GIG CYMRU NHS WALES | Iechyd Cyhoeddus Cymru Public Health Wales

Data mining Wales:

The annual profile for substance misuse

2023/24

Annual statistical report on alcohol and drug use from health, social care, education, and criminal justice services datasets in Wales

About Public Health Wales

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 inequities, and prevent or reduce communicable and non-communicable disease, wider harms and premature death related to drugs and alcohol use and related risk behaviours.

Substance Misuse Programme

Public Health Wales

Number 2 Capital Quarter

Tyndall Street

Cardiff

CF10 4BZ

Authors: Savannah King and Rick Lines
With special thanks to Elizabeth Walsh (DHCW) and colleagues in the Office for National Statistics.

Published by Public Health Wales, Cardiff, UK.

Contents

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 Digital Health and Care Wales, Harm Reduction Database (HRD) Wales, 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 adults. 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 adults (aged 50 years and above) and, where data is available, provide a geographic profile by health board and local authority. It is hoped that 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, as well as those with a broader interest in substance misuse, wider social determinants and implications.

The data presented here for 2021-22 should not be interpreted as part of ongoing trend analysis given the substantial disruptions to routine services that occurred during the COVID-19 pandemic and is therefore reflective of the challenges faced by all health, social care, and criminal just services and the individuals using them. More generally, one single year's data should not be used to deduce or infer any real changes within the population who use substances.

2 Executive Summary

Population level trends

- Over twice as many individuals were admitted to hospital for alcohol-specific conditions than for illicit drug use in 2023/24, though both have continued to decrease in the previous year. The number of admissions for alcohol-specific conditions decreased by 3.1 per cent and admissions related to illicit drug use decreased by 10.6 per cent in the last year
- Opioids remain the substance group associated with the highest number of hospital admissions for illicit drugs, though this has decreased in the previous year
- Over the last five years, psychiatric admissions have decreased by 53.7 per cent for alcohol-specific conditions and by 46.9 per cent for conditions related to illicit drugs
- The proportion of all patients admitted for alcohol-specific conditions living in the most deprived areas was 2.8 times higher than those from the least deprived areas. In relation to illicit drug use, patients admitted were 6.4 times higher
- The number of unique individuals assessed within specialist substance misuse services in Wales decreased by 7.4 per cent from the previous and are now 11.5 per cent lower than 2019/20. Of all assessments, 46.3 per cent were primary problematic alcohol clients, 43.5 per cent were primary problematic drug clients, and the remaining 10.2 per cent did not have a substance recorded
- Deaths from drug misuse registered in 2023 rose substantially to 253 deaths, an increase of 18.6 per cent from the previous year and the highest number of drug misuse deaths on record. Alcohol-specific death registrations also increased to a new record-high reaching 562 deaths in 2023, an increase of 15.6 per cent since 2022

Children and young people (under 25 years)

- As of 31 March 2023, there were 5,190 children receiving care and support due to parental substance misuse, a slight increase from the previous year. The number of children receiving care and support whose own substance misuse was identified as a problem was 755, representing 4.3 per cent of all children receiving care and support. Both the number and proportion of children with own substance misuse have increased in the latest year
- The number of school exclusions relating to drugs or alcohol further increased in the 2022/23 academic year. There was a total of 939 of these school exclusions amongst school aged children, an increase of 8.1 per cent from 2021/22, the previous peak
- There were 333 admissions involving young people aged under 25 with an alcohol-specific condition in 2023/24, a decrease of 17.4 per cent

compared with 2022/23. There was a decrease of 8.6 per cent in admissions for illicit drugs (631 admissions) amongst this age cohort in the same year

- Among people who inject drugs regularly accessing Needle and Syringe Programmes (NSPs) in Wales in this age group, most reported IPED use (86.3 per cent)

Adults aged 25-49 years

- Amongst this age cohort, hospital admissions for alcohol-specific conditions and for illicit drug poisonings have decreased by 3.9 per cent and 12.7 per cent on the previous year, respectively
- Opioids continued to account for more hospital admissions than any other illicit substance group, though this gap is narrowing, representing 35.1 percent of admissions for illicit drugs in this age group
- IPEDs were the most frequently reported substance group (56.8 per cent) among individuals in this age group regularly accessing NSPs followed by opioids (38.0 per cent)
- Drug misuse deaths were highest in the 40-49 age category, accounting for 35.2 per cent of all drug misuse deaths (n=89) registered in 2023

Older adults, aged 50 years and above

- Individuals aged 50 and over accounted for 67.0 per cent of all those admitted to hospital for alcohol-specific conditions, and 29.8 per cent of all those admitted to hospital following illicit drug use in 2023/24. These proportions have remained relatively stable from the previous year
- Within specialist substance misuse services, alcohol was the most frequently presenting problematic substance, representing 66.4 per cent of assessments. This compares with 12.0 per cent of assessments where opioids were reported as the main substance of use. Assessments for alcohol and opioids have declined in the most recent year while assessments for cocaine and crack cocaine have increased by 28.3 per cent in this age cohort
- Individuals regularly accessing NSPs in this age cohort most commonly reported opioid use (47.1 per cent) followed by IPEDs (36.6 per cent)

3 Headline population trends

3.1 Alcohol-specific and illicit drug poisoning hospital admissions

Hospital admissions are a commonly used measure to assess 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 to C of this document.

Hospital admissions for alcohol-specific conditions and illicit drugs are shown by year in Chart 1. In 2023/24 there were:

- 3,850 hospital admissions related to illicit drugs involving 3,077 unique individuals
- 12,236 alcohol-specific admissions involving 8,147 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 35-39 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 2011/12, the most common age groups admitted for alcohol-specific admissions has been the over 50s. In 2023/24, those aged over 50 accounted for 66.2 per cent of all individuals admitted compared to 30.1 per cent in the 25-49 age group and 3.7 per cent in those aged under 25 years.

For person-based hospital admissions involving illicit drugs, in 2023/24, the most common age groups recorded were 25 – 49 year olds representing 53.1 per cent of all individuals admitted, with a further 29.6 per cent in the over 50 and the remaining 17.3 per cent were under 25 year olds. This age distribution remains relatively stable over time.

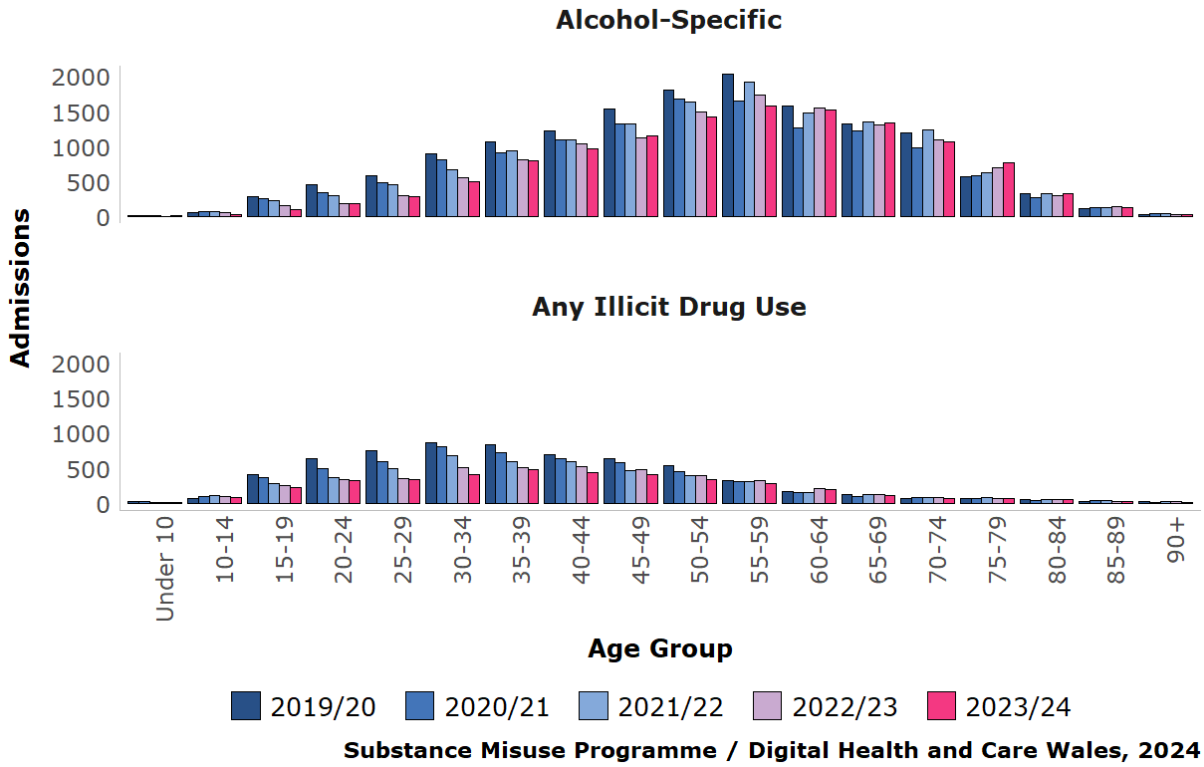


Chart 1: Hospital admissions for alcohol-specific conditions and illicit drugs, 2019/20 to 2023/24, by age quintile.

3.2 Alcohol related deaths and deaths from drug misuse

As in previous years, deaths from illicit drugs and alcohol show distinct age-peak patterns. In 2023, illicit drug deaths peaked in the 45-49 age groups and but within the 60-64 year age group for alcohol-specific deaths, 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 adults, 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.

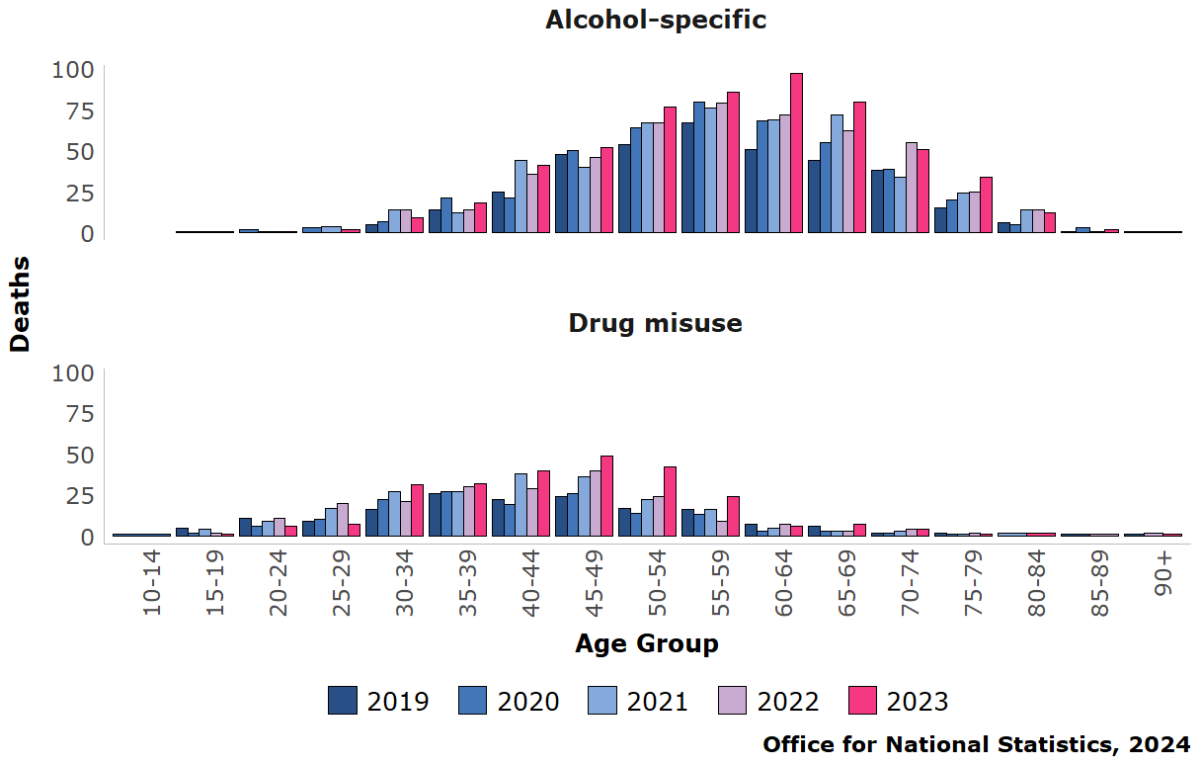


Chart 2: Deaths from drug misuse and alcohol-specific conditions, Wales, 2019-2023, by age quintile.

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 8,147 unique individuals admitted with an alcohol-specific condition in any diagnostic position in 2023/24, accounting for 12,236 admissions. The number of unique individuals admitted for alcohol-specific conditions has decreased by 17.8 per cent over the last 5 years.

The European age standardised rate (EASR) of alcohol-specific admissions was 258 persons per 100,000 population. The number of unique individuals admitted for an alcohol-attributable condition in 2023/24 was 32,789, remaining stable from the previous year. An alcohol-attributable condition was recorded in the primary position for 10,826 individuals.

Table 1: Hospital admissions related to alcohol amongst Welsh residents, by indicator, sex and years 2019/20 to 2023/24

	Sex	2019/20	2020/21	2021/22	2022/23	2023/24
Number of individuals admitted with an alcohol-specific condition in any diagnostic position	Persons	9,917	8,580	9,054	8,455	8,147
	Males	6,457	5,520	5,863	5,566	5,400
	Females	3,460	3,060	3,191	2,889	2,747
Number of hospital admissions with an alcohol-specific condition in any diagnostic position	Persons	15,145	13,146	13,849	12,624	12,236
	Males	9,946	8,559	9,022	8,362	8,124
	Females	5,199	4,587	4,827	4,262	4,112
Number of individuals admitted with an alcohol-attributable condition in any diagnostic position	Persons	36,583	28,450	32,782	32,720	32,789
	Males	23,499	18,355	21,042	21,036	21,094
	Females	13,084	10,095	11,740	11,684	11,695
Number of hospital admissions with an alcohol-attributable condition in any diagnostic position	Persons	58,107	44,987	52,655	52,134	52,177
	Males	37,743	29,251	34,132	33,657	33,835
	Females	20,364	15,736	18,523	18,477	18,342

Substance Misuse Programme / Digital Health and Care Wales, 2024

4.2 Alcohol related hospital admissions by local authority area of residence in Wales

There was considerable geographical variation in standardised rates (see Appendix F) of alcohol-specific hospital admissions across Wales as shown in Table 2. Merthyr Tydfil Local Authority area had the highest rate with 397 admissions per 100,000 population for alcohol-specific conditions. This is more than 2 times higher than the comparable rate recorded in Powys, the Local Authority with the lowest rates in Wales at 191 admissions per 100,000 population.

Over the last year, 15 of the 22 Local Authority areas have seen a decrease in rates of individuals admitted with an alcohol-specific condition. The greatest decrease was observed in Conwy and Denbighshire, each with a decrease of 27 per cent in 2023/24. However, an increase in rates of individuals admitted with an alcohol-specific condition was observed in 8 Local Authority areas, with the greatest increase being observed in Cardiff with an increase of 22 per cent. Figure 1 provides a visual representation of the European Age-standardised Rate (EASR) for alcohol-specific hospital admissions in 2023/24 by Local Authority area.

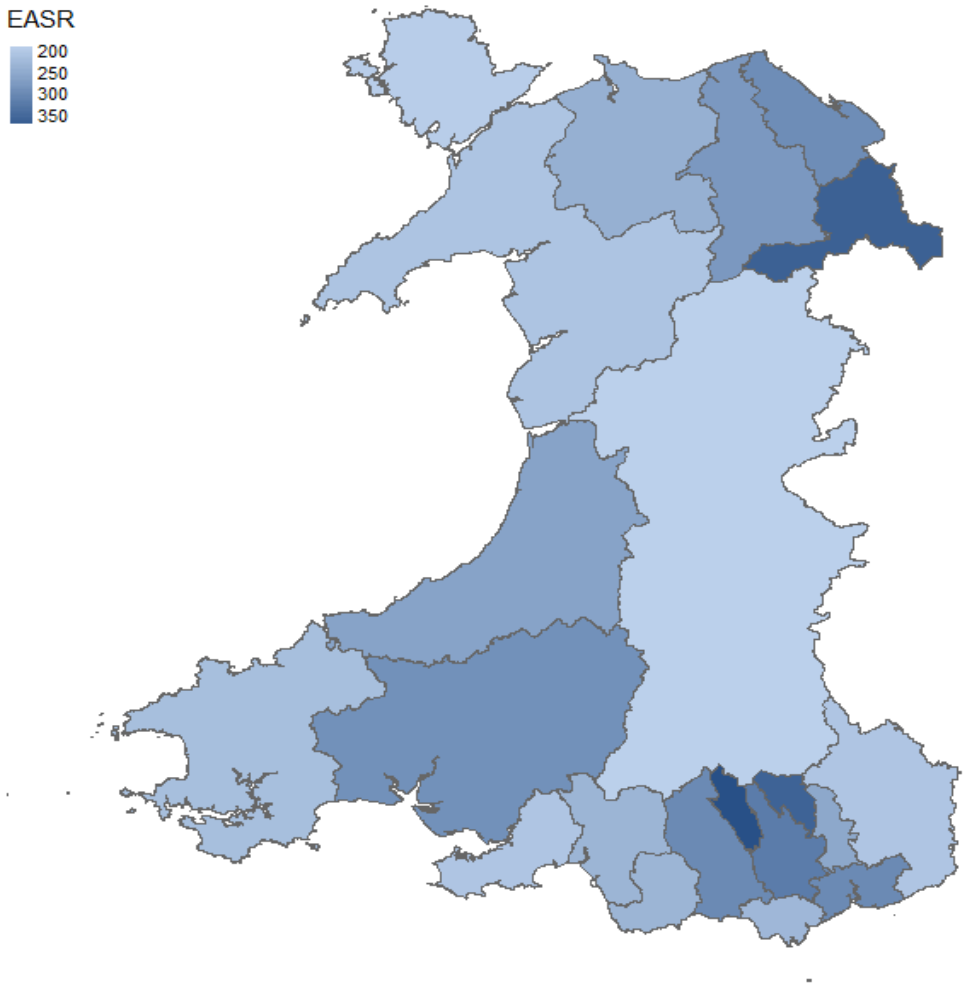


Figure 1: Hospital admissions for an alcohol-specific condition in any position, 2023/24, by Local Authority area, European Age Standardised Rate

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, 2023/24, by Local Authority area

Health Board	Local Authority	EASR per 100,000 population 2023/24	Change since 2022/23	Change since 2018/19
Aneurin Bevan	Blaenau Gwent	366	-9%	-31%
	Caerphilly	323	3%	-18%
	Monmouthshire	208	-7%	-28%
	Newport	302	2%	-25%
	Torfaen	255	-3%	-36%
Betsi Cadwaladr	Conwy	243	-27%	-38%
	Denbighshire	281	-27%	-32%
	Flintshire	297	-10%	-7%
	Gwynedd	211	-23%	-29%
	Isle of Anglesey	196	-22%	-38%
	Wrexham	367	-5%	11%
Cardiff and Vale	Cardiff	231	22%	-28%
	The Vale of Glamorgan	204	20%	-38%
Cwm Taf Morgannwg	Bridgend	235	11%	-18%
	Merthyr Tydfil	397	12%	-18%
	Rhondda Cynon Taf	300	-4%	-27%
Hywel Dda	Carmarthenshire	293	3%	-12%
	Ceredigion	264	3%	-4%
	Pembrokeshire	219	-7%	-28%
Powys	Powys	191	-4%	-32%
Swansea Bay	Neath Port Talbot	235	-3%	-29%
	Swansea	209	-24%	-35%
Wales	Wales	258	-5%	-25%

Substance Misuse Programme / Digital Health and Care Wales, 2024

Figure 2 and Table 3 show the EASR per 100,000 for alcohol-attributable admissions (person-based, broad measure) in 2023/24. Blaenau Gwent was the local authority area with the highest rate of alcohol-attributable admissions at 1,341 person-based admissions per 100,000 population and the lowest rate was recorded in the Vale of Glamorgan with 827 person-based admissions per 100,000 population.

Over the last year, 9 of the 22 Local Authority areas have seen a decrease in alcohol-attributable admissions. The highest proportionate rate decrease was observed in Conwy and Denbighshire, each with an 18 per cent decrease in the last year. Conversely, 13 of the remaining Local Authority areas have seen an

increase in alcohol-attributable admissions with an increase of 10 percent observed in Merthyr Tydfil, the Local Authority with the highest increase.

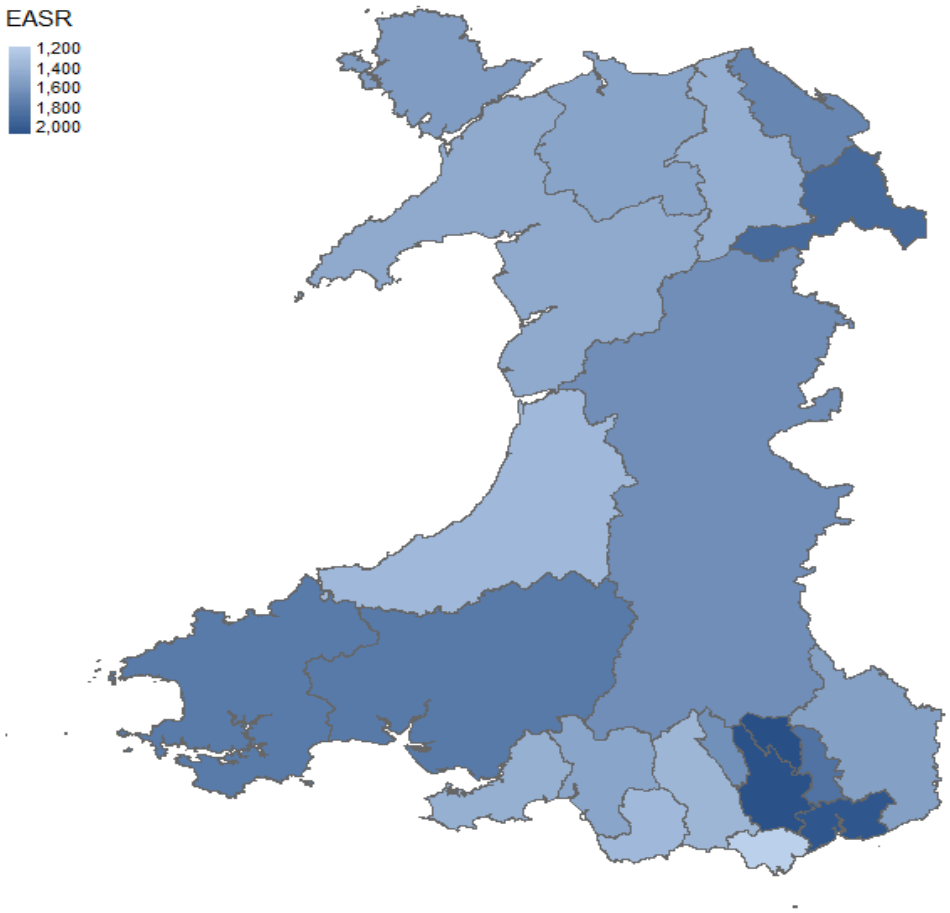


Figure 2: Alcohol-attributable hospital admissions, Individuals resident in Wales, episode based, broad measure, 2023/24, by Local Authority area, European Age Standardised Rate

Table 3: European Age Standardised Rate per 100,000 population for alcohol-attributable hospital admission for individuals resident in Wales, person based, broad measure, 2023/24, by Local Authority area.

Health Board	Local Authority	EASR per 100,000 population 2023/24	Change since 2022/23	Change since 2018/19
Aneurin Bevan	Blaenau Gwent	1,341	-1%	-16%
	Caerphilly	1,310	7%	-7%
	Monmouthshire	994	4%	-6%
	Newport	1,286	9%	-2%
	Torfaen	1,183	1%	-15%
Betsi Cadwaladr	Conwy	828	-18%	-28%
	Denbighshire	905	-18%	-27%
	Flintshire	1,020	-4%	-8%
	Gwynedd	832	-16%	-21%
	Isle of Anglesey	837	-17%	-21%
	Wrexham	1,152	0%	-1%
Cardiff and Vale	Cardiff	861	8%	-28%
	The Vale of Glamorgan	827	4%	-32%
Cwm Taf Morgannwg	Bridgend	979	4%	-18%
	Merthyr Tydfil	1,153	10%	-23%
	Rhondda Cynon Taf	983	-2%	-29%
Hywel Dda	Carmarthenshire	1,123	7%	-9%
	Ceredigion	913	3%	-14%
	Pembrokeshire	935	1%	-13%
Powys	Powys	998	1%	-15%
Swansea Bay	Neath Port Talbot	976	-5%	-20%
	Swansea	931	-6%	-21%
Wales	Wales	1,001	-1%	-18%

Substance Misuse Programme / Digital Health and Care Wales, 2024

5 Hospital admissions involving use of illicit drugs

5.1 Hospital admissions for poisonings with illicit drugs

Overall, the number of hospital admissions for poisonings with named illicit drugs has decreased by 10.6 per cent in the last year, from 4,347 in 2022/23 to 3,850 in 2023/24. Compared to 2019/20 there has been a 38.9 per cent decrease in illicit drug admissions. The number of unique individuals admitted for illicit drugs in 2023/24 was 3,077, a decrease of 10.8 per cent from 3,451 in 2022/23. The number of both males and females admitted has decreased over the last five years. The number of individuals (with available sex data) admitted to hospital for illicit drugs over the last nine years is shown in Chart 3.

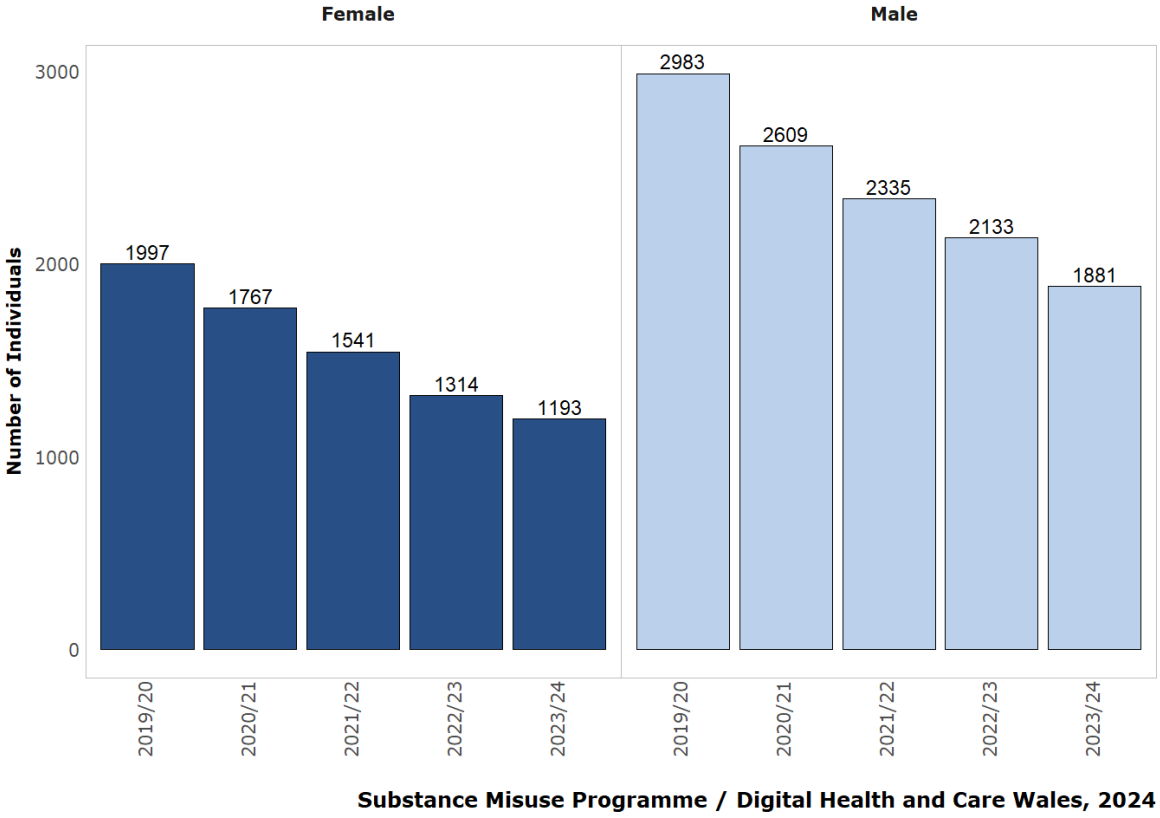


Chart 3: Individuals resident in Wales admitted to hospital with a condition related to illicit drugs, by year and sex 2019/20 to 2023/24

5.2 Hospital admissions for poisonings by substance type

As shown in Chart 4, the EASR per 100,000 population for hospital admissions related to illicit drugs has decreased over the last five years recording a new low of 127.4 hospital admissions for the year 2023/24. The EASR per 100,000 admissions for opioids decreased by 12.8 per cent in 2023/24 compared to the previous year. The EASR for admissions for each substance type has declined in the most recent year.

