the underlying circumstances or process that is of interest and the actual value observed gives only an imprecise estimate of this ‘underlying risk’.

The width of the confidence interval depends on three things:

- The sample size from which the estimate is derived (or population size if derived from a complete data set). Larger samples give more precise estimates with smaller confidence intervals.
- The degree of variability in the phenomenon being measured. Fortunately, observed phenomena often are known, or assumed, to follow certain probability distributions, such as the Poisson or Binomial. This allows us to express the amount of variability mathematically and build it into the confidence interval formulae.
- The required level of confidence – this is an arbitrary value set by the analyst giving the desired probability that the interval includes the true value. In medicine and public health, the conventional practice is to use 95 per cent confidence but it is not uncommon to see alternatives. Within the APHO community 99.8 per cent confidence intervals are increasingly being used alongside 95 per cent intervals to reflect the

control limits used in Statistical Process Control approaches. Increasing the level of confidence results in wider limits. For a given level of confidence, the wider the confidence interval, the greater the uncertainty in the estimate.
Appendix F: Calculating population rates of hospital admission, mortality and other public health indicators

The following description and definition of how population rates are calculated and used in public health has been adapted from the Association of Public Health Observatories Technical Briefing 3:

The most basic measure used in public health is a count of events such as deaths or admissions to hospital. However, to properly investigate the distribution of disease and risk factors and to make comparisons between different populations, the population at risk in which the count was observed must also be taken into consideration. Dividing the count of events by the population at risk and multiplying by a given number (for example, 100,000) gives a ‘crude rate’ of these events within a population that can be compared between areas which may have very different population sizes. In particular, disease and mortality rates may vary widely by age. Such variation complicates any comparisons made between two populations that have different age structures. For example, consider two areas A and B with equal-sized populations and identical crude all-age death rates. At first glance they appear to have a similar mortality experience.

Suppose, however, that area A has a younger age structure than area B. Given that mortality rates increase with age, one would expect the older population in area B to experience more deaths. The fact that the two have identical rates means that the younger population in area A must have a relatively worse mortality experience.

The most comprehensive way of comparing the disease experience of two populations is to present and compare their age-specific rates. However, when the number of populations being compared increases, the volume of data that needs to be considered quickly becomes unmanageable. What is needed is a single, easily interpreted, summary figure for each population that is adjusted to take into account its age structure. Such summary figures are calculated using age standardisation methods.

One method of calculating a summary figure is ‘direct standardisation’. The age-specific rates of the subject population are applied to the age structure of the standard population. This gives the overall rate that would have occurred in the subject population if it had the standard age-profile.

The European Standard Population (ESP) is often used for direct standardisation. This is a hypothetical population structure which does not change and is the same for both sexes. This report uses the 2013 ESP, published by Eurostat. Detailed information and guidance on the 2013 ESP has been published by the UK’s Office for National Statistics and can be found here: http://www.ons.gov.uk/ons/guide-method/user-guidance/health-and-life-events/revised-european-standard-population-2013--2013-esp/-index.html.

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Appendix G: Problem drug use: definitions and estimations of prevalence

‘Problem drug use’ (PDU) is an indicator reported by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) on the basis of national reports. The definition of PDU used for the estimates presented in this report is ‘injecting drug use or long duration/regular use of opioids, cocaine and/or amphetamines’. This definition specifically includes regular or long-term use of prescribed opioids such as methadone but does not include their rare or irregular use nor the use of other drugs, such as ecstasy or cannabis\(^45\).

Estimating the prevalence of PDU presents considerable challenges, since a substantial proportion of those engaging in what is a heavily socially stigmatised activity may not be known to any services and therefore there may be no record of their use available. To address these issues a number of statistical techniques have been developed. The figures described in this report were derived from a study using the ‘capture–recapture’ method, a well-established approach that has been used to generate previous PDU estimates for Wales and the UK. Capture–recapture methods involve modelling interactions between datasets containing the substance misuse population that is ‘visible’ to health, treatment or criminal justice services to generate statistical estimates for the ‘hidden’ population who are not in contact with any service. The source datasets used were records of police arrests, engagement with drug intervention programmes managed by probation services, assessments by substance misuse treatment, hospital admissions and accessing statutory, voluntary and pharmacy needle and syringe programmes (NSPs). Estimates of PDU for Wales prior to those presented in last year’s report have used three data sets (police arrests, probation assessment and treatment referrals) and are therefore not comparable to the estimates presented in this report.

The traditional statistical method to estimate how many drug users have not been ‘captured’ on any database is via the use of loglinear analyses, a technique which typically fits a series of different models to the data. The model deemed optimal via some criteria is used to obtain a ‘maximum likelihood’ estimate of ‘uncaptured’ drug users.

Whilst this approach is still used by many researchers, there is current debate within the field of drug misuse estimation over the possibility that recently developed Bayesian techniques for population estimation, which calculate an estimate of the uncaptured drug users using an average across all models, and thus formally accounting for model uncertainty within the population estimate\(^46\). The

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figures presented in this report are those derived from applying Bayesian techniques to the data.