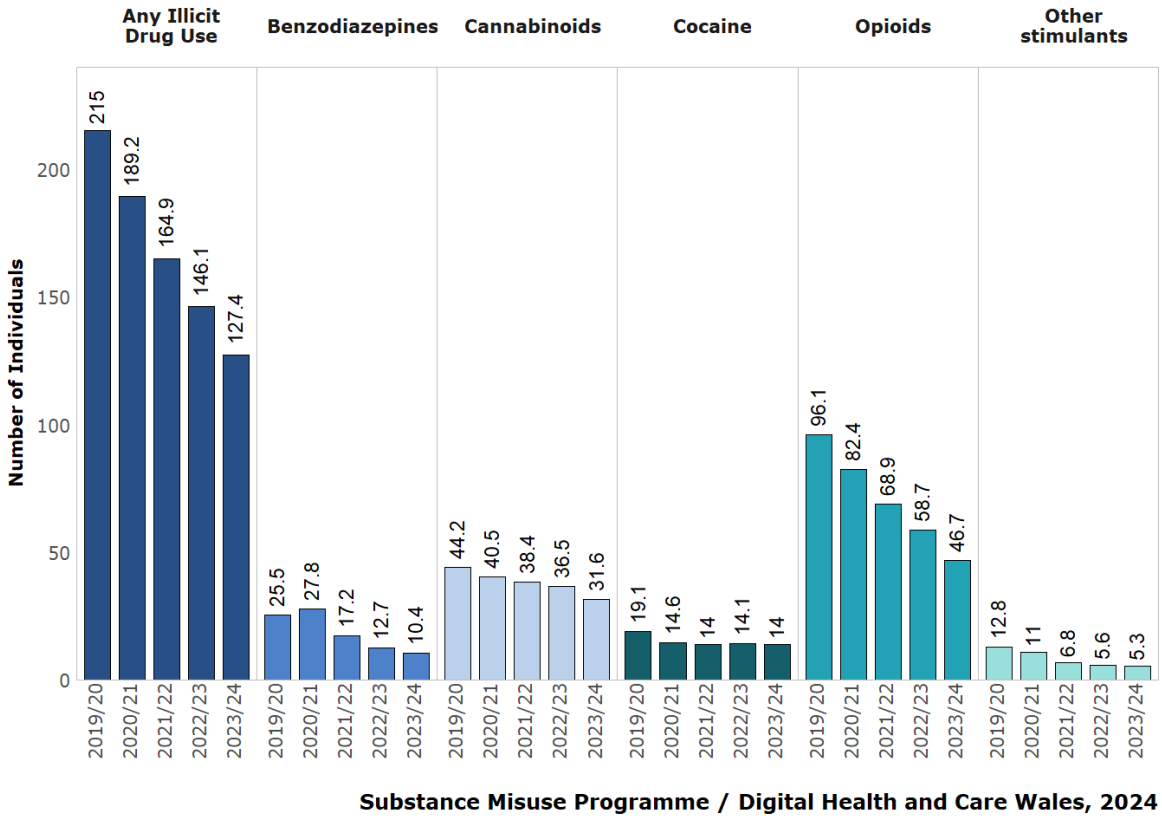


Chart 4: Hospital admissions related to illicit drugs, Welsh residents, European Age Standardised Rate per 100,000, by substance type 2019/20 to 2023/24

5.2.1 Opioids

Opioids remain the substance group related to the highest number of individuals admitted to hospital and the highest number of admissions for illicit drugs. In 2023/24, a total of 1,124 individuals were admitted, accounting for a total of 1,402 opioid related admissions, representing a decrease of 17.0 per cent and 19.2 per cent respectively on the previous year. The EASR for opioid related admissions in 2023/24 was 46.7 admissions per 100,000 population, 20.4 per cent lower than the rate recorded last year.

5.2.2 Cannabinoids

Cannabinoids are the second highest substance group with 961 hospital admissions in 2023/24 relating to 807 individuals admitted. There was a decrease of 12.4 per cent in the number of admissions compared to the previous year (1,097 admissions in 2022/23). The EASR for cannabinoid admissions was 31.6 per 100,000 population in 2023/24, continuing a steady decline over the last 5 years from 44.2 per 100,000 population in 2019/20.

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 incarcerated.[1] In addition, the EMCDDA have reported increases in the potency of both the resin and herb forms of cannabis over the last 10 years.[2]

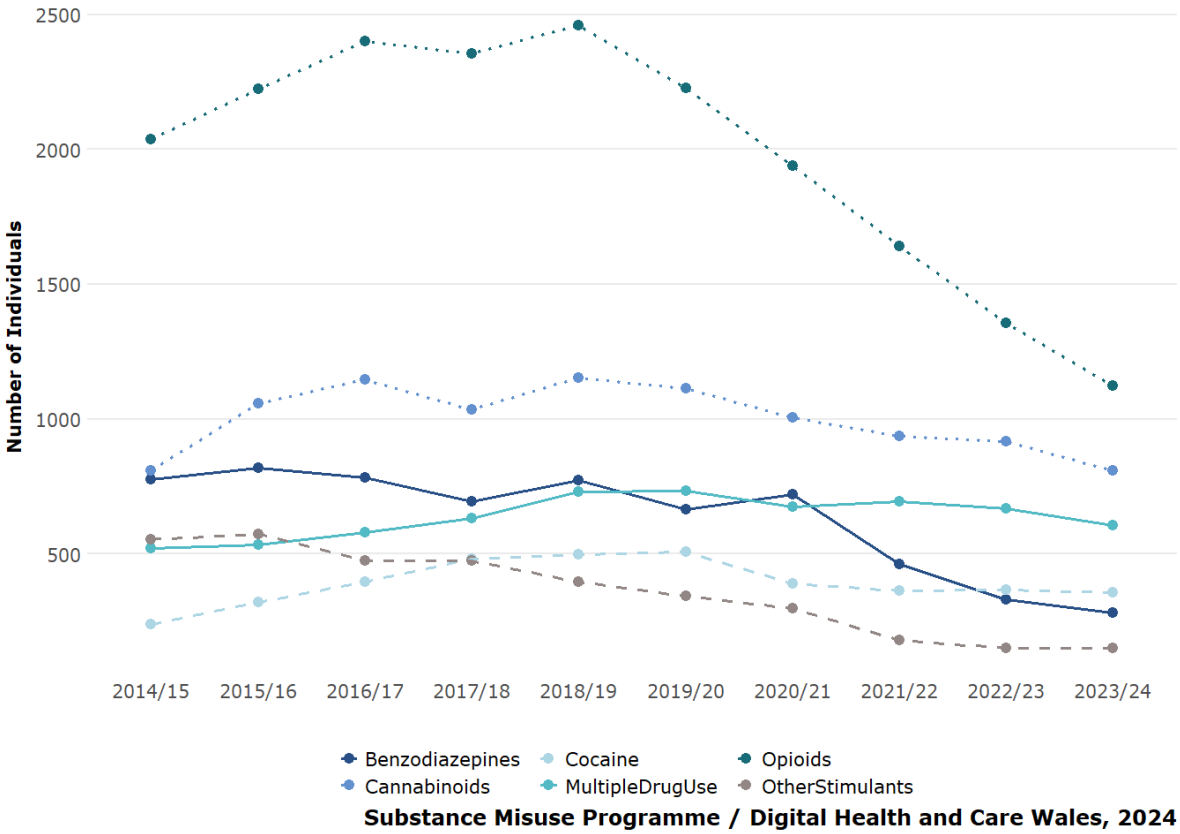


Chart 5: Individuals admitted to hospital for poisonings with named illicit drugs, Wales 2014/15 to 2023/24

5.2.3 Cocaine

In the past, the largest increases in hospital admissions for illicit drugs had involved cocaine, however, admissions have slightly decreased over the past five years, remaining relatively stable overall. In 2023/24 there were 414 cocaine related admissions involving 356 individuals. Between 2014/15 and 2019/20, the EASR increased from 9.1 to 19.1 admissions per 100,000 population, but has gradually declined since. The initial increase may be a result of increased availability and purity of both powdered and crack cocaine as detailed later in this report and evidenced by the EMCDDA.[3,4] The decrease in admissions since

[1] WEDINOS (2023) Philtre annual report, 2022-2023. Public Health Wales. Available at: https://www.wedinos.org/resources/downloads/Annual-Report-22-23-English.pdf
[2] EMCDDA 2019: European Drug Report – Trends and developments 2018. Available at: http://www.emcdda.europa.eu/emcdda-home-page_en
[3] EMCDDA 2019: European Drug Report – Trends and developments 2018. Available at: http://www.emcdda.europa.eu/emcdda-home-page_en
[4] See section 17

2020/21 follows a trend across almost all substance groups and may be attributed to service disruptions due to COVID-19.

5.2.4 Benzodiazepines

In 2023/24 there were 313 benzodiazepine related admissions involving 280 individuals. The EASR was 10.4 admissions per 100,000 population. Compared to last year there has been an 18.1 per cent decrease in the number of admissions related to benzodiazepines.

5.2.5 Other stimulants

In 2023/24, there were 165 hospital admissions involving 151 individuals. The number of admissions relating to the category 'other stimulants' remains approximately the same as the previous year, decreasing by only 1.0 per cent from 166 in 2022/23. Over the last five years, admissions related to 'other stimulants' have decreased by 22.2 per cent.

5.2.6 Multiple drug use

In 2023/24, there were 607 individuals admitted where multiple drugs were recorded, accounting for 19.7 per cent of all admissions for illicit drugs. The number of admissions in which multiple drugs were recorded have declined by 20.7 per cent since 2019/20.

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, Betsi Cadwaladr University Health Board (BCUHB) area has the highest EASR of admissions related to illicit drugs (169.6 per 100,000 population) and along with Aneurin Bevan and Cwm Taf Morgannwg University Health Boards, had rates above the Wales average in 2023/24.

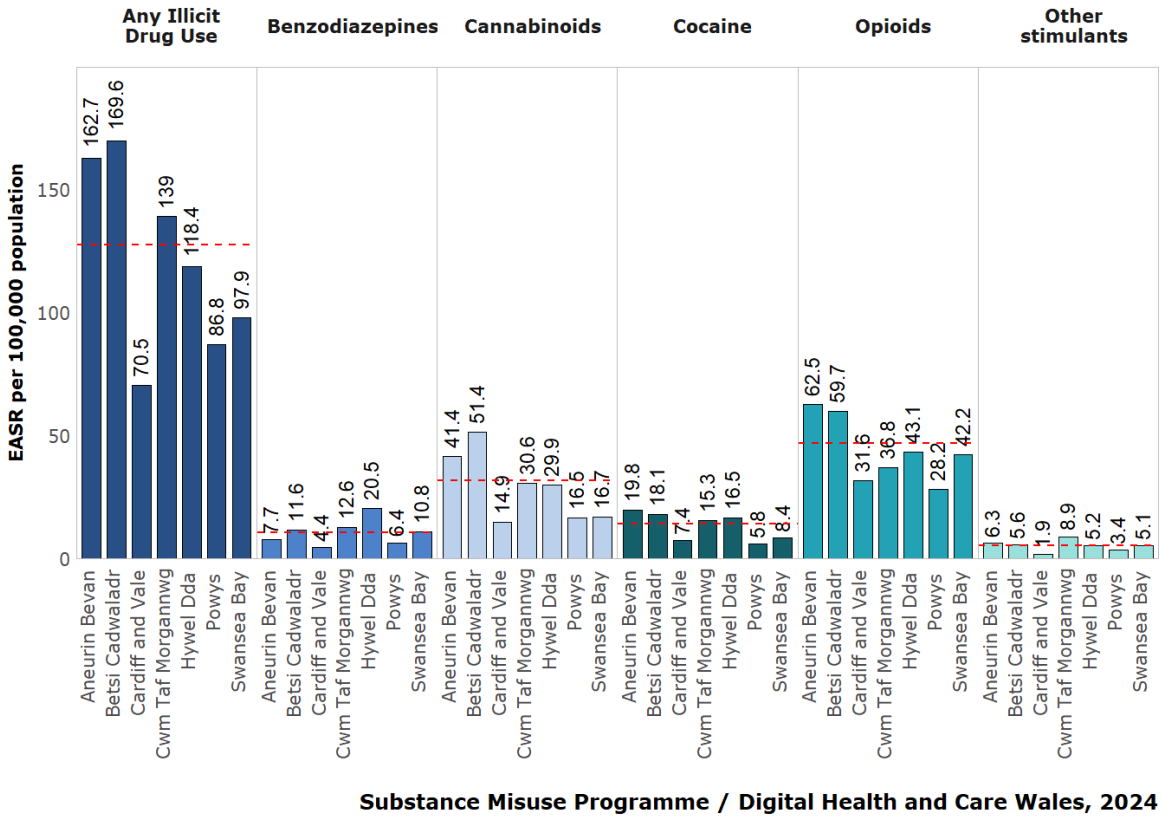


Chart 6: Hospital admissions related to illicit drugs, Welsh residents, European Age Standardised Rate per 100,000 population, by drug type and Health Board area 2023/24

Chart 7 shows the rate of hospital admissions for illicit drugs by health board over the last five years. Admissions decreased across all health boards in Wales apart from Cardiff and Vale in 2023/24 compared to the previous financial year. Although Cardiff and Vale University Health Board is the only health board to see an increase in the rate of admissions, it remains the lowest rate compared to other health boards. The rate of admissions was highest in Betsi Cadwaladr, consistent with recent years.

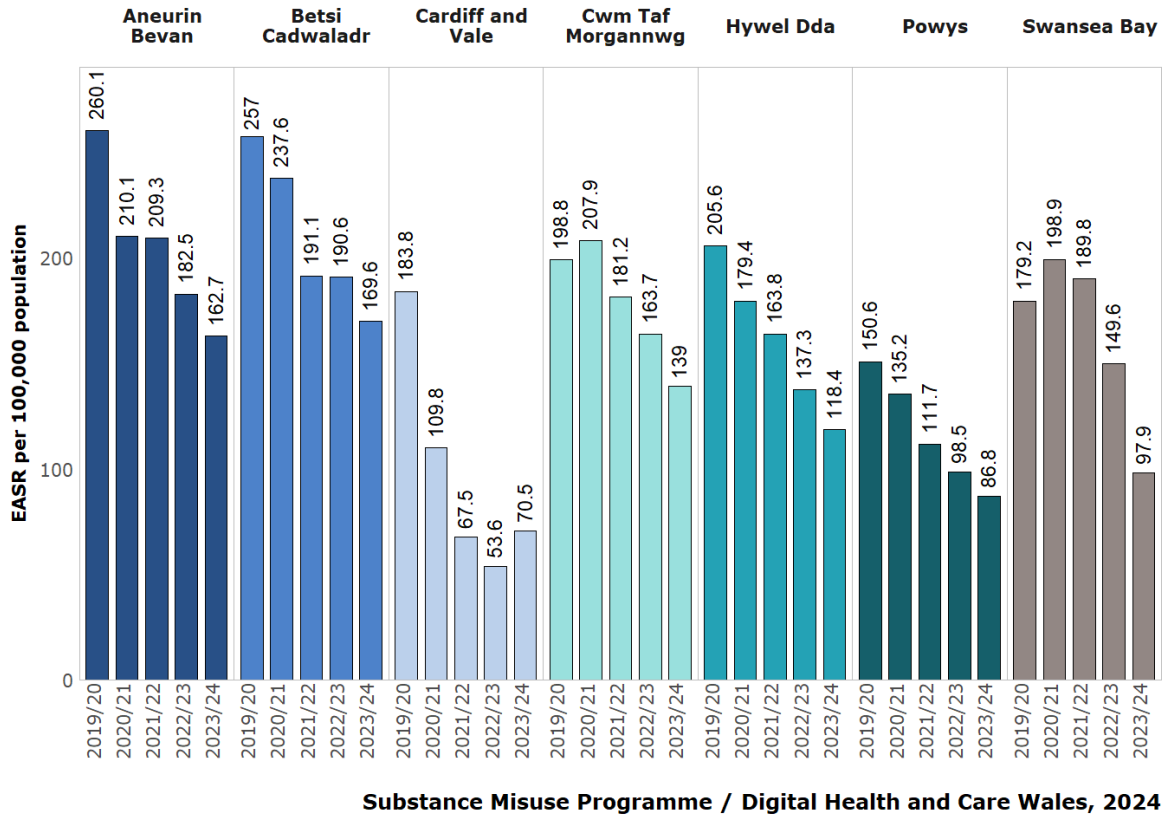


Chart 7: Hospital admissions related to illicit drugs, Welsh residents, European Age Standardised Rate per 100,000 population, by year and Health Board area 2019/20 to 2023/24

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 that 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 decreased in 2023/24 for illicit drug related admissions but remains relatively stable in recent years for alcohol-specific admissions.

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), 2019/20 to 2023/24

	2019/20	2020/21	2021/22	2022/23	2023/24
Alcohol-specific admissions (any position)	570 (5.7%)	422 (4.9%)	310 (3.4%)	265 (3.1%)	264 (3.2%)
Illicit drug admissions (any position	721 (14.5%)	596 (13.6%)	527 (13.6%)	452 (13.1%)	383 (12.4%)

Substance Misuse Programme / Digital Health and Care Wales, 2024

7 Substance misuse and deprivation

The Welsh Government produces an index of multiple deprivation[5] which ranks every lower super output area (LSOA, small geographical areas with stable populations of about 1,500) on measures of deprivation.[6] 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 areas. Chart 8 and Chart 9 show unique individual admissions with alcohol-specific and illicit drug related conditions respectively by each deprivation decile.

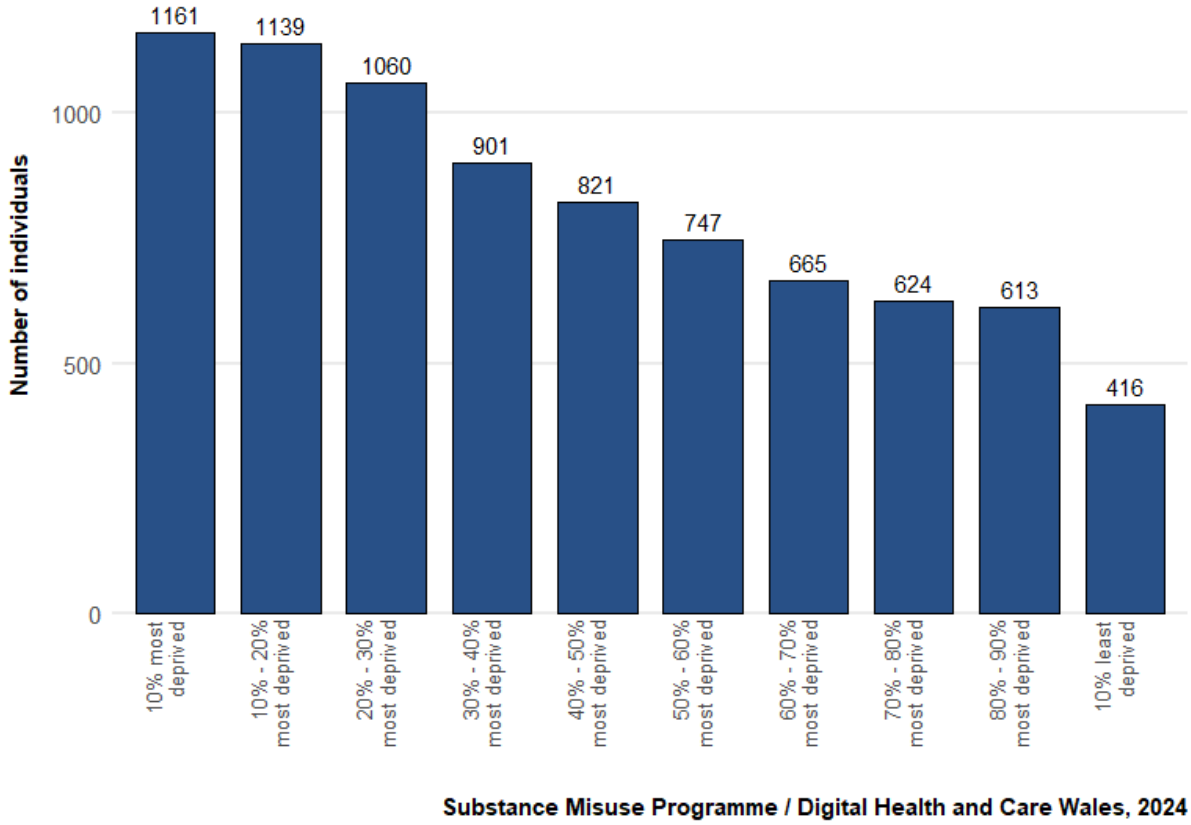


Chart 8: Unique individual admissions with an alcohol-specific condition in any position by deprivation decile, 2023/24

[5] Welsh Index of Multiple Deprivation (WIMD), http://gov.wales/statistics-and-research/welsh-index-multiple-deprivation/?lang=en

[6] Note that deprivation is a measure of the area in which an individual lives, rather than an evaluation of their particular circumstances.

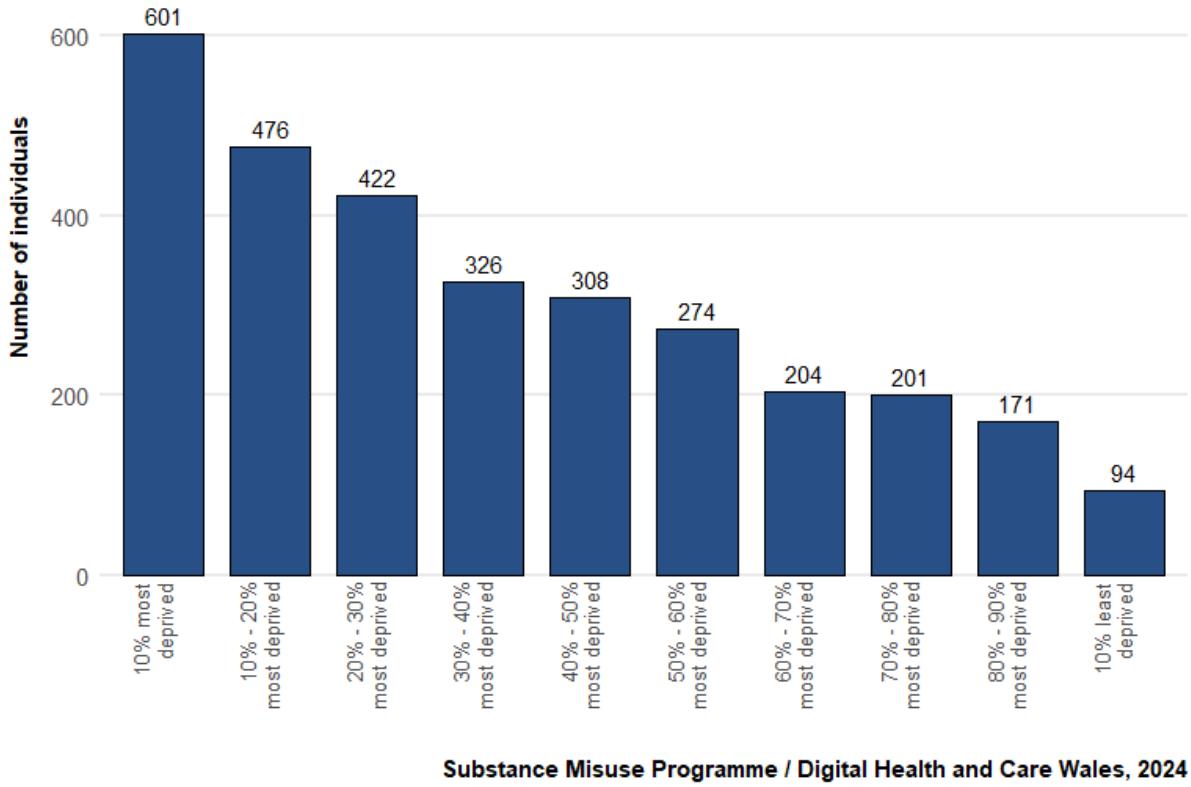


Chart 9: Unique individual admissions with a condition related to illicit drugs in any position by deprivation decile, 2023/24

The two charts clearly show the relationship between level of deprivation and individuals in Wales admitted to hospital in relation to alcohol or illicit drugs in 2023/24. The proportion of all patients admitted for alcohol-specific conditions who lived in the 10 per cent of most deprived areas was 2.8 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 pronounced with admissions 6.4 times higher amongst those from the most deprived areas compared to least deprived. This may also be reflective of the links between deprivation and criminalisation 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 15,959 assessments within substance misuse services in Wales in 2023/24, representing a decrease of 8.8 per cent compared to the previous year (17,502 assessments). Assessments in 2023/24 are 16.7 per cent lower than 5 years ago (19,157 assessments in 2019/20). These assessments involved 14,565 unique individuals, a 7.4 per cent decrease from 15,731 in the previous year. The number of unique individuals completing assessment within substance misuse services has decreased by 11.5 per cent since 2019/20. Of the individuals assessed:

- 6,748 (46.3 per cent) were primary problematic alcohol clients, of which 50.7 per cent (n=3,420) were male
- 6,336 (43.5 per cent) were primary problematic drug clients of which 39.9 per cent (n=2,525) were male
- 1,481 (10.2 per cent) did not have a substance recorded

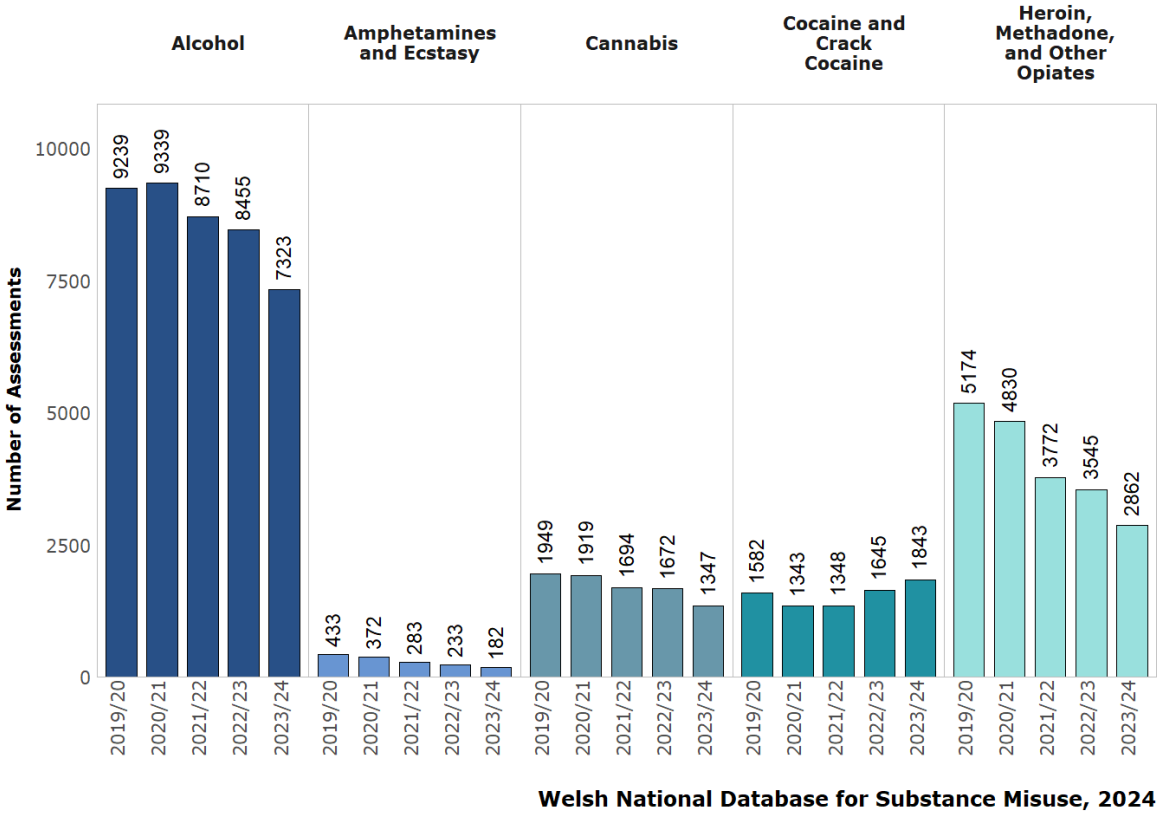


Chart 10: Substance misuse assessments in Wales, by year and primary substance of use reported 2019/20 to 2023/24

Amongst assessments for problematic drug use (n=6,955):

- Opioids were cited as the most prevalent primary substance with 2,862 assessments (41.2 per cent), representing a decrease of 19.3 per cent on the previous year (3,545 assessments). Of these, 2,273 assessments (79.4 per cent) had heroin cited as the primary substance, a proportion consistent with recent years
- Cannabis was the next most frequently reported substance with 1,347 assessments (19.4 per cent) down from 1,672 assessments the previous year. However, there has been an overall decrease of 602 (30.9 per cent) across the last five years
- The number of assessments with cocaine, including crack cocaine, as the primary substance has increased from 1,582 in 2019/20 to 1,843 in 2023/24, an increase of 16.5 per cent over this period and representing 25.0 per cent of all drug referrals in 2023/24. Of these, 1,157 (62.8 per cent) were for cocaine and 686 assessments (37.2 per cent) were for crack in 2023/24 compared to 1,249 (79.0 per cent) and 333 (21.0 per cent) respectively in 2019/20, indicating that assessments relating specifically to crack have more than doubled in the last five years

Changes in the number of substance misuse assessments over the last five years by health board area is shown in Chart 11. Assessments in Betsi Cadwaladr University Health Board increased by 30.0 per cent from the previous year and were the highest compared to other health boards in 2023/24 at 3,300 assessments. Assessments in Swansea Bay, Cardiff and Vale, and Aneurin Bevan University Health Boards continue to decline somewhat rapidly by 63.6 per cent, 23.0 per cent, and 13.1 per cent respectively from 2021/22 to 2023/24.

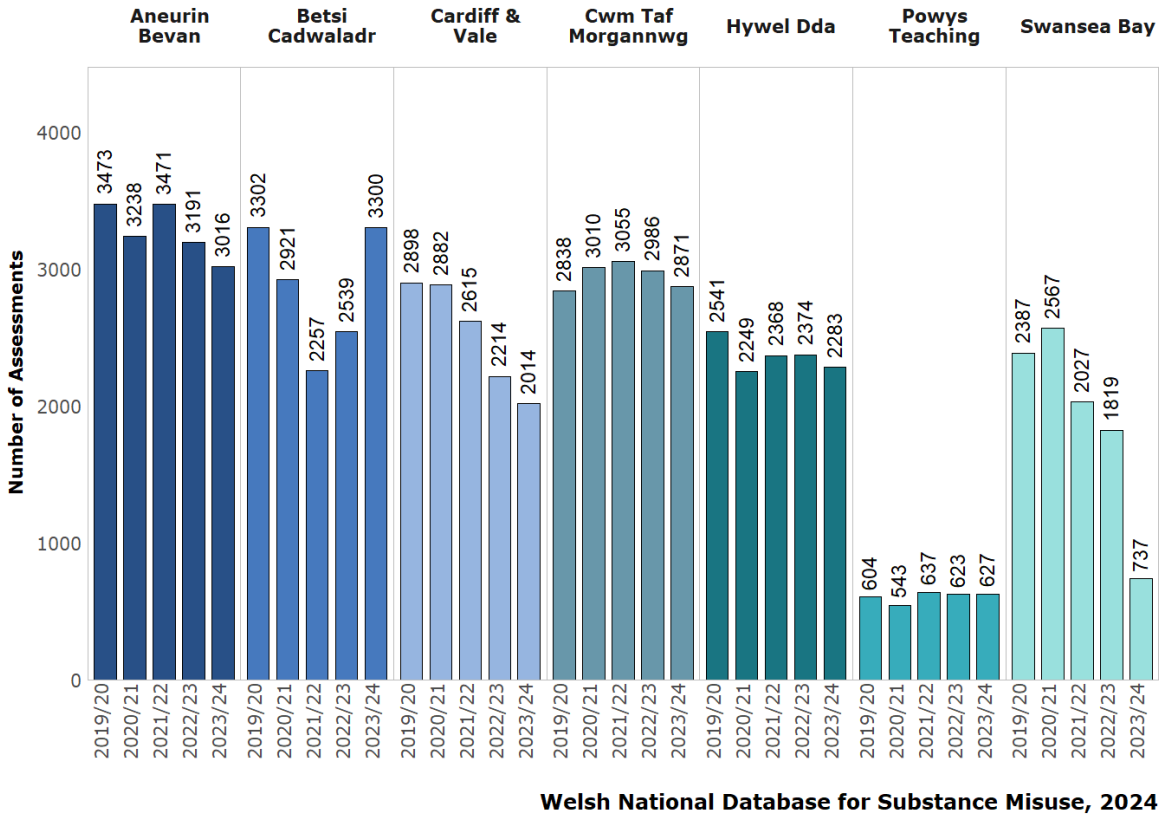


Chart 11: Substance misuse assessments carried out by services in Wales, by Health Board 2019/20 to 2023/24

Substance misuse assessments for 2023/24 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 typically higher than for drugs but is more consistent across all ages. Amongst females, the number of assessments for illicit drugs is similar to five years ago, decreasing by only 1.7 per cent. However, over the same period there has been a 49.8 per cent decrease in assessments for illicit substances among males. The substance profile for assessments within specialist substance misuse services differ considerably with age as shown in subsequent chapters.

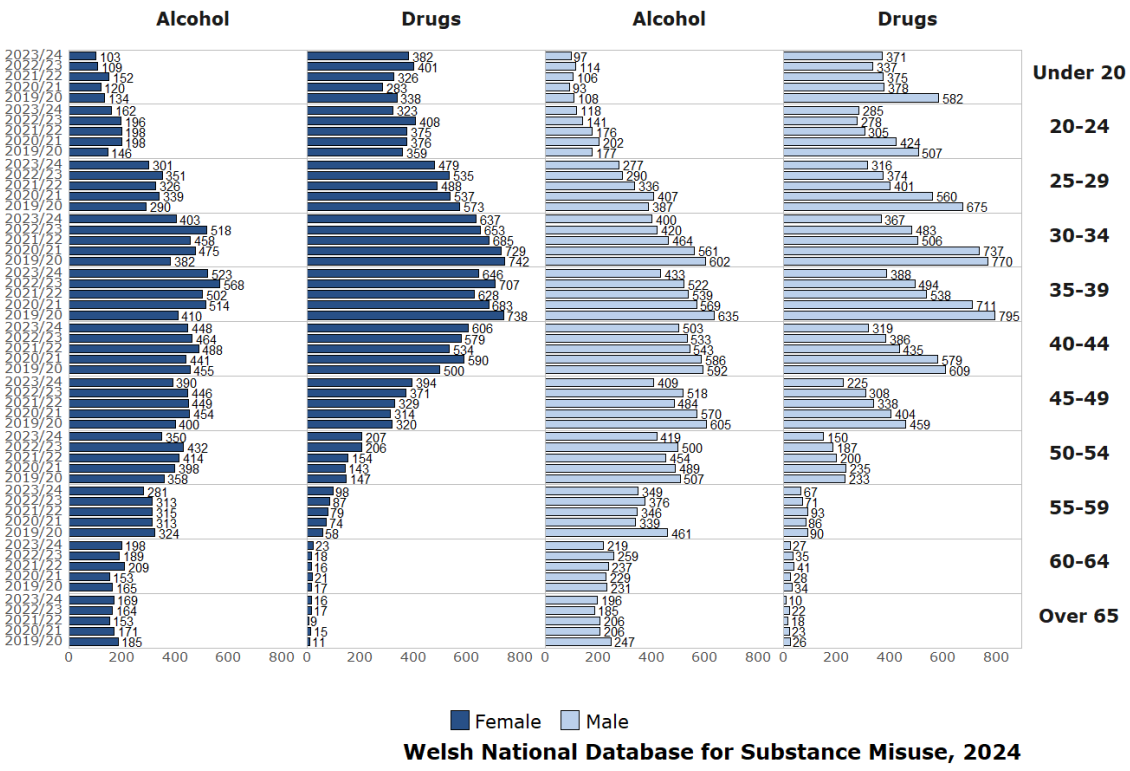


Chart 12: Number of individuals assessed by substance misuse services in Wales, by primary substance reported (alcohol or illicit drugs), sex and five-year age bands, 2019/20 to 2023/24

8.2 Individuals new to specialist substance misuse services

There were 10,136 individuals assessed in 2023/24 who had not previously been recorded as having an assessment with a substance misuse service in Wales, representing 63.5 per cent of all individuals assessed in that year. Amongst those new to services, there were 4,682 assessments for primary problematic alcohol use and 4,897 assessments for primary problematic drug use. The remaining 557 did not have a substance recorded. The number of unique individuals new to services are shown in Chart 13 by primary problematic substance type.

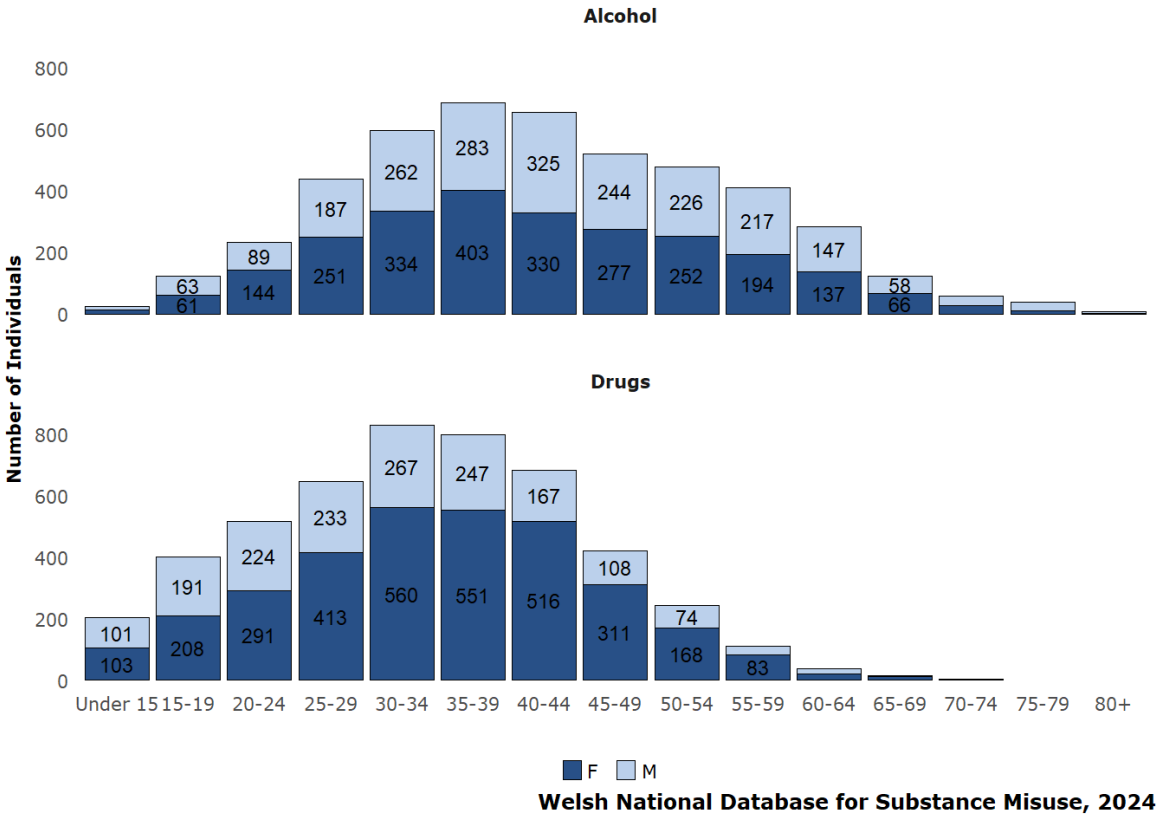


Chart 13: Number of individuals new to service, assessed by substance misuse services in Wales in 2023/24 by primary substance reported (alcohol or illicit drugs) and five-year age bands.

The age distribution of individuals newly assessed in 2023/24 varied by primary problematic substance. Amongst those presenting with primary problematic alcohol use, the majority (52.5 per cent) were aged between 30 and 50 years with a median age of 41. For those presenting with primary problematic drug use, the majority (60.3 per cent) were aged between 25 and 45 with a median of 34, indicating a younger group.

The proportion of males and females new to services varied across the primary problematic substance groups. For alcohol assessments 46.6 per cent (n=2,180) were male while for drug assessments 33.8 per cent were male (n=1,657), consistent with the previous year.

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,[7] a serious condition that typically results in affected children experiencing restricted growth, learning and behavioural disorders and physiological problems.

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 generally declined over recent years, with the lowest number in the last 10 years being observed in 2023/24 (see Appendix A for detailed definition). In 2023/24, there were 34 admissions of Welsh residents in which these conditions were recorded in any diagnostic position, with a relevant condition recorded in the primary position in 15 cases. With no clear trend over the last decade, admissions are shown in Chart 14.

[7] Further information on Foetal Alcohol Syndrome and related conditions is available at: http://www.nhs.uk/Conditions/foetal-alcohol-syndrome/Pages/Introduction.aspx

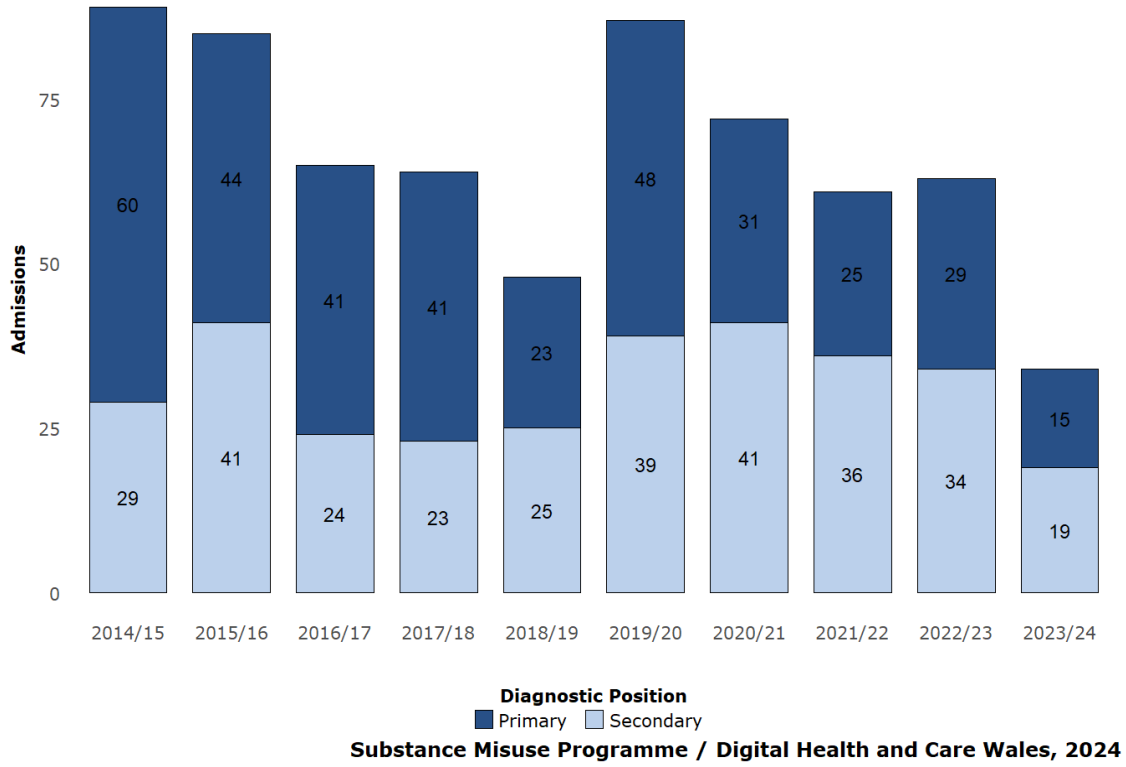


Chart 14: Number of hospital admissions for foetuses and neonates affected by maternal use or withdrawal from alcohol or other drugs of addiction, by diagnostic position 2014/15 to 2023/24

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. Due to a lag, data presented in this section are one year behind.

In 2022/23 there were 17,515 children receiving care and support in Wales, up from 17,190 in 2021/22,[8,9,10] an increase of 1.9 per cent. Of these, there were 5,190 children (29.6 per cent) with parental substance misuse listed as a factor in their referral (up slightly from 28.9 per cent in 2021/22).

There is considerable variation between local authorities in the proportion of children receiving care and support with parental substance misuse, where parental factors are known, as shown in Chart 15, with the Wales average (32.0 per cent) indicated by the red line. In 2022/23, the Local Authorities with the greatest number of cases, were Rhondda Cynon Taf with 545 cases followed by Bridgend with 530 cases. Proportionally, Bridgend and Rhondda Cynon Taf have the highest proportion of children receiving care and support with parental substance misuse (48 and 45 per cent respectively).[11]

[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

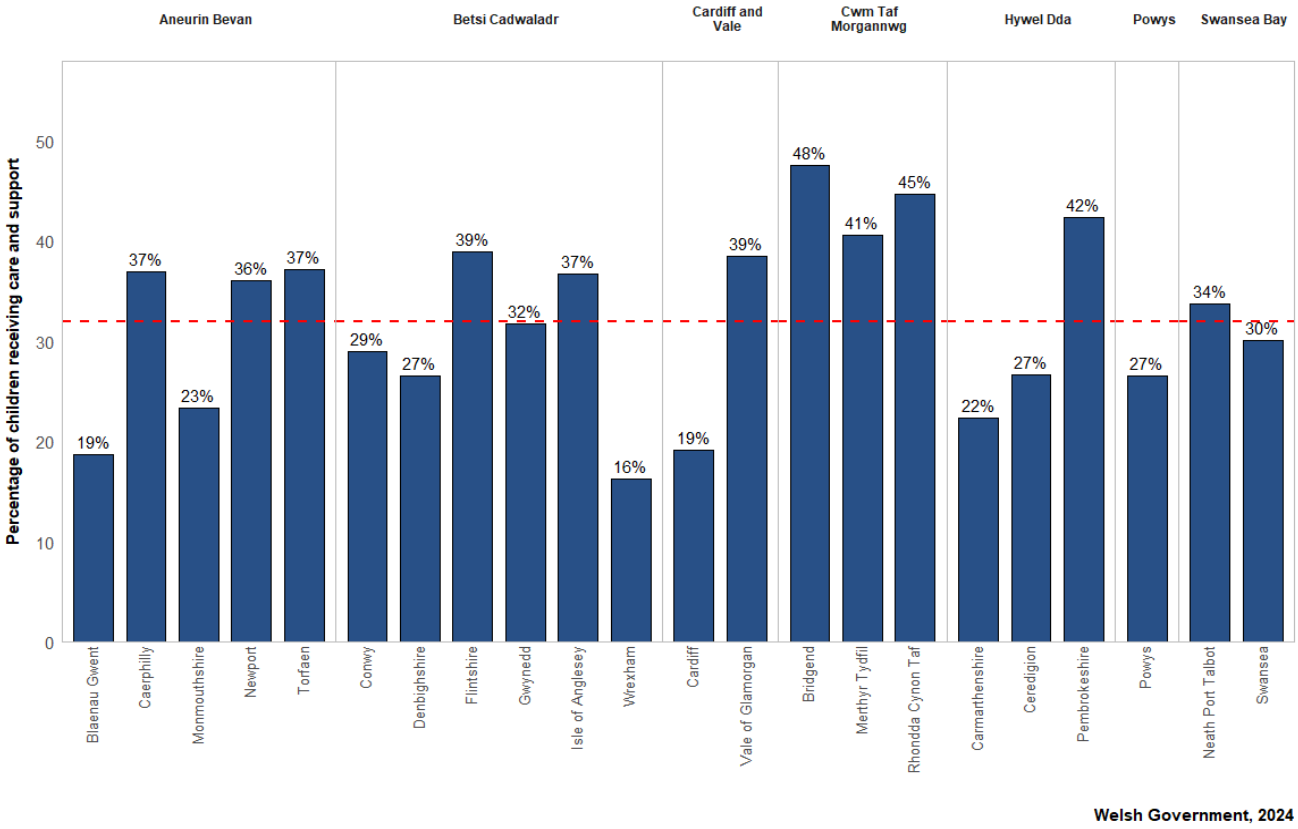


Chart 15: Children receiving care and support in Wales, percentage with parental substance misuse problems by local authority, as at 31st of March 2023

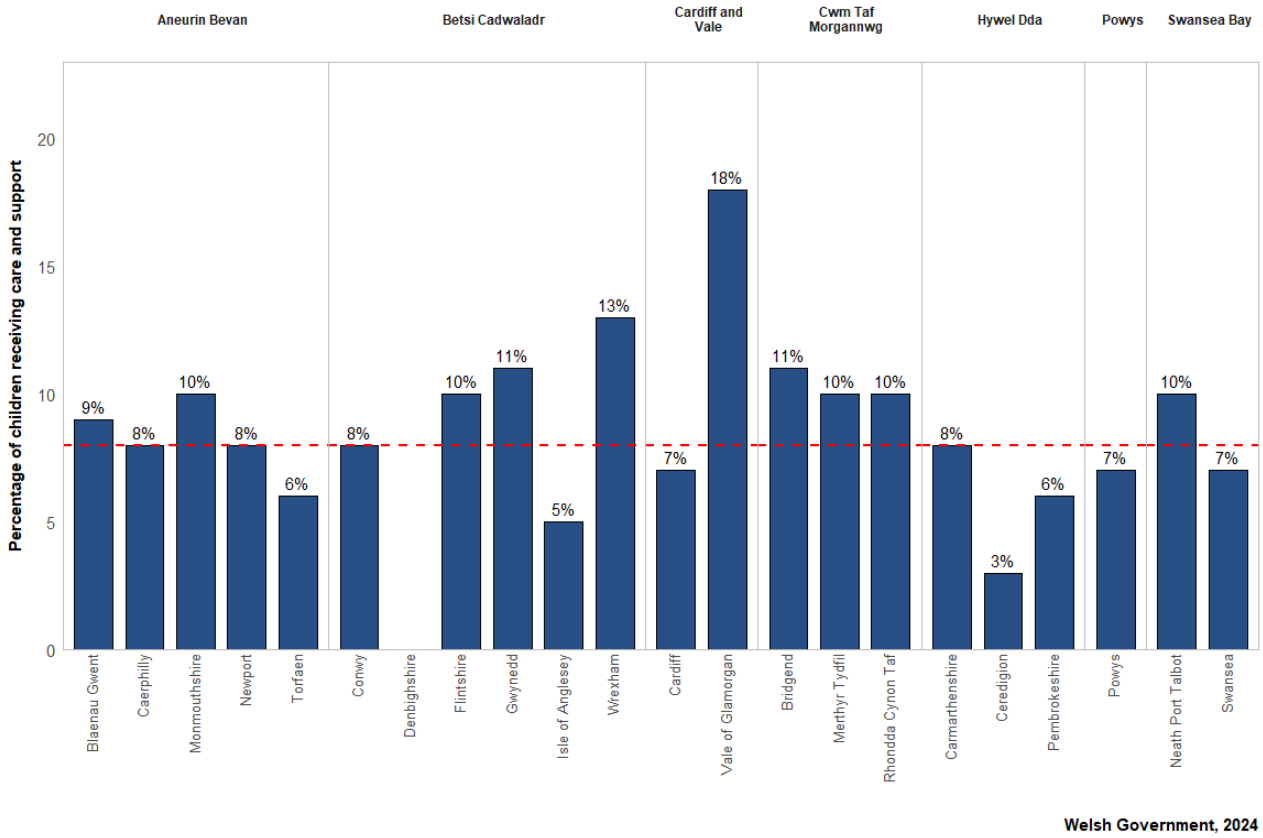


Chart 16: Children Receiving Care and Support in Wales, percentage with a substance misuse problem by Local Authority, as at 31st of March 2023

10.2 School exclusions due to substance misuse

In 2022/23 (academic year), the number of school exclusions related to drugs or alcohol increased overall from 869 in 2021/22 to 939 (80.6 per cent) as shown in Chart 17, specifying type of exclusion as fixed term or permanent. This is the highest number of exclusions since 2011-12. There is no data for 2019-20 as schools were closed for much of the academic year due to the COVID-19 pandemic.

The number of permanent pupil exclusions due to drugs or alcohol increased slightly to 27 cases and the number of fixed term exclusions over 5 days increased to 86 cases up from 24 and 60 respectively. The number of exclusions of 5 days or less increased by 5 per cent in the last year, from 785 to 826, following a very large jump in the previous academic year. Of all school exclusions (any reason), drug and alcohol related exclusions accounted for 2.9 per cent in 2022/23, a slight reduction compared to the previous year.

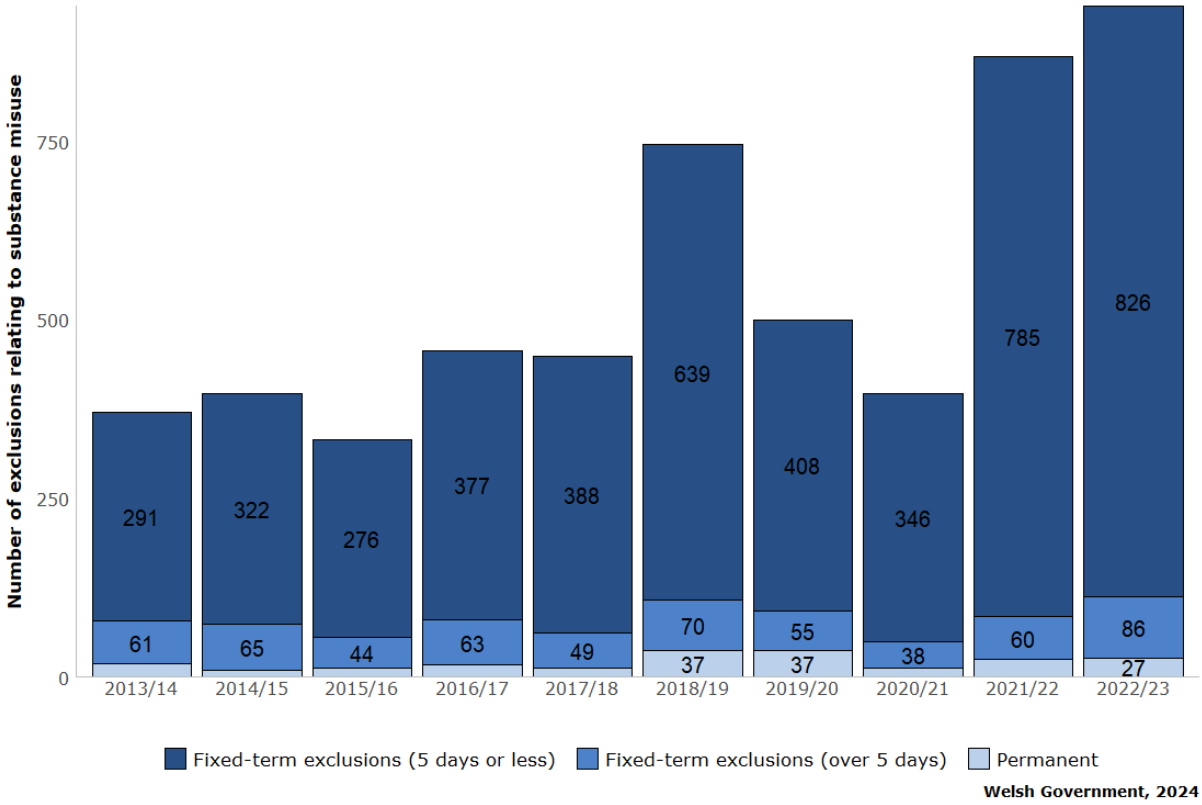


Chart 17: Number of school exclusions related to drugs and alcohol by type of exclusion, 2013/14 to 2022/23.

10.3 Hospital admissions related to alcohol amongst children and young people

There were 333 admissions involving young people aged under-25 with an alcohol-specific condition in 2023/24, a decrease of 17.4 per cent compared with the previous year. The admissions involved 295 individuals of which 58.6 per cent were male. There were 99 admissions with an alcohol-specific code in the primary position (58.4 per cent male) accounting for 29.7 per cent of all alcohol-specific admissions for under-25s. Chart 18 shows the number of admissions for alcohol-specific conditions in any diagnostic position amongst under-25s resident in Wales in 2023/24 by sex and age group.

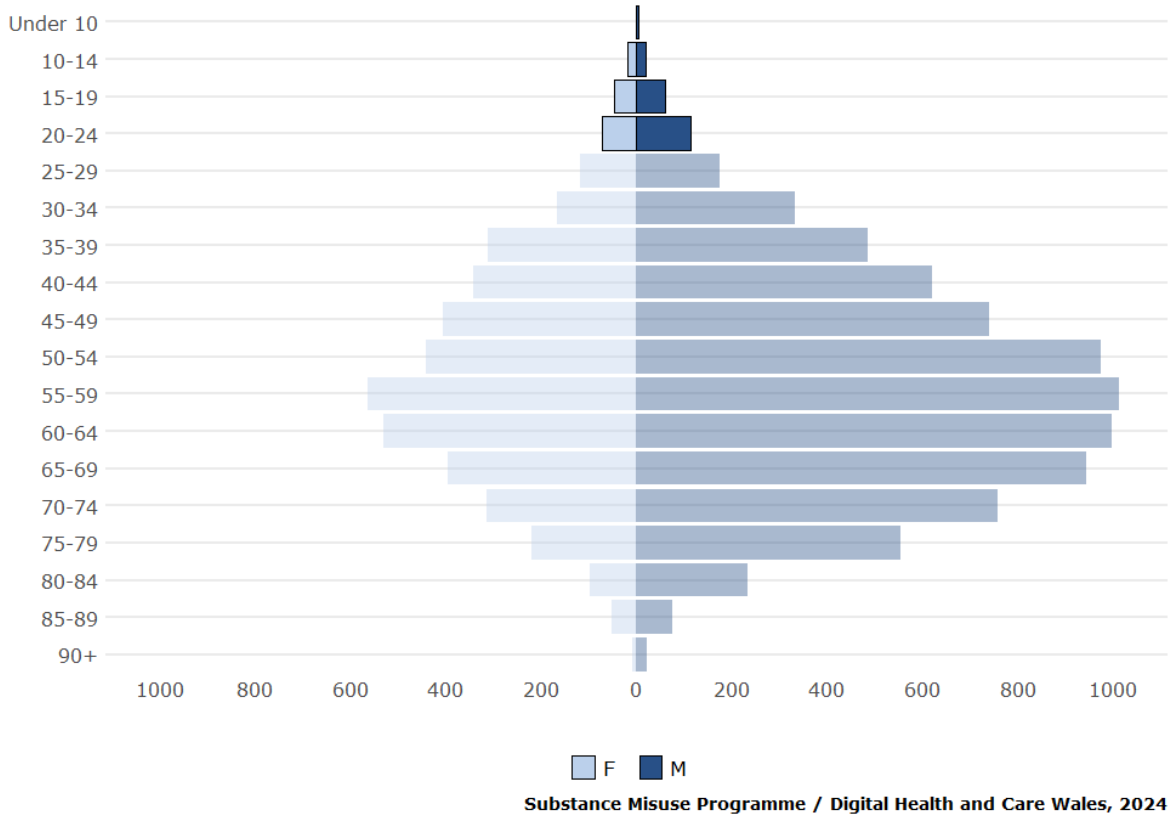


Chart 18: Hospital admissions for alcohol-specific conditions in Welsh residents aged under 25 years, by sex 2023/24

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 70.0 per cent over the last ten years, from 1,107 admissions in 2014/15. This decrease is comparable between females (75.4 per cent) and males (71.7 per cent). However, in 2023/24, alcohol-specific admissions remained stable from the previous year among males but declined by 35.1 per cent among females. The under 25s age cohort accounted for 2.7 per cent of all admissions to hospital with an alcohol-specific condition in 2023/24.

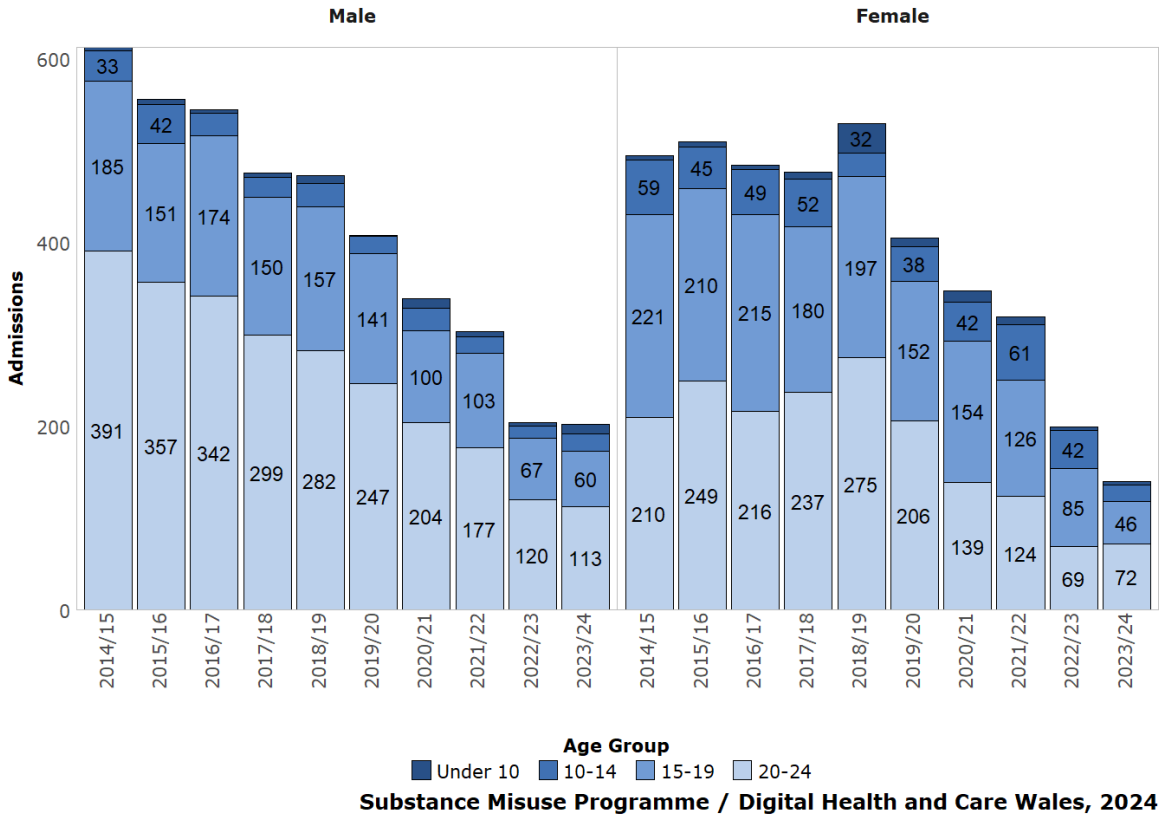


Chart 19: Admissions involving young people aged under 25 resident in Wales with an alcohol-specific condition, by year and sex 2014/15 to 2023/24

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

In 2023/24 amongst young people aged up to 25, there were 631 admissions for conditions related to illicit drugs, a decrease of 8.6 per cent from 2022/23. These admissions involved 527 individuals. Admissions among young people aged up to 25 made up 16.4 per cent of all admissions in 2023/24 for illicit drugs. Of individuals admitted, 55.2 per cent were male and 44.4 per cent were female. The proportion of male admissions in this age cohort has increased in recent years. Chart 20 shows the number of young people aged under 25 residents in Wales and admitted to hospital following use of illicit drugs in 2023/24.

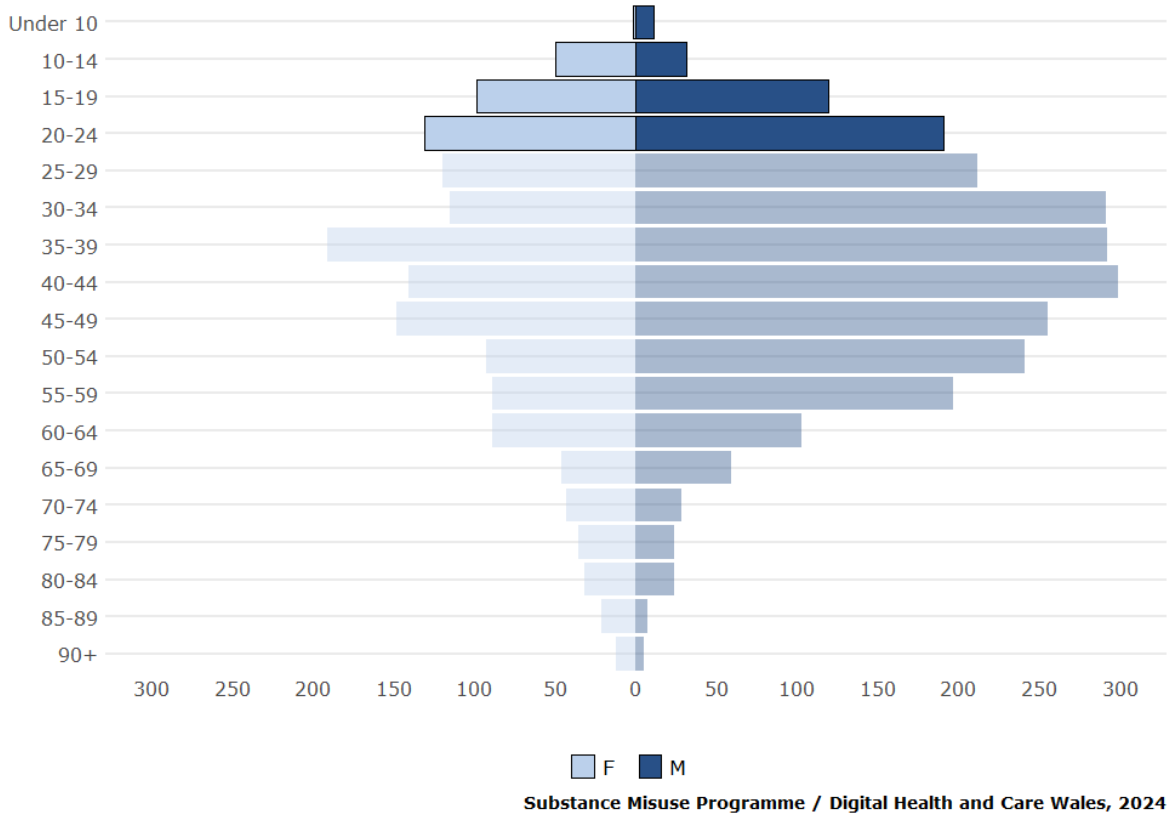


Chart 20: Hospital admissions for conditions related to illicit drugs amongst young people aged up to 24, Welsh resident by sex and age group, 2023/24

Chart 21 shows the number of illicit drug related admissions by substance over the past ten years for those aged under 25. Admissions for opioid use have been steadily decreasing since 2015/16. The number of admissions for cannabinoids increased to 264 in 2022/23 but has decreased slightly to 245 in the most recent year. Following a peak of 180 hospital admissions related to benzodiazepines in 2020/21, there has been a marked decrease in the three years since, to a new low of 45 admissions in 2023/24, representing a 75.0 per cent decline. Hospital admissions for cocaine have increased to 83 in the most recent year following a decrease from 155 to 61 between 2018/19 and 2022/23.

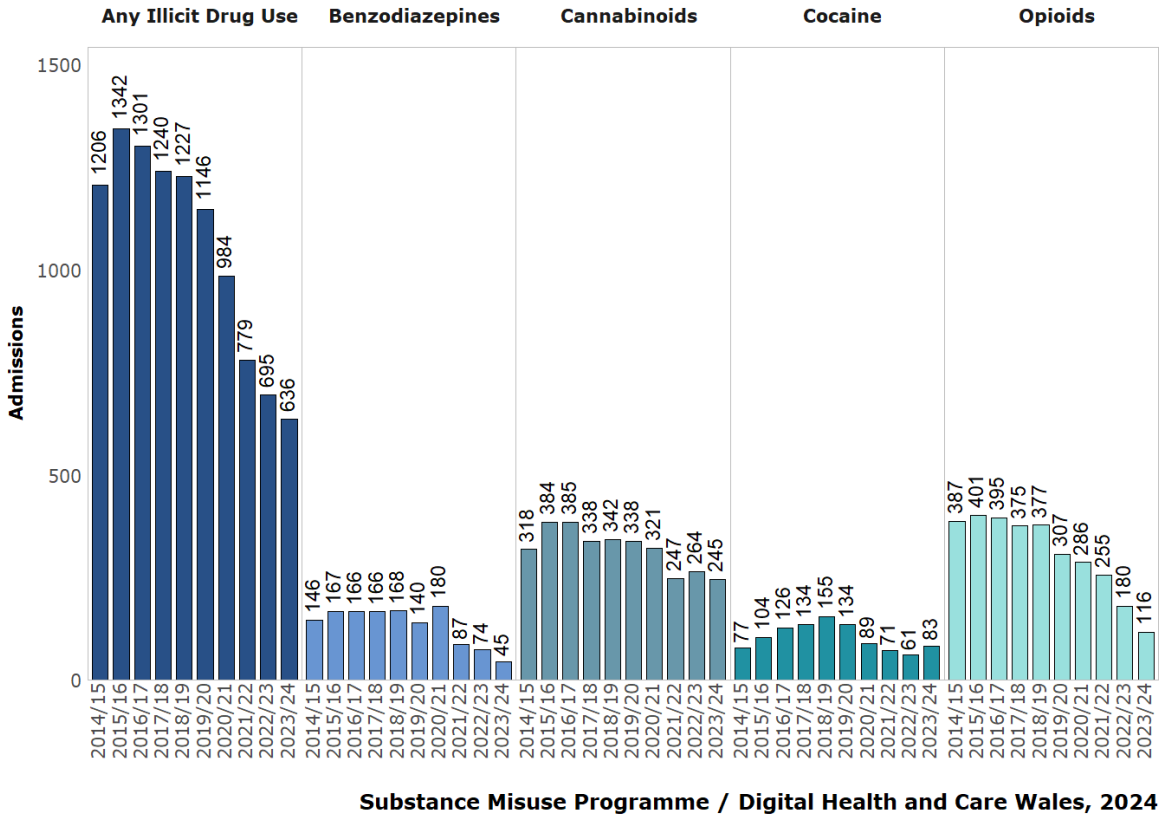


Chart 21: Hospital admissions for illicit drugs involving young people aged under 25 years and resident in Wales, by year and substance type, 2014/15 to 2023/24[12]

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

In 2023/24, there were 1,974 assessments of young people aged under 25, an 11.1 per cent decrease compared to the previous year (2,221 assessments) and representing 12.4 per cent of all assessments in 2023/24. Over the last 5 years, the number of assessments has decreased by 24.4 per cent, with 2,611 assessments in 2019/20. The assessments were attended by 1,889 unique individuals, a 20.2 per cent decrease from 2019/20 (2,366 individuals assessed). Chart 22 shows assessments for this age group by sex, age and primary substance reported as problematic.

[12] Individuals may have been admitted for more than once substance group and would have been included in each relevant group.

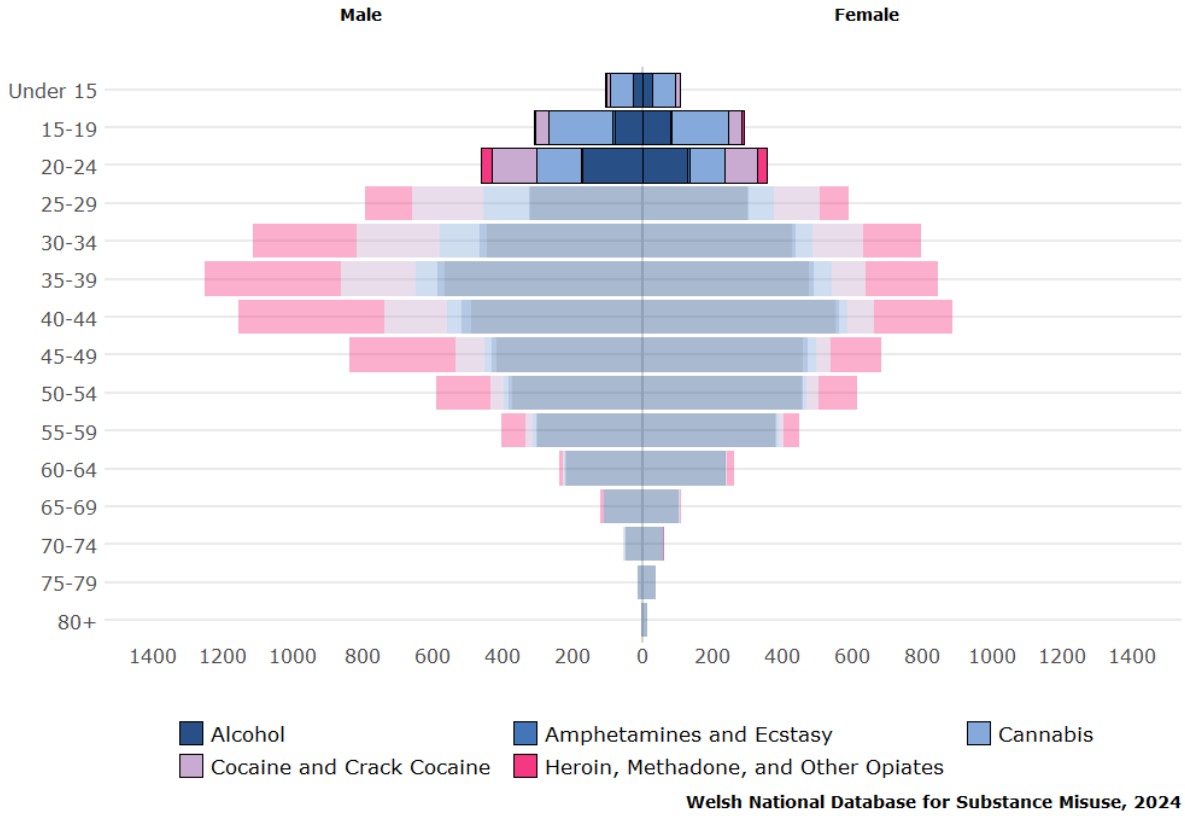


Chart 22: Young people aged under 25 assessed by substance misuse services in Wales, by sex, age band and primary substance reported as problematic, 2023/24[13]

Chart 23 shows the number of assessments by year and by primary substance reported at assessment in this age group. Despite a decrease of 36.3 per cent compared with 5 years ago, cannabis/cannabinoids remain the substance most frequently reported as problematic at assessments of young people.
Cocaine and crack cocaine assessments increased to 306 assessments in 2023/24, increasing steadily in recent years but remaining lower than 2019/20 (423 assessments). The number of assessments involving opioids has decreased by 32.7 per cent compared to the previous year and by 61.7 per cent since 2019/20. There has been a 17.3 per cent decrease in alcohol assessments. Assessments for amphetamines and ecstasy remains relatively stable in the most recent years but 59.6 per cent lower than 5 years ago.

[13] Where an individual was assessed more than once, details were taken from the first assessment

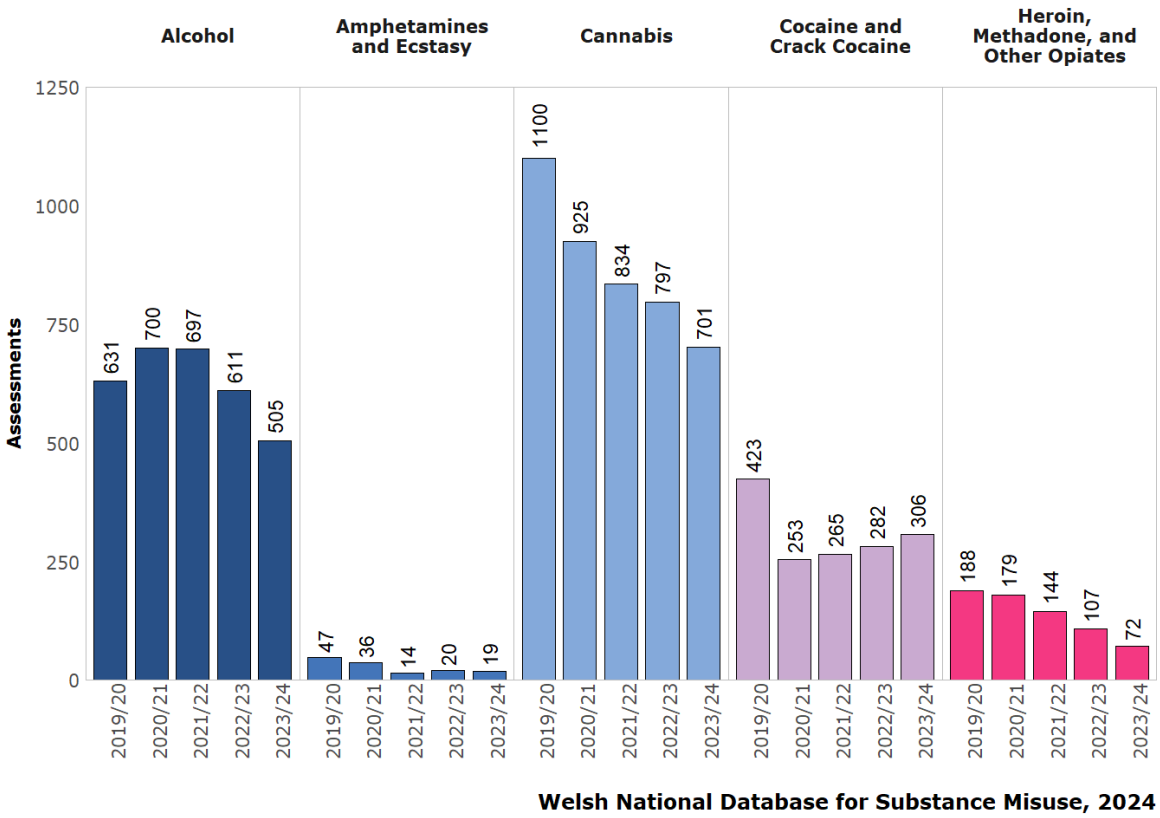


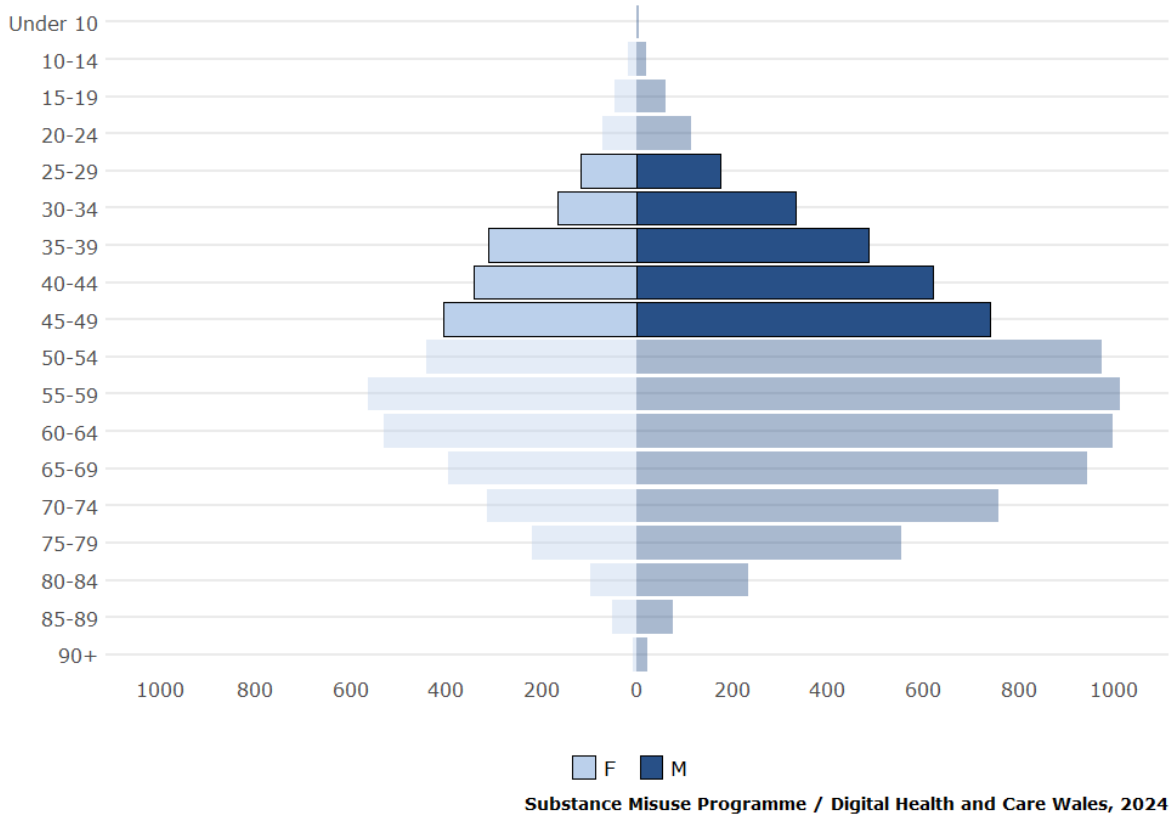
Chart 23: Substance misuse assessments amongst young people under 25, by year and primary problematic substance reported 2019/20 to 2023/24, Wales

11 Adults aged 25 to 49 years

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

There were 3,700 hospital admissions for alcohol-specific conditions amongst adults aged 25-49 years in 2023/24, representing a decrease of 3.9 per cent on the previous year, as shown in Chart 25. Admissions in this age cohort have decreased by 37.1 per cent over the last decade. In 2023/24, 1,276 (34.5 per cent) of these admissions included an alcohol-specific code in the primary position.

A total of 2,453 individual patients were admitted in 2023/24, of which 931 (38.0 per cent) had an admission which contained an alcohol-specific code in the primary position. The majority of patients, 64.2 per cent, were male, a proportion that has been remained relatively stable over the past seven years. Adults aged 25-49 represented 30.2 per cent of all individuals admitted for alcohol-specific conditions in 2023/24. Chart 24 shows individuals aged 25-49 admitted to hospital in 2023/24 with an alcohol-specific condition by sex and age group.[14]



Substance Misuse Programme / Digital Health and Care Wales, 2024

[14] Where an individual was admitted more than once in the year, the diagnostic position of first admission was included

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, 2023/24

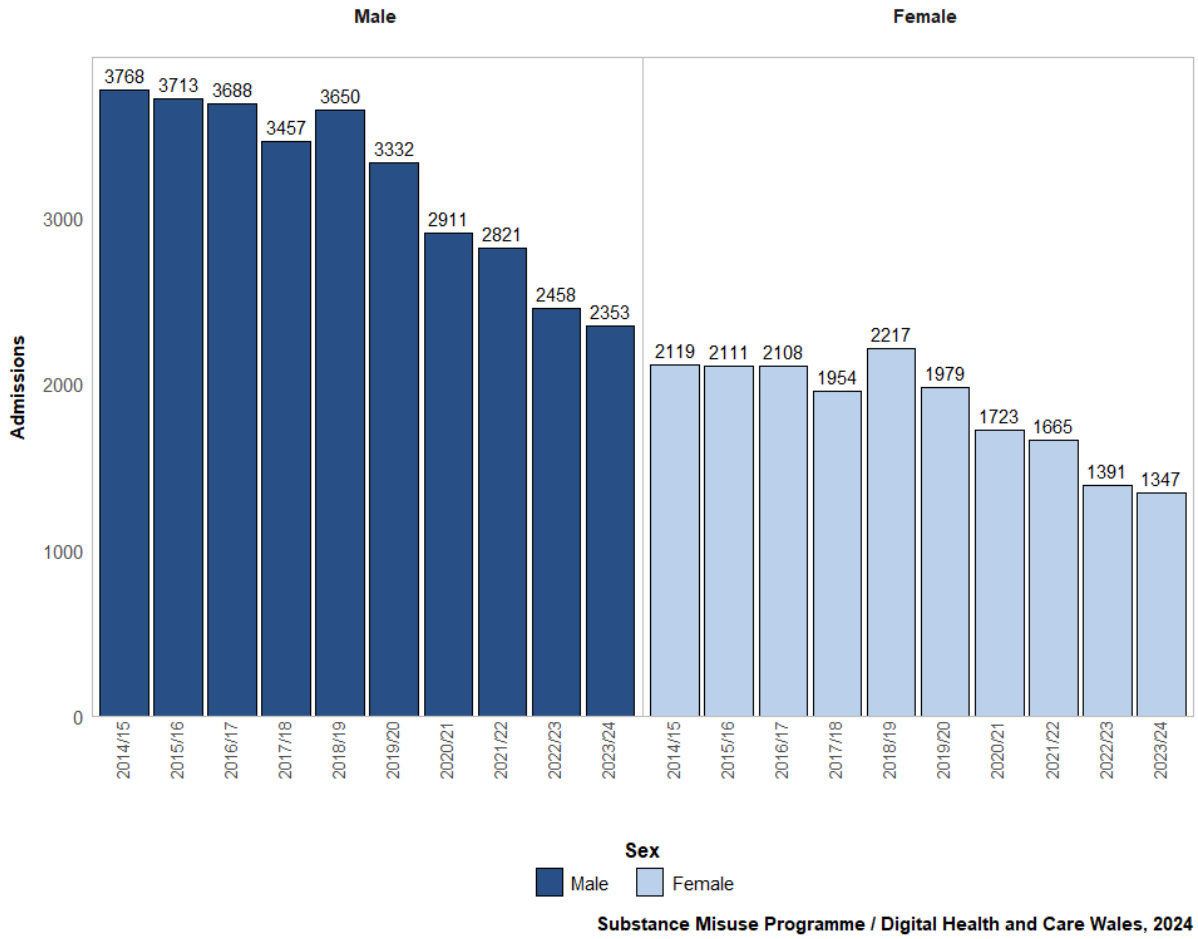


Chart 25: Hospital admissions for alcohol-specific conditions amongst adults aged 25-49 resident in Wales, by year and sex, 2014/15 to 2023/24

11.2 Hospital admissions for poisoning by illicit drugs in adults aged 25-49

There were 2,065 admissions related to the use of illicit drugs for this age cohort in 2023/24, involving 1,634 individuals. These numbers represent a decrease of 12.7 per cent in admissions and 11.6 per cent in individuals admitted when compared with 2022/23.

Admissions among those aged 25-49 made up 53.6 per cent of all those admissions for illicit drug related conditions in 2023/24, an increase from the previous year. The sex split in this age cohort was substantially different to that found amongst younger people, with males accounting for 64.5 per cent of those admitted in 2023/24.

Compared to previous years, the distribution of person-based admissions was more consistent between age bands within this cohort in 2023/24, particularly among females. Chart 26 shows the number of individuals resident in Wales and admitted to hospital following use of illicit drugs in 2023/24.

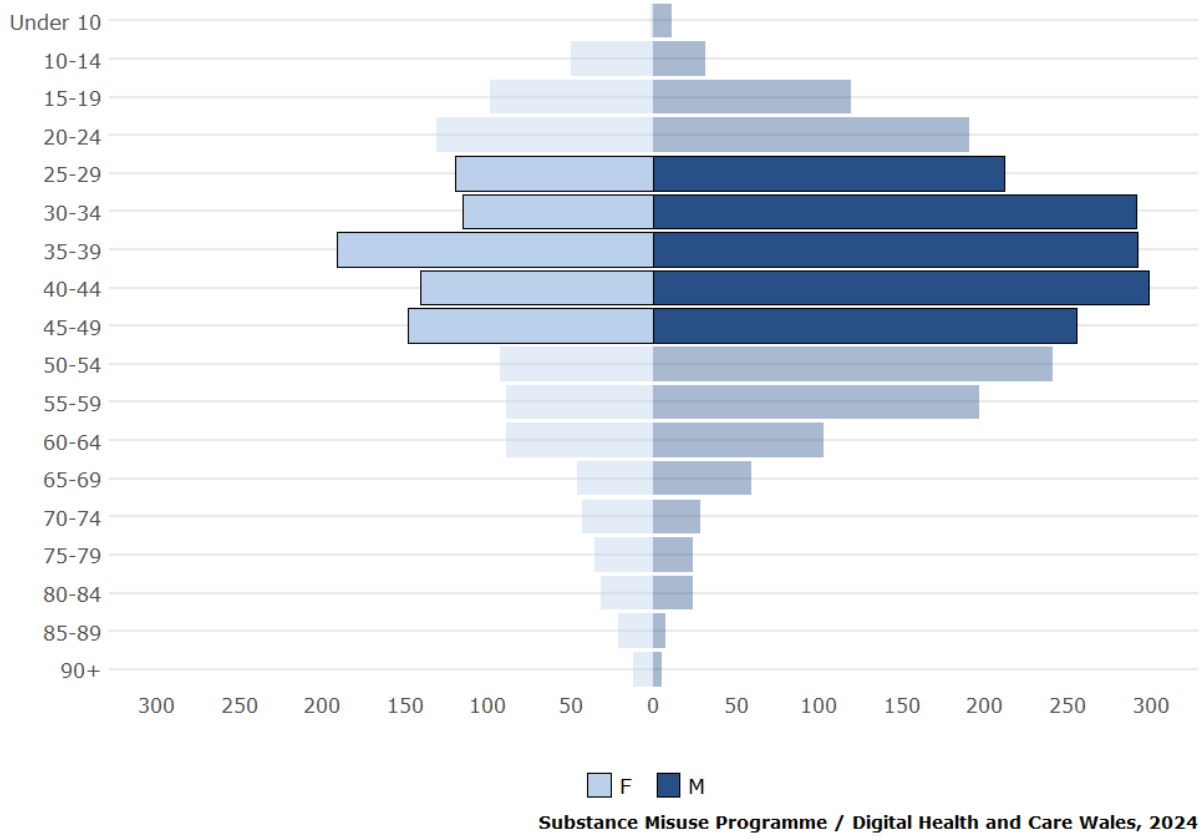


Chart 26: Adults aged 25-49 resident in Wales admitted to hospital with a condition related to illicit drugs, by sex and age group, 2023/24

Chart 27 shows the number of illicit drug related admissions by substance type over the past ten years for those aged 25-49 years. The most common substance group are opioids, involved in 35.1 per cent of admissions relating to illicit drugs. Admissions involving opioids in 2023/24 decreased by 19.9 per cent compared to the previous year and are the lowest recorded in the last 10 years. Although there has been a slight decrease in the number of admissions involving cocaine in 2023/24, admissions remain relatively stable over the past three years and have increased by 55.2 per cent since 2014/15. Admissions involving benzodiazepines continues to decline and was 65.7 per cent lower than 2014/15 in the most recent year.

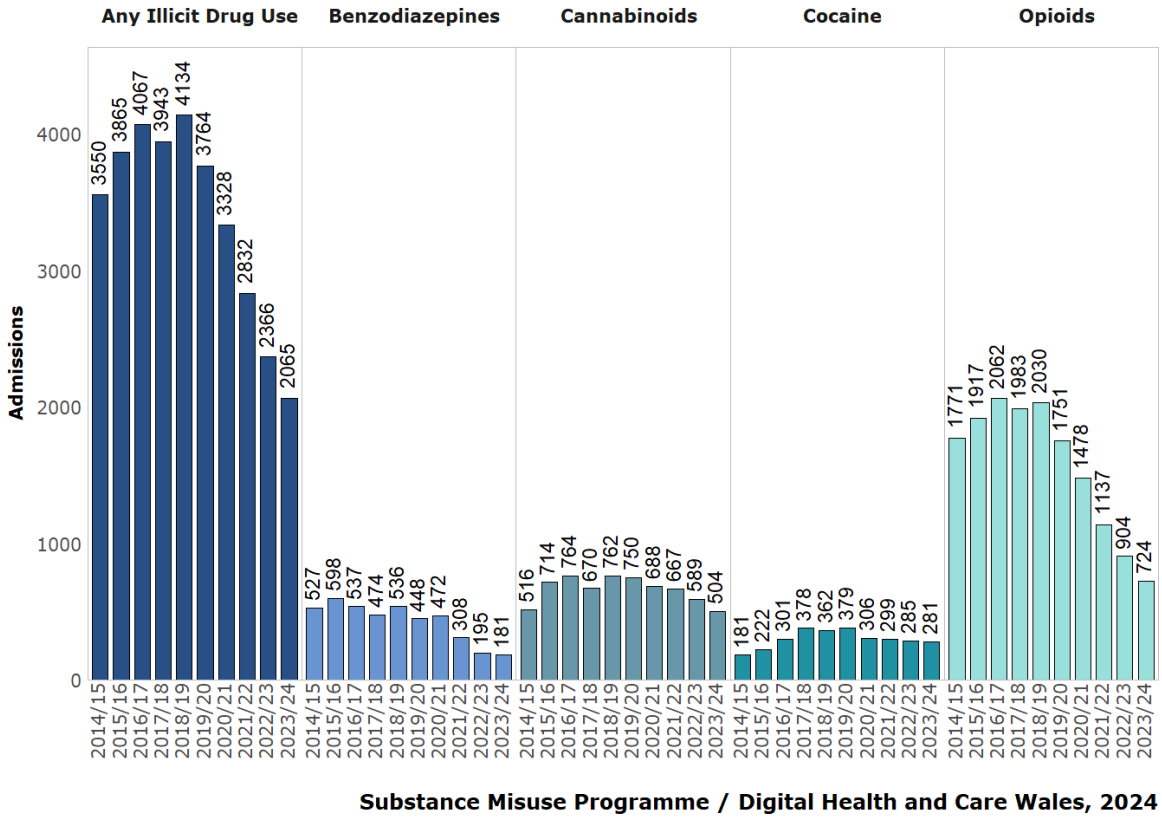


Chart 27: Hospital admissions for named illicit drugs amongst adults aged 25-49, resident in Wales by year and substance type, 2023/24[15]

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

There were 10,424 assessments within specialist substance misuse services amongst individuals aged 25-49 in 2023/24, a decrease of 9.6 per cent from 2022/23. The assessments involved 9,430 unique individuals, representing 64.7 per cent of all individuals assessed in 2023/24. Of these, 55.0 per cent were female, an increase since the previous year. The 35-39 age band contained the most individuals assessed across all age bands, with 2,207 individuals (15.2 per cent). Chart 28 shows individuals assessed by substance misuse services in Wales in 2023/24 by age, sex and primary problematic substance type.

[15] Individuals may have been admitted for more than once substance group and would have been included in each relevant group.

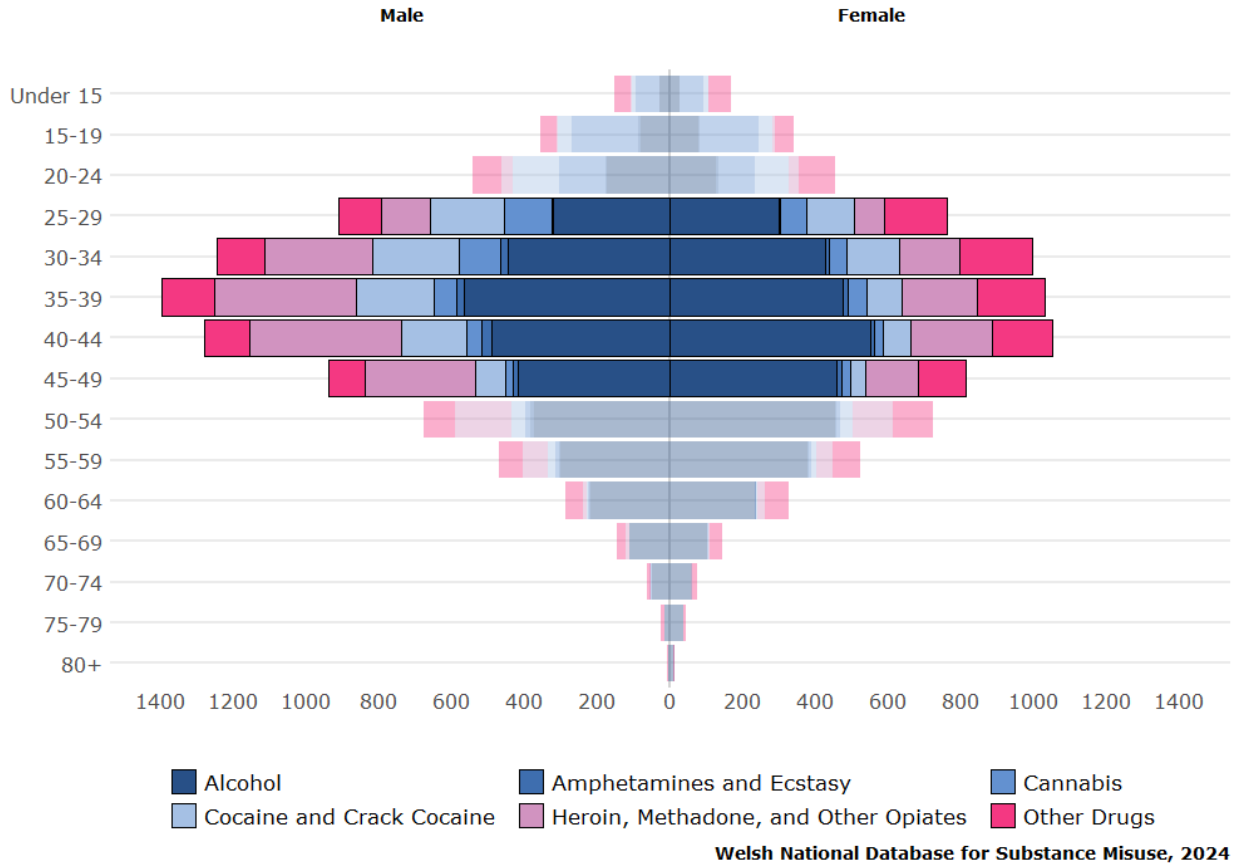


Chart 28: Adults aged 25-49 assessed by substance misuse services in Wales, by sex, age band and primary substance reported as problematic, 2023/24 [16]

[16] Where an individual was assessed more than once, details were taken from the first assessment.

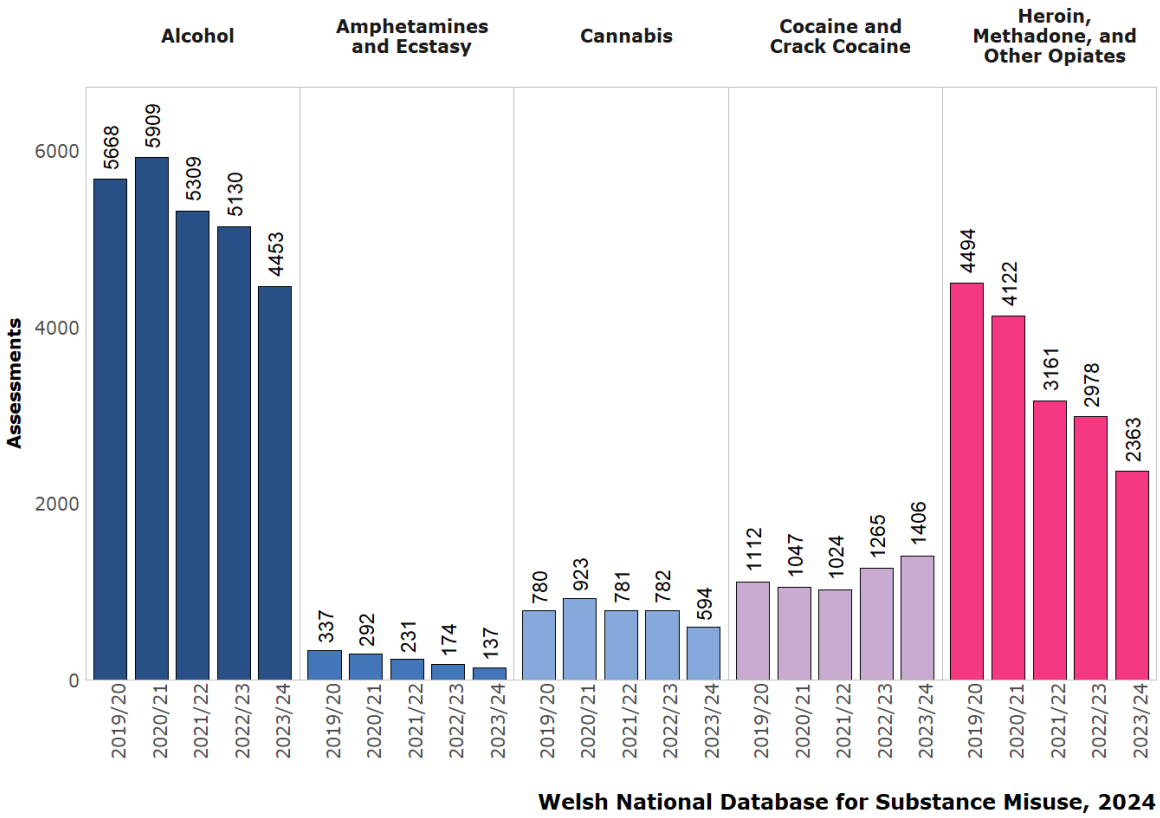


Chart 29: Substance misuse assessments amongst adults aged 25-49, by year and primary problematic substance reported, Wales 2019/20 to 2023/24

Alcohol was the most frequently reported problematic substance reported at assessment with 4,453 assessments, a reduction of 13.2 per cent compared with the previous year. An increase of 11.1 per cent was recorded in assessments in which crack/powder cocaine was reported as the primary problematic substance in this age group. The number of assessments in which opiates were recorded as the primary problematic substance have decreased by a further 20.7percent in the previous year. There have been small but consistent decreases in the number of assessments involving amphetamines each year in the last five years, with an observed 59.3 per cent decrease over that period. The number of assessments involving cannabis decreased in 2023/24 by 24.0 per cent following relatively steady numbers over the past five years.

12 Older adults aged 50 years and above

12.1 Hospital admissions for alcohol-specific conditions, older adults

There were 8,194 hospital admissions for alcohol-specific conditions in 2023/24 amongst adults aged 50 or older. Of these admissions, 1,510 (14.0 per cent) were for alcohol-specific conditions in the primary position. There were 5,394 individual patients admitted, of which 1,223 (22.7 per cent) were for conditions in the primary position. Males accounted for 67.7 per cent of admissions, comparable to previous years. The 50+ age cohort made up 67.0 per cent of all those admitted for alcohol-specific conditions in 2023/24, an increase from the previous year.

The five-year age band with the greatest number of individuals admitted falls within this cohort, with those aged 55-59 making up 12.9 per cent, or approximately one in eight of all alcohol-specific hospital admissions in 2023/24. Chart 30 shows the number of individuals aged 50+ admitted with an alcohol-specific condition in any diagnostic position in 2023/24 by sex and age group.

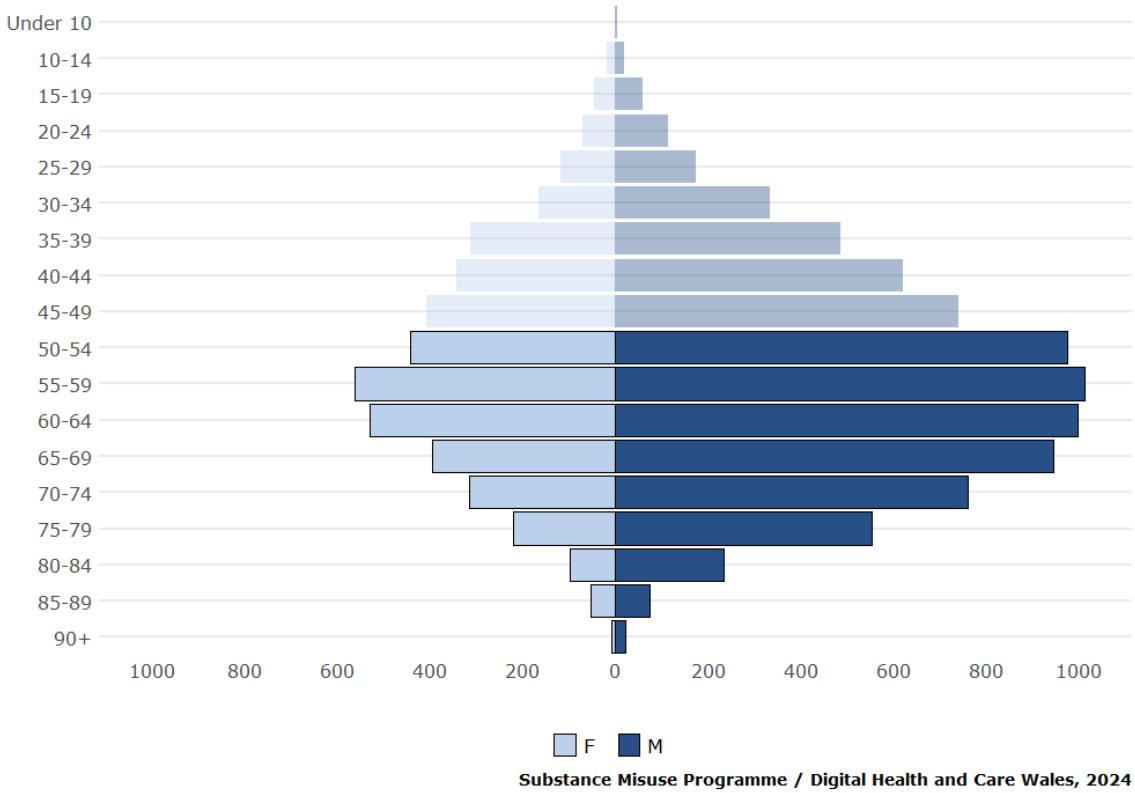


Chart 30: Older adults aged 50+ resident in Wales admitted to hospital with an alcohol-specific condition, by age band and sex and age 2023/24

Chart 31 shows the number of admissions involving those aged 50 years or more involving an alcohol-specific condition by sex. Since 2015/16, there has been a 1.8 per cent increase in the number of admissions involving individuals over the age of 50.

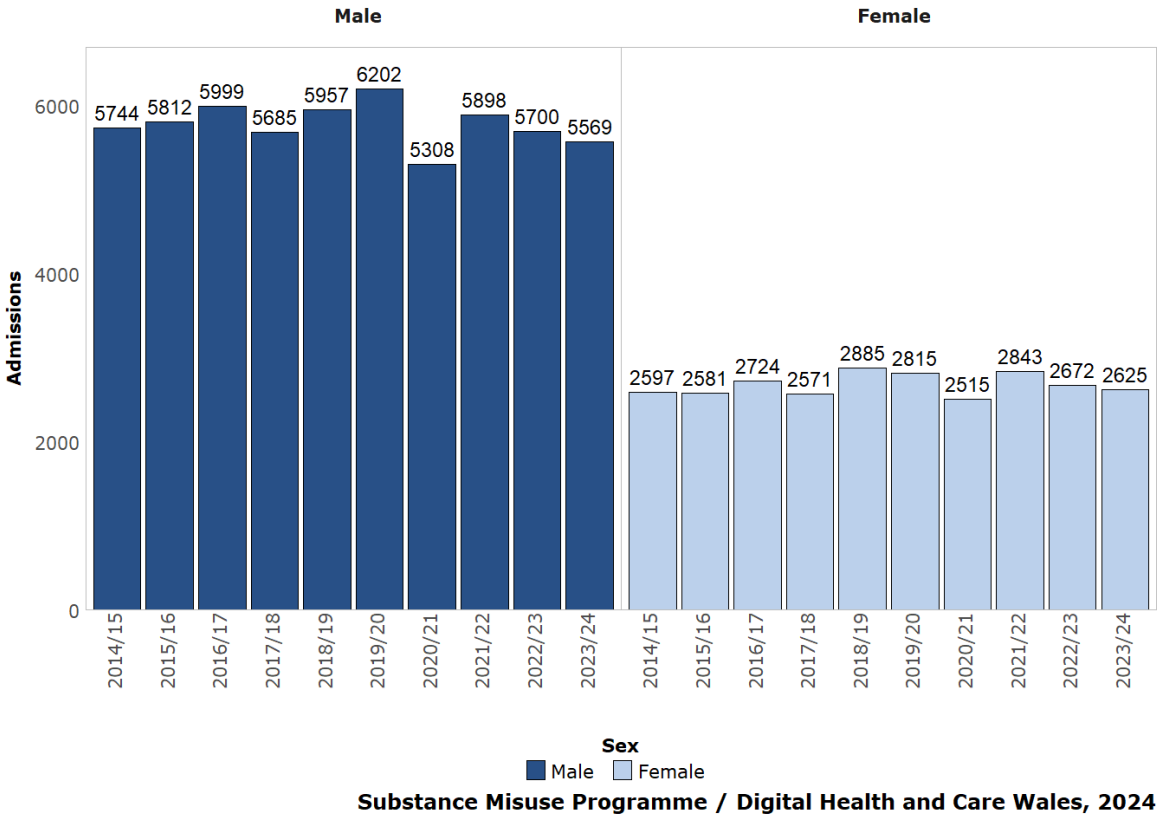


Chart 31: Hospital admissions for alcohol-specific conditions amongst older adults aged 50+ resident in Wales by year and sex, 2014/15 to 2023/24

12.2 Hospital admissions for poisoning with illicit drugs in older adults

In 2023/24, there were 1,149 illicit drugs related admissions involving 911 individuals aged 50 years or older, slightly lower than 2022/23 (1,286 admissions and 1,011 individuals). Of these 58.3 per cent of patients were male. Males have had a higher proportion of admissions in this age category since 2014/15, though the difference between sexes has decreased in the last two years. Individuals aged 50 and over made up 29.8 per cent of all those admitted in 2023/24 following illicit drug use compared to 18.0 per cent 10 years ago.

Within this broad age cohort, the 50-59 age category reported the largest number of individuals, representing 16.1 per cent of all individuals admitted for illicit drugs across all age categories. Much greater variation is observed between age group among males in this cohort than females. Chart 32 shows the number of older individuals resident in Wales and admitted to hospital following use of illicit drugs in 2023/24.

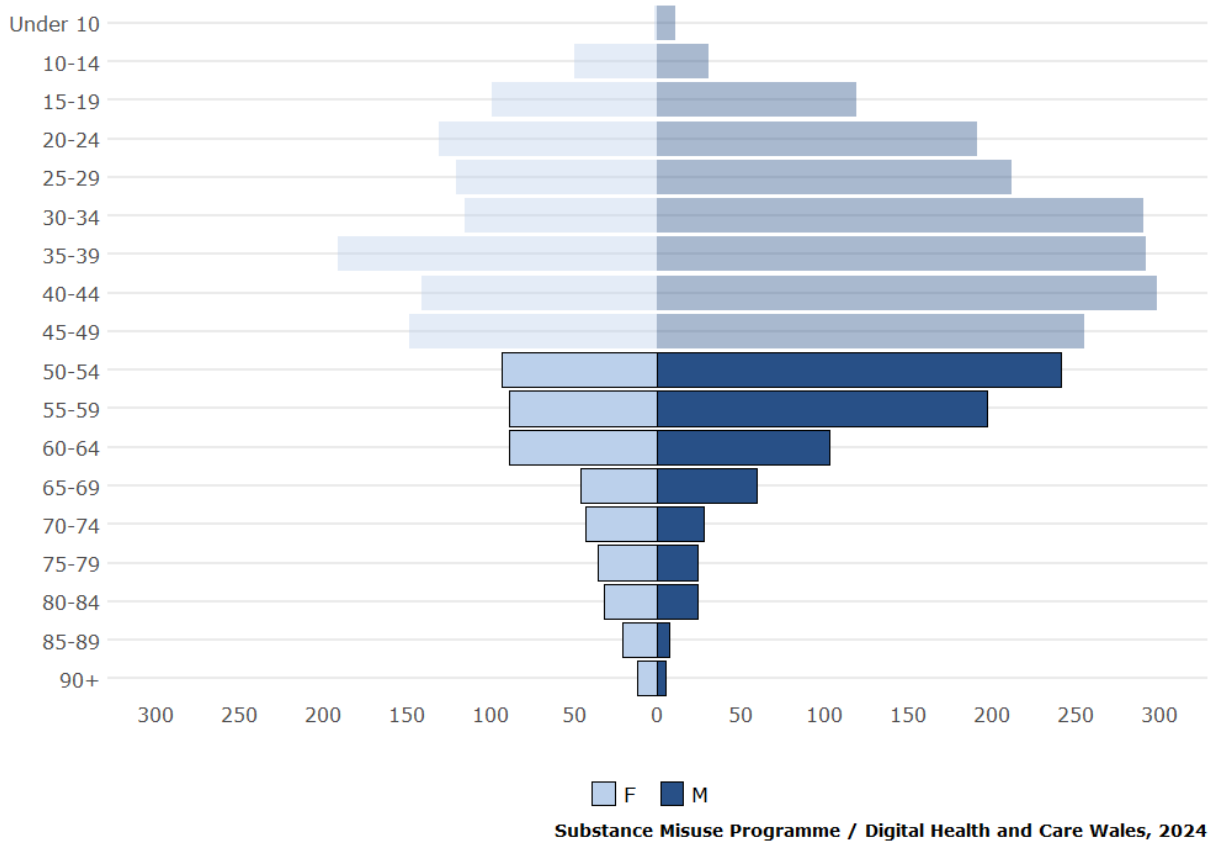


Chart 32: Older adults aged 50+ resident in Wales admitted to hospital with a condition related to illicit drugs, by sex and age, 2023/24

Admissions involving opioids remain considerably higher than other illicit drugs, accounting for nearly half (48.9 per cent) of admissions involving illicit drugs in this age category. Opioid admissions in this cohort have declined by 13.8 per cent in 2023/24 but remain higher than 10 years ago. Admissions involving benzodiazepines have declined considerably over the past ten years with a 62.3 per cent decline since 2014/15 including a 20.9 per cent decline from 2022/23. Admissions for both cannabinoids and cocaine have risen gradually over the past 10 years, despite a slight drop in the most recent year. Chart 33 shows the number of admissions relating to each substance type within this age category over time.

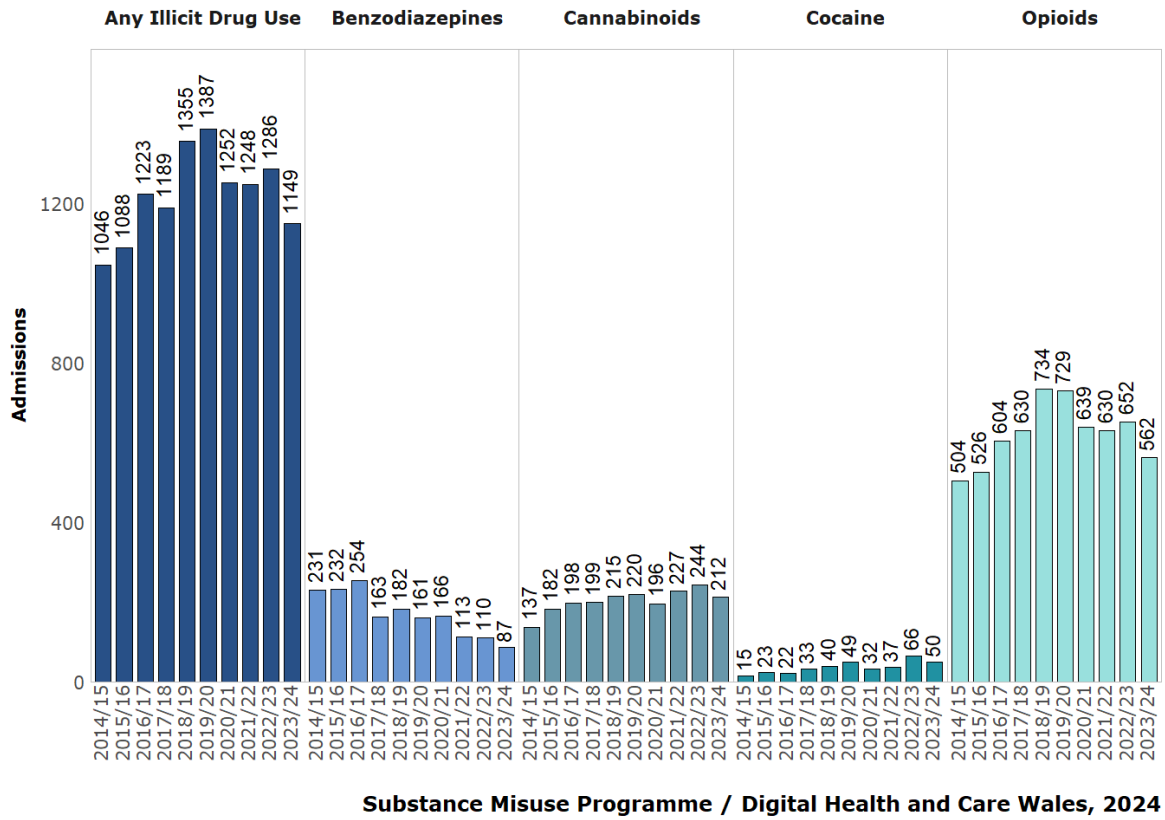


Chart 33: Hospital admission for conditions related to illicit drugs amongst older adults aged 50+ resident in Wales by year and substance type, 2014/15 to 2023/24

12.3 Assessment by substance misuse treatment services, older adults

There were 3,522 assessments for individuals aged 50 and over recorded on the Welsh National Database for Substance Misuse in 2023/24, a slight decrease from 2022/23 (3,715 assessments). These assessments involved 3,219 unique individuals, of which 52.5 per cent (n=1,689) were male. A substantial majority of individuals assessed within this age cohort were within the 50-59 age group (n=2,191). Chart 34 shows individuals aged 50 and over assessed by specialist substance misuse services in Wales by age, sex and primary problematic substance reported.

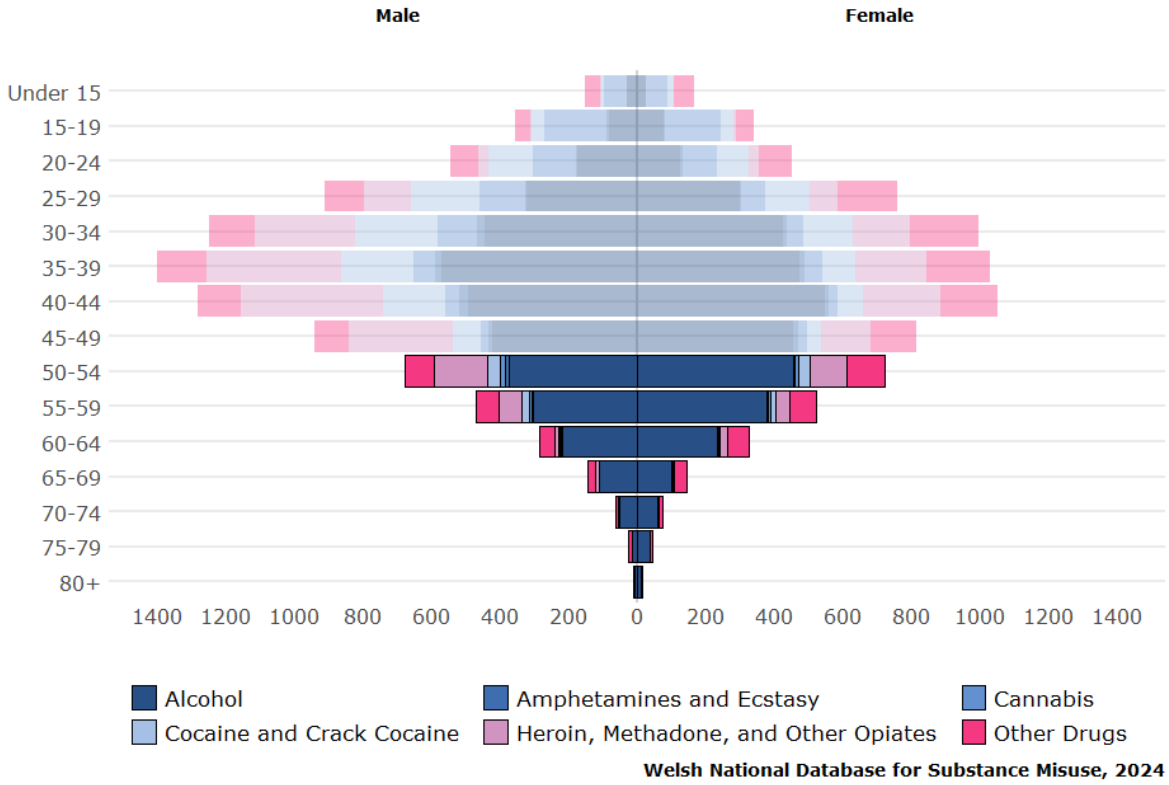


Chart 34: Older adults (aged 50+) assessed by substance misuse services in Wales, by sex, age band and primary problematic substance reported, 2023/24

As shown in Chart 35, alcohol was the most frequently presenting problematic substance, representing 66.4 per cent of assessments (n=2,337). This compares with 12.0 per cent (n=424) of assessments where opioids were reported as the main problematic substance. While assessments for alcohol and opioids have declined by 13.2 and 7.4 per cent respectively in 2023/24, assessments for cocaine and crack cocaine have increased by 28.3 per cent in this age category over the same period. Assessments for cannabis and amphetamines and ecstasy amongst older adults aged 50+ continue to steadily decline.

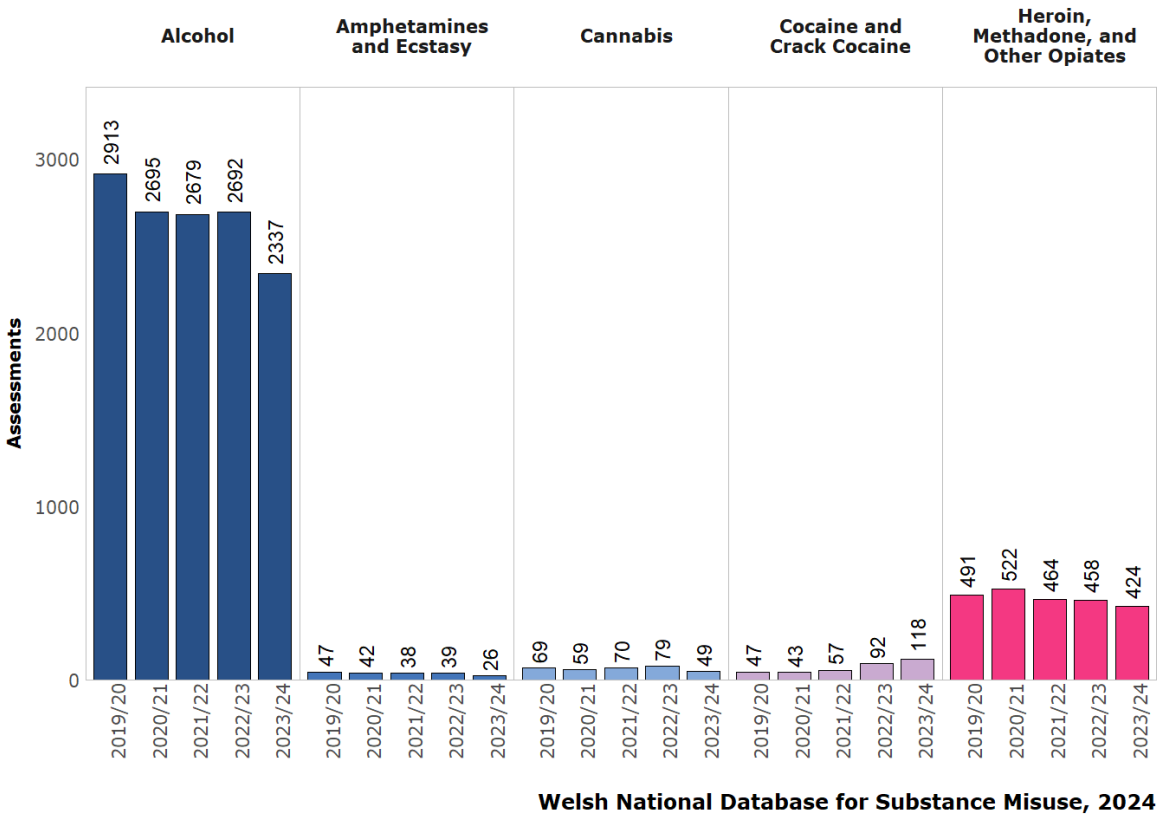


Chart 35: Substance misuse assessments amongst older adults aged 50+, by primary problematic substance reported, Wales 2019/20 to 2023/24

13 Self-reported use of illicit drugs in the past year: adults aged 16-59 years

The Crime Survey for England and Wales (CSEW) is typically carried out annually, however no data was published for 2020-21 or 2021-22.[17] Whilst its principal purpose is to survey a representative sample of the population on their experiences of crime, it also includes 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." [18] *No new release of drug misuse data from the CSEW was available at time of publication of this report, therefore this section could not be updated.*

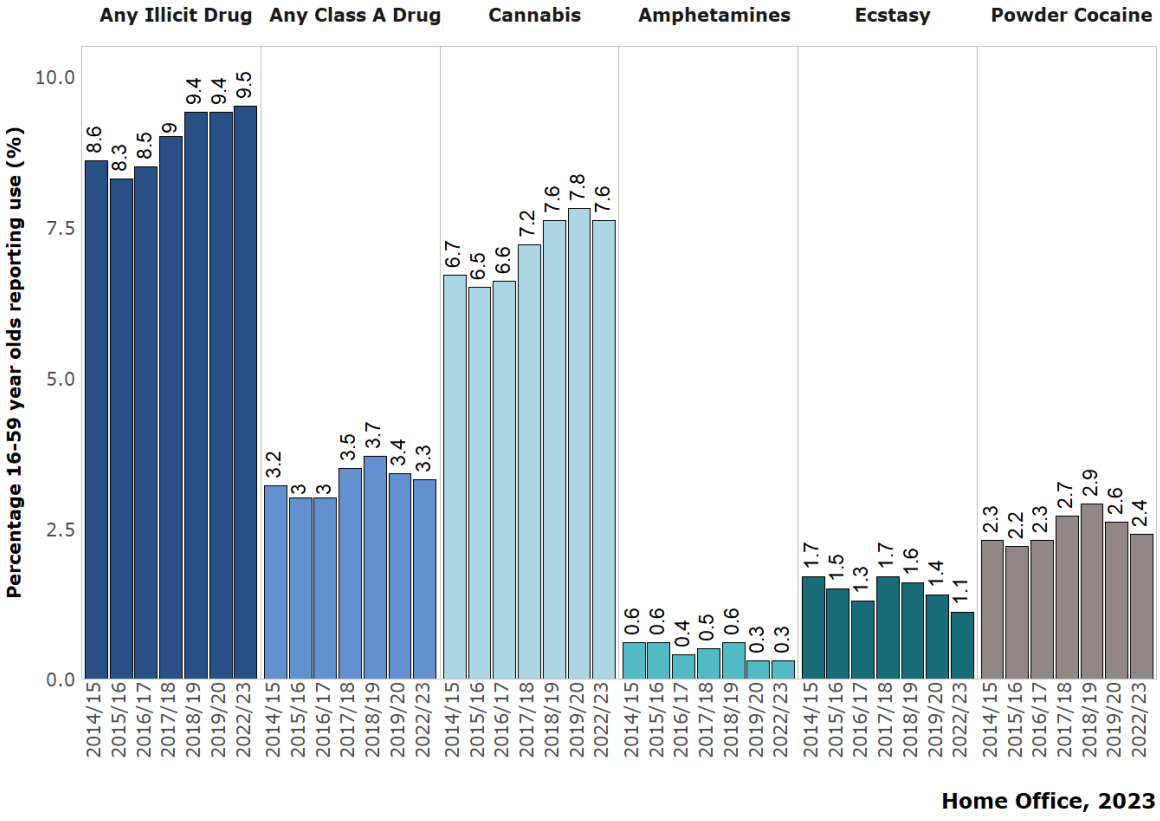


Chart 36: Percentage of adults in Wales aged 16-59 self-reporting use of selected illicit drugs in past 12 months, 2014/15 to 2022/23

Data from the CSEW for 2022/23 suggests that use of illicit drugs has increased from 8.5 per cent in 2019/20 to 9.3 per cent. The proportion of adults self-

[17] Office for National Statistics: Drug misuse finding from the 2022 to 2023 CSEW. Available at https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/crimeinenglandandwales/yearendingmarch2023

[18] Home office 2018 : Drug misuse: Findings from the 2018/19 Crime Survey for England and Wales, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/832533/drug-misuse-2019-hosb2119.pdf

reporting the use of illicit substances in Wales is comparable with England overall (9.5 per cent), particularly the North West (8.9 per cent).

Compared to 2015/16, the self-reported use of:

- Any Class A drug has increased from 2.4 per cent to 2.8 per cent
- Powder Cocaine has increased from 1.8 per cent to 2.2 per cent
- Cannabis has increased from 6.2 percent to 7.2 per cent

In Wales, the proportion of adults who self-reported use of non-prescribed prescription-only painkillers for medical reasons has reduced from 10.7 per cent in 2015/16 to 5.0 per cent in 2022/23, comparable to England overall in 2022/23 (4.9 per cent).

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 collected through the HRD and the most recent HRD activity reports are available online.[19]

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 identifier details when presenting for injecting equipment or who are people who inject drugs infrequently.

Data is reported by substance group: opioids, stimulants and IPEDs.[20,21] As injecting and problematic drug use often involves use of more than one substance, individuals may be included in multiple substance groups.

In 2023/24, a total of 16,175 individuals accessed NSP services at least once in Wales, an increase from the previous year (15,331 individuals). Of these, 8,319 were defined as people who inject drugs (PWID) and regularly access NSP services. The remaining 7,856 individuals (48.6 per cent) attended an NSP service only once in 2023/24. Chart 37 shows the number of regular individuals accessing NSP services between 2019/20 and 2023/24 by age and substance group.

[19] Public Health Wales: Harm reduction database – Needle and syringe programme activity in Wales 2021-22. Available at https://phw.nhs.wales/publications/publications1/needle-and-syringe-programme-activity-in-wales-annual-report-2021-22/
[20] Stimulants include amphetamine, crack and cocaine, mephedrone and other cathinone substances.
[21] Includes Injectable and oral Anabolic and Androgenic Steroids, Peptides (including Growth Hormone), Melanotan, Insulin and Insulin Growth Factors

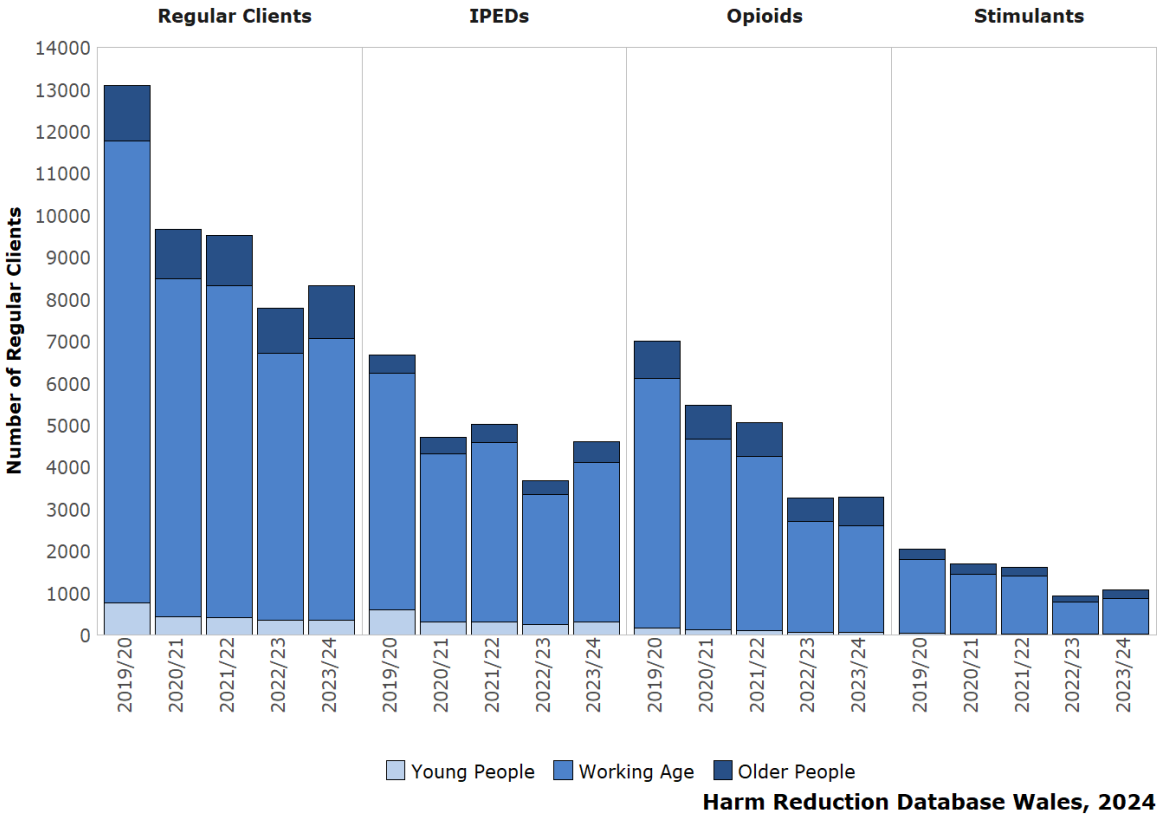


Chart 37: People who inject drugs and regularly accessing Needle and Syringe Programmes in Wales, by age group, year and substance group, 2019/20 to 2023/24[22]

14.1.1 Young people aged up to 25

In 2023/24, young people represented 4.2 per cent (n= 351) of all individuals regularly attending NSP services. This proportion remains stable over recent years, decreasing from 5.9 per cent in 2019/20. Of all regular NSP service attendees aged under 25:

- 90.6 per cent (n = 318) of these were male
- 86.3 per cent (n=303) reported IPED use
- 13.4 per cent (n=47) reported opioid use
- 6.8 per cent (n=24) reported stimulant use

[22] 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 make up the majority of those regularly accessing NSPs in Wales, with a total of 6,707 individuals (80.6 per cent) in 2023/24, similar to the previous year (81.8 per cent). Of this total:[23]

- 88.0 per cent (n=5,904) were male
- 56.8 per cent (n= 3,802) reported IPED use
- 38.0 per cent (n=2,548) reported opioid use
- 12.5 per cent (n= 840) reported stimulant use

The proportion of male to female PWID varied by primary drug type as shown in Chart 38.

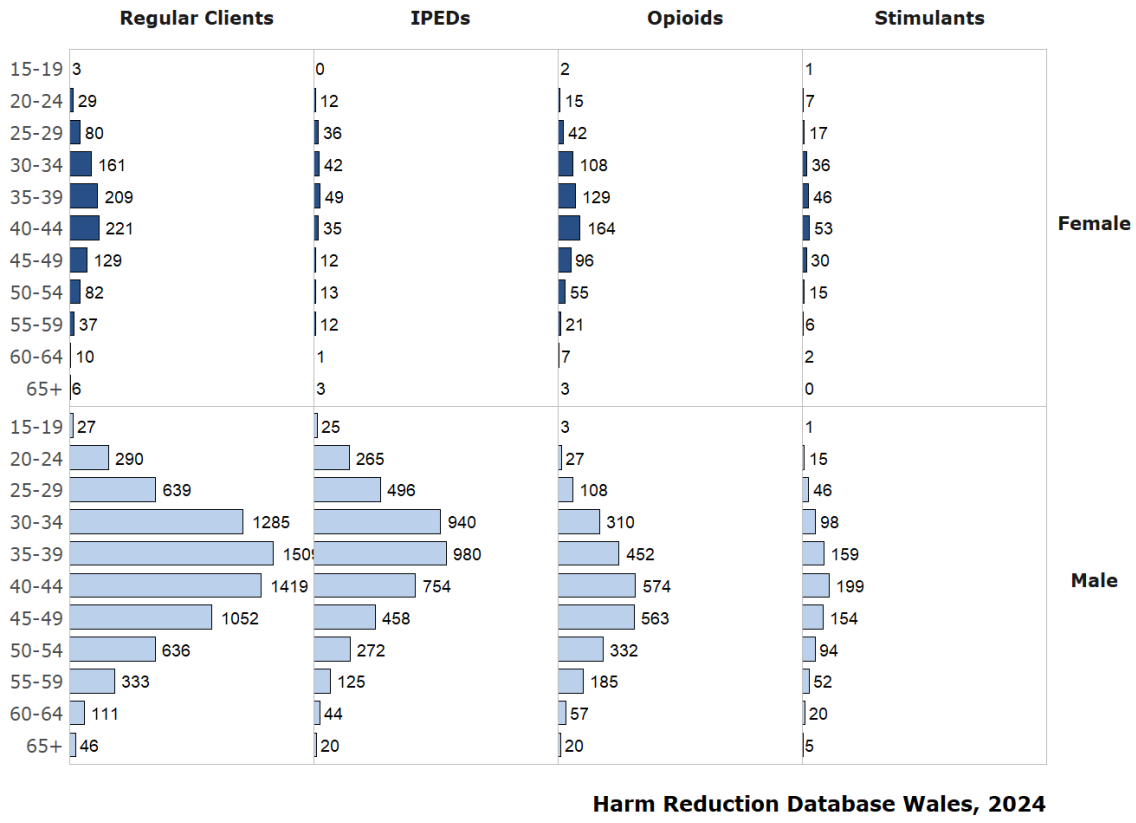


Chart 38: Number of people who inject drugs, regularly accessing NSP services by sex, age group and substance group, Wales, 2023/24

14.1.3 Older adults 50+

There were 1,261 individuals aged 50 years or more regularly attending NSP services in 2023/24, representing 15.2 per cent of the total. This proportion

[23] Individuals reporting poly-drug use may be included in more than one substance group.

continues to increase from 5.5 per cent in 2015/16. Of the 1,261 older adults accessing NSPs:

- 89.3 per cent (n=1,126) were male
- 36.6 per cent (n=461) reporting IPED use
- 47.1 per cent (n=594) reported opioid use
- 13.6 per cent (n=171) reported stimulant use

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 UK Health Security Agency (UKHSA).[24] 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 2023, there were 124 UAM survey participants in Wales.[25] In 2020, recruitment to the UAM Survey was limited due the COVID-19 pandemic resulting in a change in the geographic and demographic profile of those taking part. The number of respondents remains much lower than before the COVID-19 pandemic.

Direct and indirect sharing

In 2023, a total of 42 per cent of respondents reported direct or indirect sharing of injecting equipment (injecting paraphernalia including needles, syringes, filters and cookers previously used by someone else) during the last 28 days, an increase from 26 per cent in the previous year. However, only 53 individuals responded to this question.

[24] Further information and data from the Unlinked Anonymous Monitoring Survey is available at: Unlinked Anonymous Monitoring (UAM) Survey of HIV and viral hepatitis among people who inject drugs (PWID): 2024 report - GOV.UK

[25] Not every question was answered by all interviewees.

Prevalence of blood borne virus infection amongst people who inject drugs

Hepatitis B

Hepatitis B positivity was not provided in 2023 for Wales at time of publication. In 2022, a total of 5 of 96 respondents in Wales provided dry blood spots which tested positive for hepatitis B (hepatitis B core antigen), a rate of 5.2 per cent, down from 7.8 per cent in 2020. This represents a substantial decrease compared to the last six years, where the average proportion has been 8.4 per cent positive. The uptake of hepatitis B vaccination amongst UAM participants in Wales was reported at 58.6 per cent (n= 58/99) in 2022, lower than previous years.

Hepatitis C

In 2023, The proportion with reactive test results for hepatitis C antibodies was 51 per cent (n=61/120 respondents). Infection rates for hepatitis C have risen in Wales over the last decade, from 26 per cent in 2010. It is hoped that following the introduction of highly effective, available and tolerable treatment, along with the introduction of routine community opt-out testing, diagnosis and referral to treatment, this trend will be reversed in the coming years.

HIV

HIV positivity was not provided in 2023 for Wales at time of publication. In 2022, the rate of HIV infection was 1.0 per cent amongst those from Wales participating in the UAM, an increase from 0.93 per cent recorded in 2019. 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 2022, there were 101 new cases of HIV amongst Welsh residents. Probable exposure data indicated that <5 of the new cases in 2022 were reported to be a consequence of injecting drug use.

14.2.2 Harm Reduction Database: Blood Borne Virus module

The second source of data on blood borne virus infection amongst PWID is the Public Health Wales Harm Reduction Database (HRD) Blood Borne Virus module. 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.

BBV testing recorded in the HRD has increased since the pandemic. In 2023/24 there were:

- 5,950 individuals tested for hepatitis C within specialist substance misuse services, of which 4,279 had valid anti-HCV test results. Of these, 9.9 per cent (n= 422) had antibodies detected (reactive). Amongst individuals who reported 'ever injecting drugs' the rate was 24.6 per cent

- 4,991 individuals tested for hepatitis B. Less than 1 per cent of individuals screened positive for hepatitis B surface antigen (HBsAg)
- 5,042 individuals tested for HIV. Less than 1 per cent of these individuals screened positive. Any individual testing positive for HIV antibodies, indicative of infection, is referred immediately into specialist clinical treatment

14.3 Estimates of problematic drug use in Wales

In Wales, Public Health Wales undertake an annual estimate of problematic drug use (PDU) using a definition adapted from the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) as "injecting drug use or long duration or regular use of opioids, cocaine and/or amphetamines [including amphetamine type substances]". Work is ongoing to publish a new estimate of PDU. Headline figures for problem drug use estimates in Wales in 2021-22, including populations not in contact with any services, suggest that the total number of problem drug users in the period was 51,110 (95% confidence interval (CI) 38,100 – 68,340. Details of the methods used to produce this PDU estimate for Wales is given in Appendix G.

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 are presented here for continuity. Subsequent subsections will present more detailed figures produced by the Digital Health and Care Wales (DHCW) using the AAF method.

Using the ONS definition, in 2023 there were 683 alcohol-related deaths and 562 alcohol specific deaths registered in Wales. This represents an increase of 10.5 and 15.6 per cent respectively compared to the previous year. Of the alcohol specific deaths, 64.8 per cent (n=364) of deaths involved males. Chart 39 shows the number of alcohol-specific deaths registered in Wales in each of the past ten years up to 2023 using the ONS method by year.

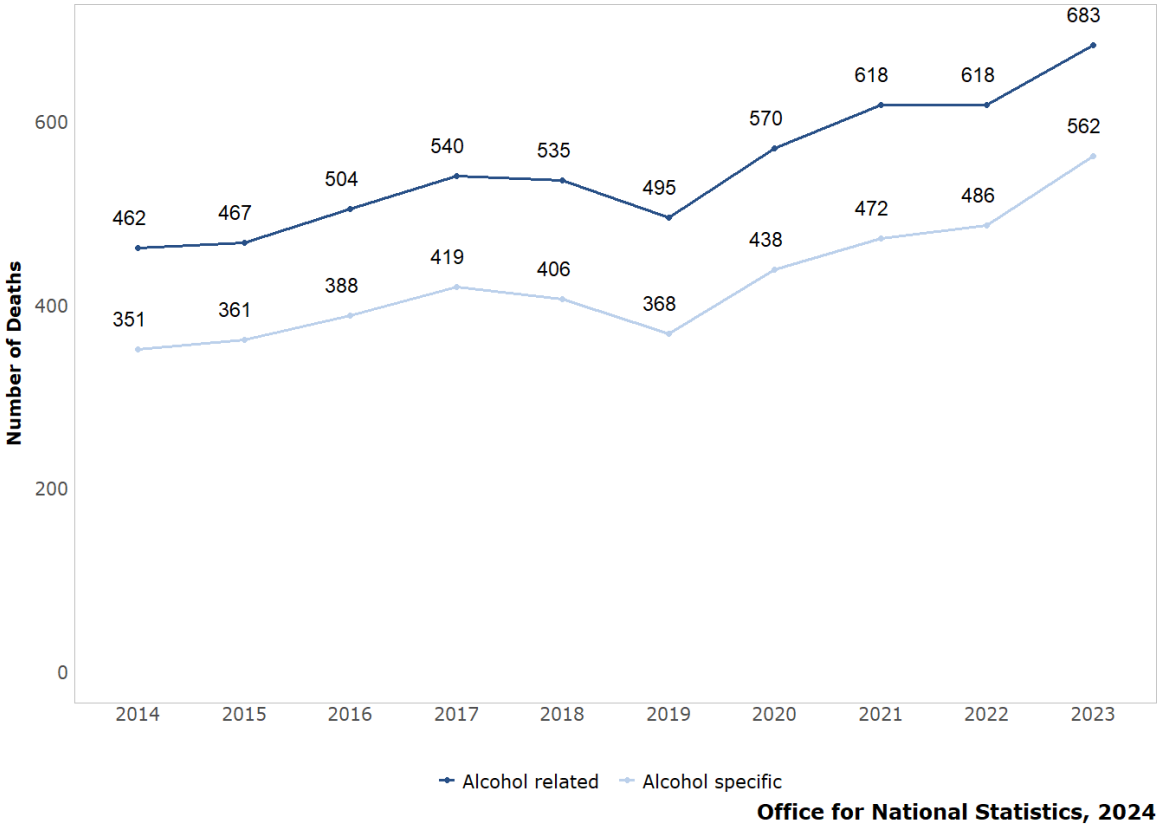


Chart 39: Number of alcohol-specific deaths by registered year of death in Wales 2014-2023

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-year reporting period shows that the EASR of deaths per 100,000 population increased between 2017-19 and 2021-23. In the most recent year, the three-year rolling average EASR is 16.0 alcohol-specific deaths per 100,000 population. This rate has been gradually increasing in recent years, as shown in Chart 40.

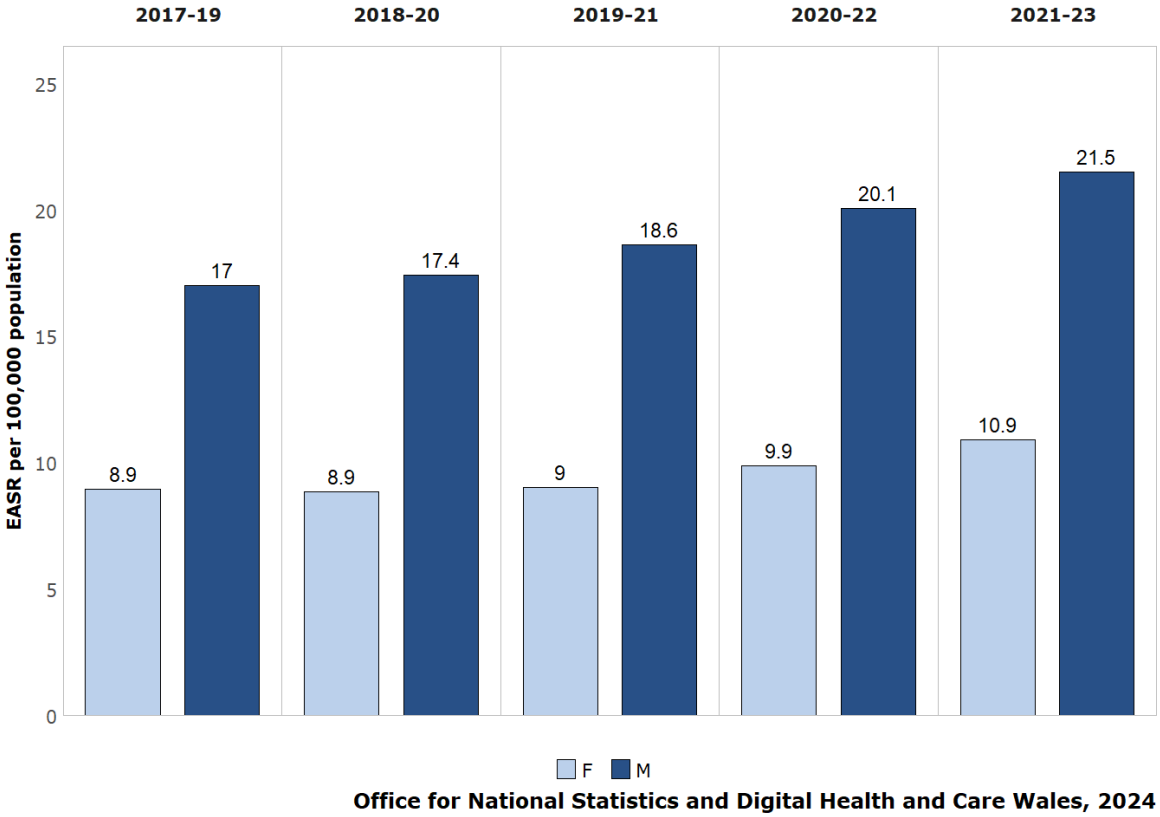


Chart 40: European age standardised rate of alcohol-specific deaths registered in year, Wales, three-year rolling averages, by years and sex

There was considerable geographic variation in three-year rolling average of alcohol-specific deaths for 2021-23, as can be seen in Chart 41. Trends remain similar to previous years, apart from Hywel Dda which is now above the Wales average.

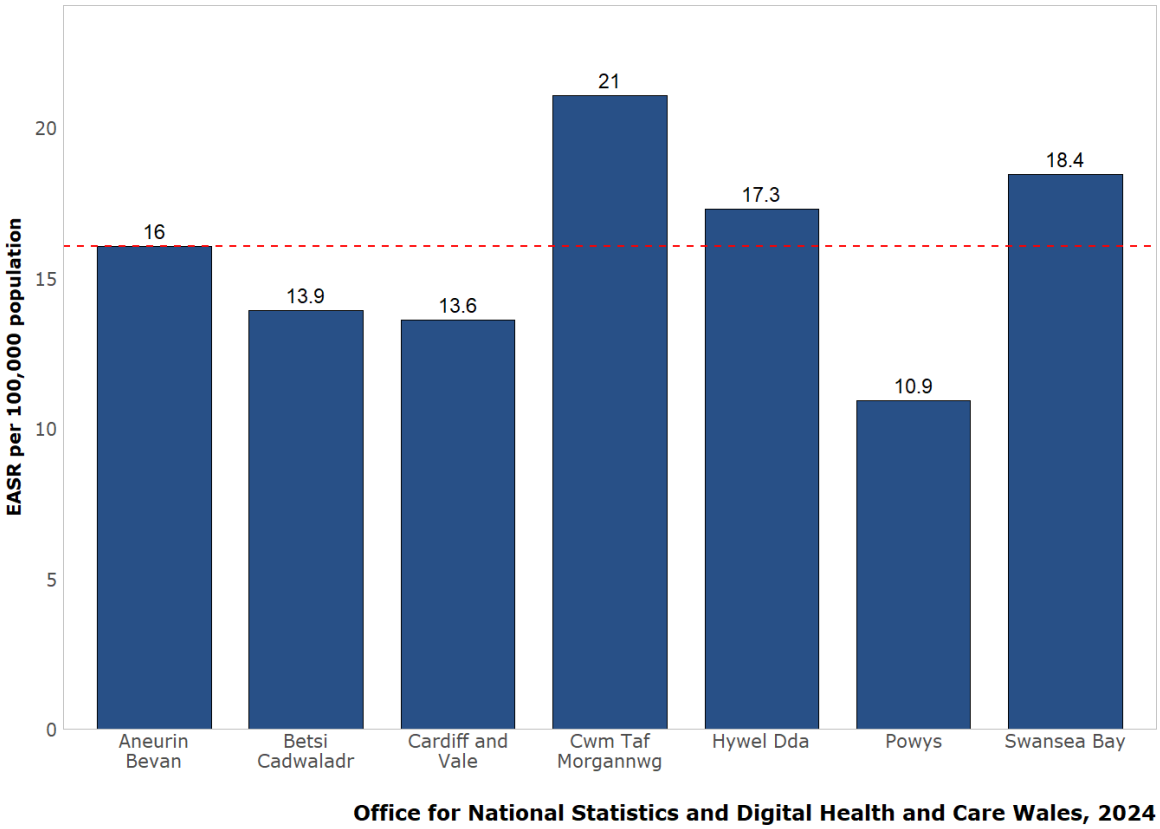


Chart 41: European age standardised rate of alcohol specific deaths, Wales, three-year rolling averages, deaths registered in 2021-23, by health board

15.3 Alcohol-attributable mortality

For 2021-23, the EASR of alcohol-attributable mortality in Wales was 54.9 deaths per 100,000 population, an increase of 3.4 per cent compared to 2020-22. The rolling average rates of alcohol-attributable mortality are shown in Chart 42. The EASR for 2021-23 increased among both males and females, by 4.1 and 2.8 per cent respectively from the previous three-year period (2020-22).

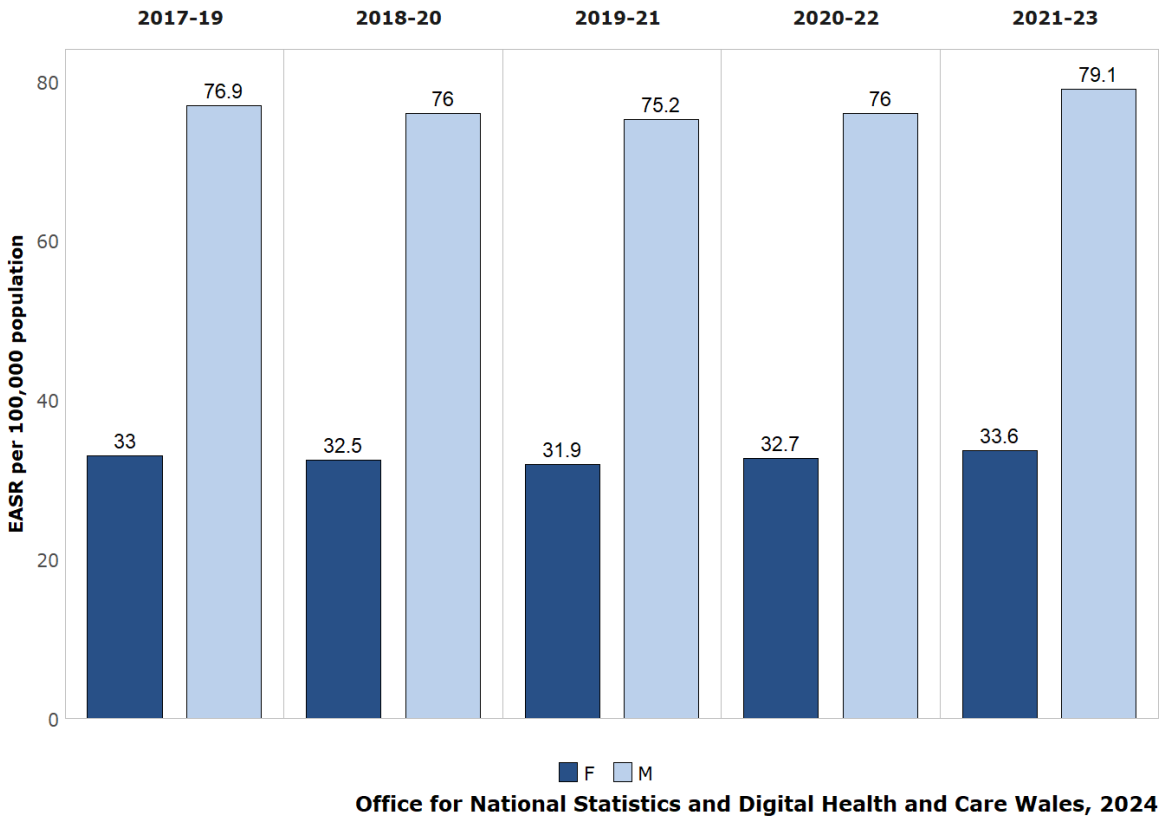


Chart 42: European Age Standardised Rate of alcohol-attributable deaths, AAF method, Wales, three-year rolling averages, by sex and year of death registered, 2017-19 to 2021-23

Chart 43 shows alcohol-attributable mortality by health board for the three-year rolling average period 2021-23. The pattern amongst health boards is similar to that for alcohol-specific mortality described above and to previous years.

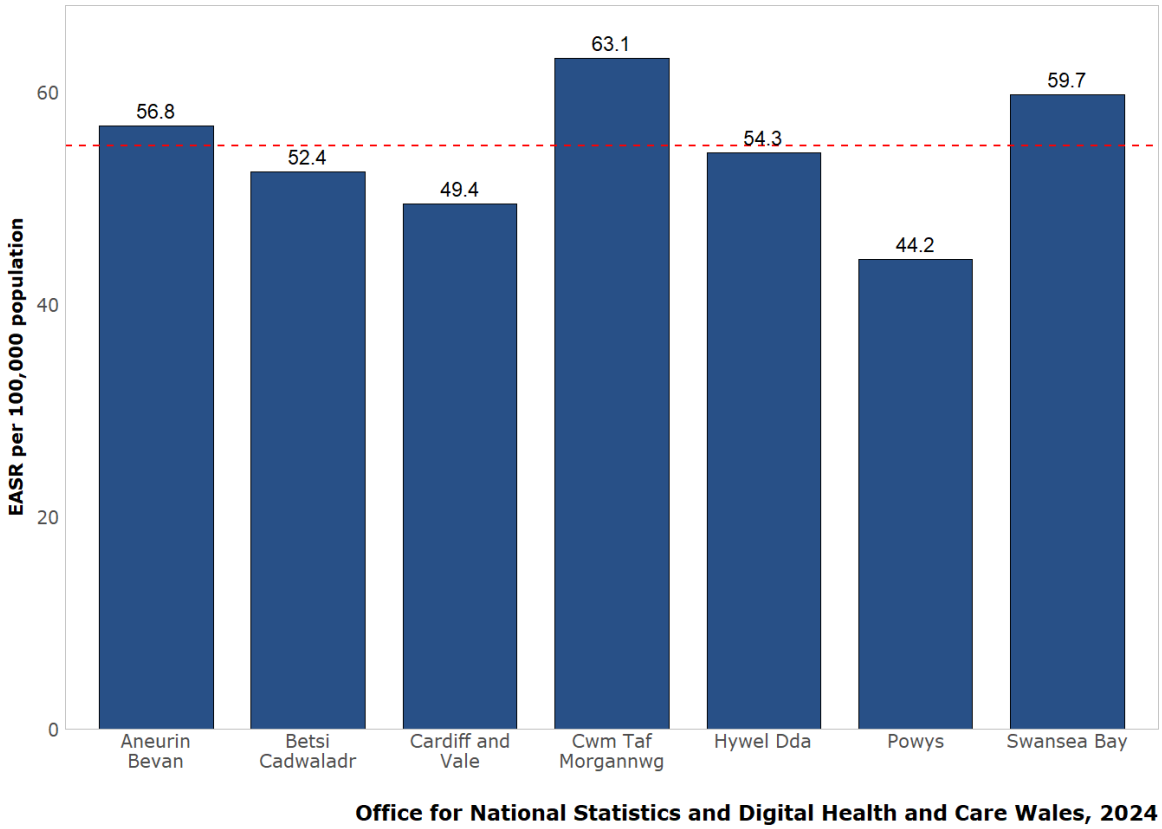


Chart 43: European age standardised rate of alcohol-attributable deaths, AAF method, Wales, three-year rolling average, deaths registered in 2021-23, by health board

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.[26]

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

In 2023, 377 deaths due to drug poisoning were registered in Wales, a substantial increase of 18.6 per cent from the previous calendar year. Of all drug-poisoning deaths, 253 (67.1 per cent) were identified as a drug misuse death, increasing from the previous year. A greater increase was observed within drug poisoning deaths that were drug misuse deaths compared to those that were not drug misuse deaths.

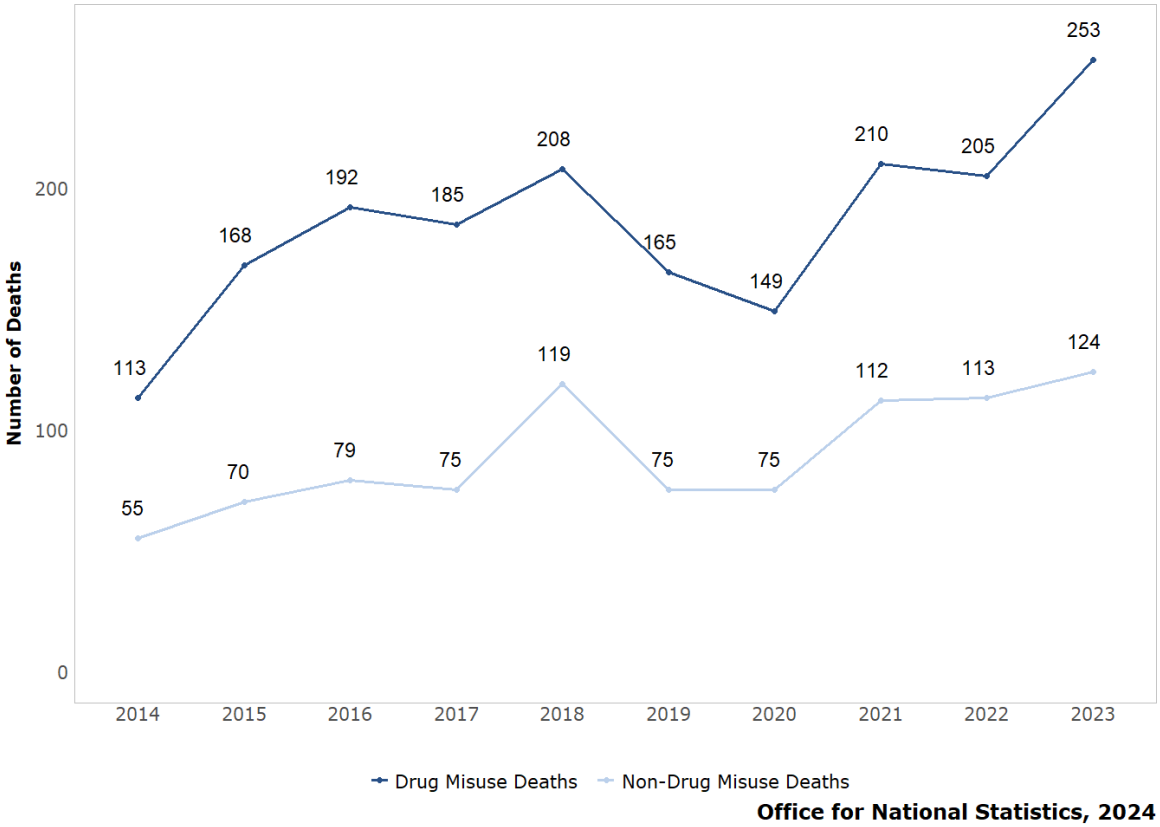


Chart 44: Number of drug poisoning and drug misuse deaths in Wales by year of registration

[26] Public Health Wales: Drug related deaths 2022. Available at: https://phw.nhs.wales/publications/publications1/harm-reduction-database-wales-drug-related-mortality/

16.2 Drug misuse deaths by sex and age group

As shown in Chart 45, the most common age group for drug misuse deaths is between 40 and 49, representing 35.2 per cent of all drug misuse deaths. The number of deaths involving individuals under the age of 29 has decreased to the lowest point in the past five years, though deaths among individuals between 30 and 30 has increased slightly. As with previous years there were more deaths in 2023 involving males than females. The largest increase in drug misuse deaths was observed within males aged between 40 and 69, while females remain relatively stable across all ages.

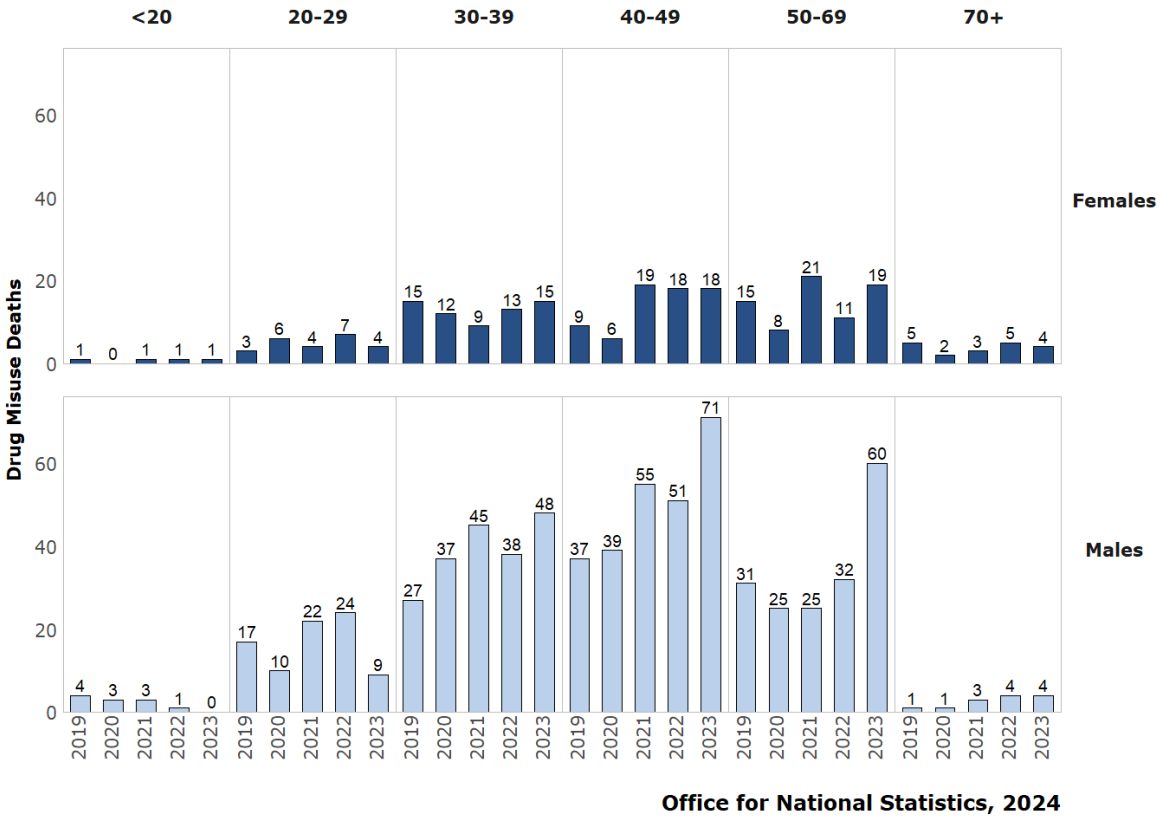


Chart 45: Number of drug misuse deaths in Wales by specified age group and sex for deaths registered by year, 2019-2023

16.3 Drug poisoning deaths by substances reported

As the definition of 'Drug misuse deaths' excludes substances not controlled under the Misuse of Drugs Act 1971, this section looks at all drug poisoning deaths. More than one substance may be recorded for each death. The figures in this section relate to all drugs recorded and therefore a death may be represented in more than one substance group.

Deaths involving opioids remain by far the most common substance group in relation to drug poisoning deaths, predominantly deaths involving other opioids, as shown in Chart 47. The number of deaths involving heroin/morphine in 2023 has increased substantially, from 64 deaths registered in 2022 to 102 in 2023

(59.3 per cent increase). This is the second highest number of deaths on record for heroin/morphine. The number of deaths involving other opioids in 2023 has remained stable from the previous year at 87.

The number of deaths involving cocaine has increased from 52 in 2022 to 65 in 2023, the highest number on record for this substance. Increases were also observed in the number of deaths involving benzodiazepines (53 to 67) and anti-depressants (34 to 51), also the highest number of deaths on record for both substance groups.

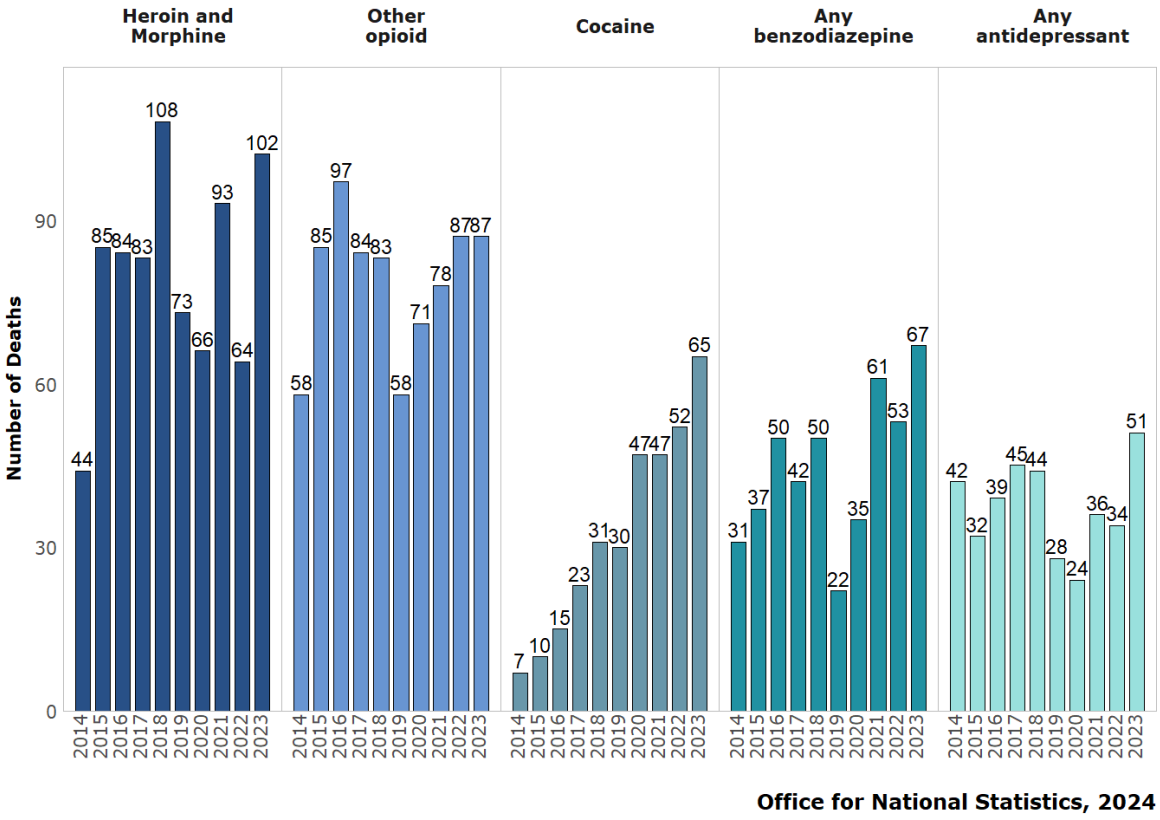


Chart 46: Number of drug poisoning deaths in Wales in which selected substances were recorded, deaths registered 2014 to 2023

16.4 Drug misuse deaths by Health Board area

The age-standardised rate for drug misuse deaths registered in 2023 in Wales was 8.8 deaths per 100,000 population compared with 7.1 in 2022. In 2023, the highest rate of drug misuse deaths was recorded in Cwm Taf Morgannwg University Health Board with an age-standardised rate of 12.45 per 100,000 population. The rate of drug misuse deaths varied substantially across Health Board areas as shown in Chart 47.

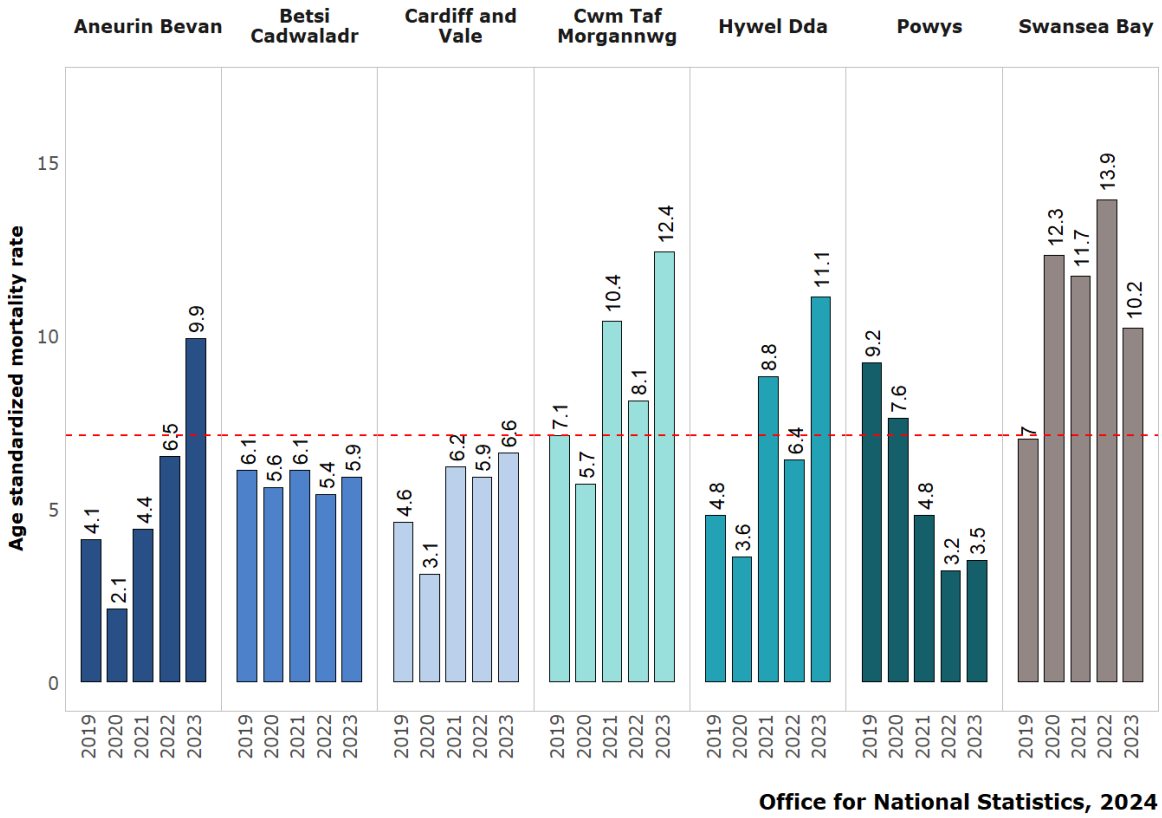


Chart 47: European Age Standardised Rate per 100,000 population of deaths from drug misuse registered in Wales, by Health Board and year, 2019 to 2023, with the national rate for 2023 (red)

Chart 48 shows the EASR per 100,000 population for 2021-23 by local authority.

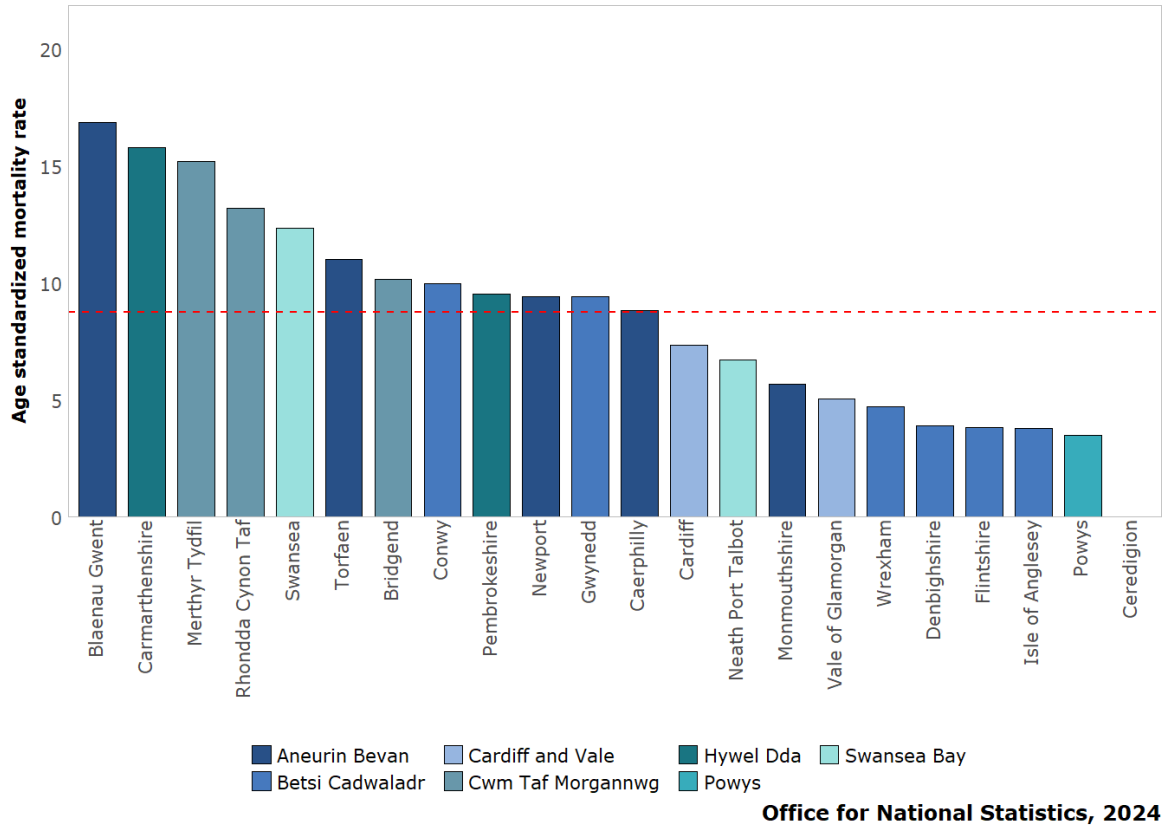


Chart 48: European Age Standardised Rate per 100,000 population of drug misuse deaths in Wales by Local Authority for 2023, with the national rates for Wales (red)

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 7,021 drugs offences in Wales in 2023/24, a decrease of 15.2 per cent compared to 2022/23, a decrease seen across all areas of Wales apart from Gwent.

As in previous years, South Wales recorded the greatest number of drug offences with 2,793 offences recorded, a decrease of 11.6 percent compared to the previous year. Gwent was the only Police Force to see an increase in drug offences, with an increase of 9.0 per cent. The number of drug offences recorded by Welsh Police Forces for the past five years is shown in Chart 49.[27]

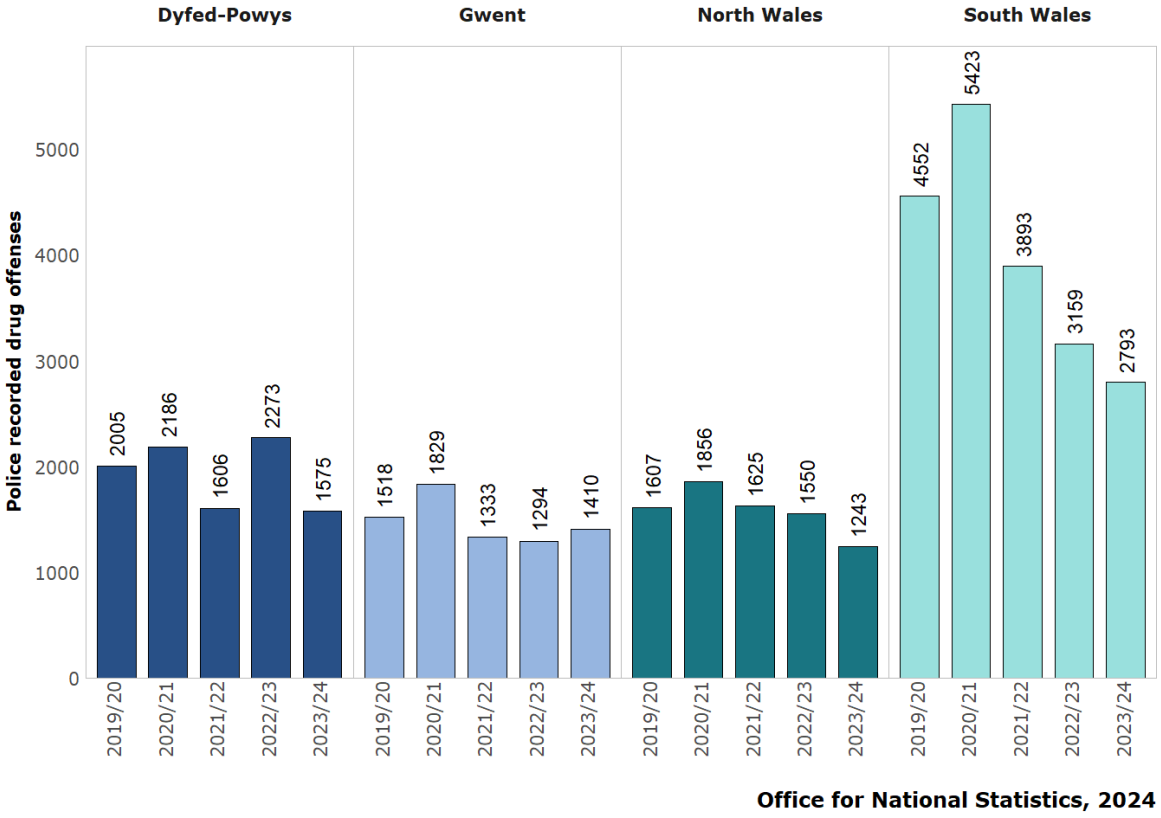


Chart 49: Number of drug offences recorded by police forces in Wales by year and police force, 2019/20 to 2023/24

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 2023/24, the highest rate per 1,000 population of drug offences was recorded in Dyfed-Powys, with 3.0 drug offences

[27] 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/datasets/policeforceareadatatables

recorded per 1,000 population, down from 4.4 per 1,000 population the previous year. The lowest rate was recorded in North Wales, with 1.8 offences per 1,000 population. The overall rate of recorded drugs offences for Wales was 2.2 per 1,000 population. The rate of police recorded crimes by year and Police Force area for Wales is shown in Chart 50.

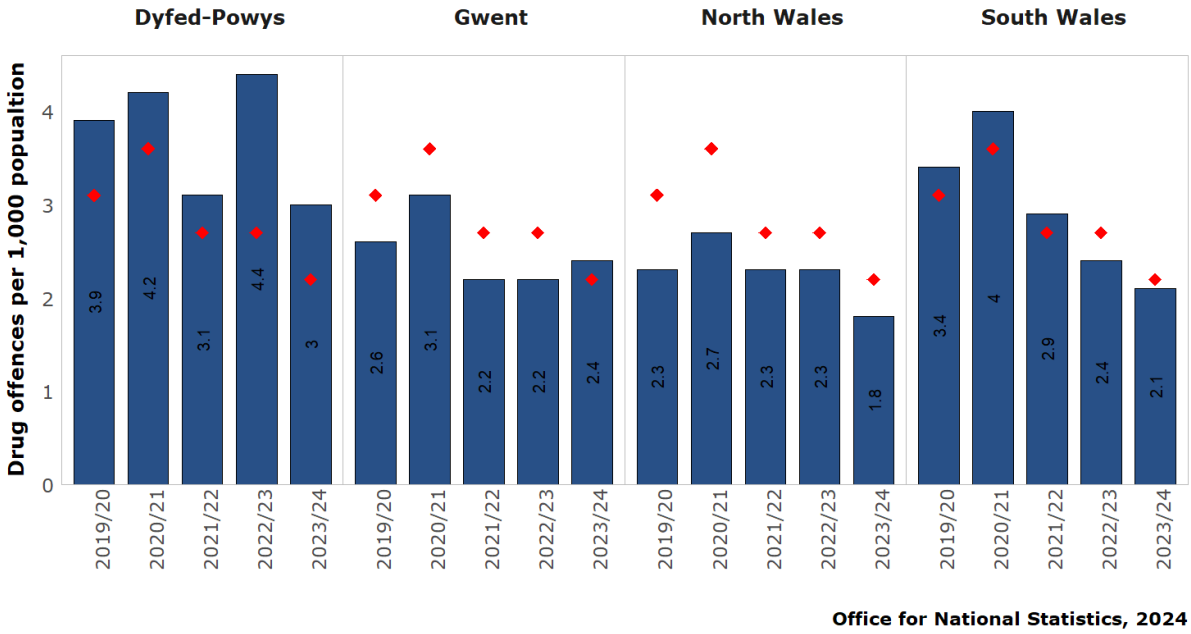


Chart 50: Rate per 1,000 population of drug offences recorded by Police Forces in Wales by year and police force, 2019/20 to 2023/24, with the Wales average rate (red)

17.2 Seizures of illicit drugs in Wales

No updated data on seizures of illicit drugs was available from the previous year at time of publication.

There were 7,449 seizures of illicit drugs by Police Forces in Wales in 2022/23, a decrease of 7 per cent compared to the previous year. This represents an average of 2.4 seizures per 1,000 population in Wales, a decrease from 2.6 per 1,000 population the previous year. The rate of seizures in England was 2.7 per 1,000 population. Of all seizures in Wales, 24.6 percent (n = 1,835) involved Class A substances.

The majority, 70.0 per cent, of seizures involved cannabis (n = 5,215), with a further 21.0 per cent of all seizures accounted for by cocaine or crack cocaine (n = 1,561), 4.7 per cent heroin and 4.6 per cent amphetamines.

South Wales Police accounted for 38.2 per cent of all seizures in Wales. South Wales Police also recorded higher proportions of seizures of Class A drugs including 59.4 per cent of all heroin seizures and 44.2 per cent of all cocaine seizures in 2022/23.

Wales accounted for 3.9 per cent of drug seizures occurring in England and Wales in 2022/23. The number of seizures recorded by police force in Wales for selected drugs is shown in Chart 51.

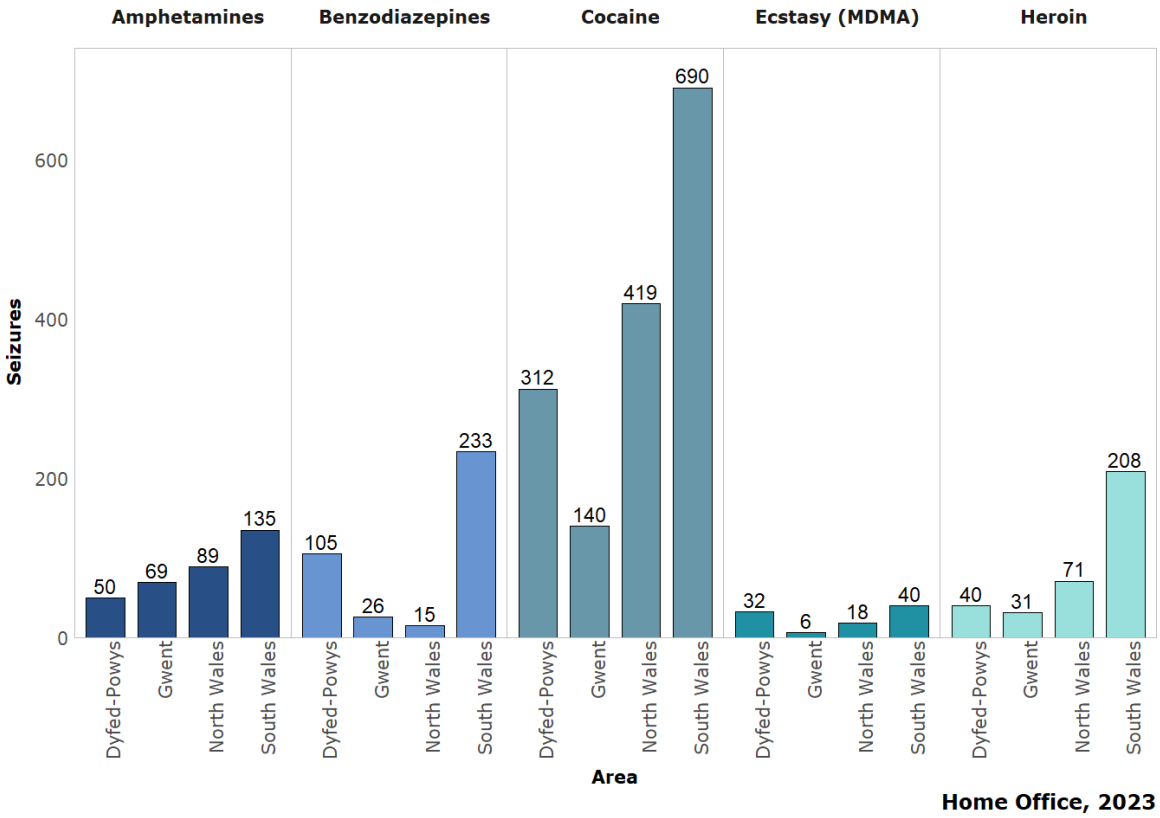


Chart 51: Number of seizures by Welsh Police Forces, 2022/23, selected drugs

Chart 52 shows the rate of seizures per 1,000 population for each of the four Welsh Police Forces and the Wales average between 2018/19 to 2022/23.

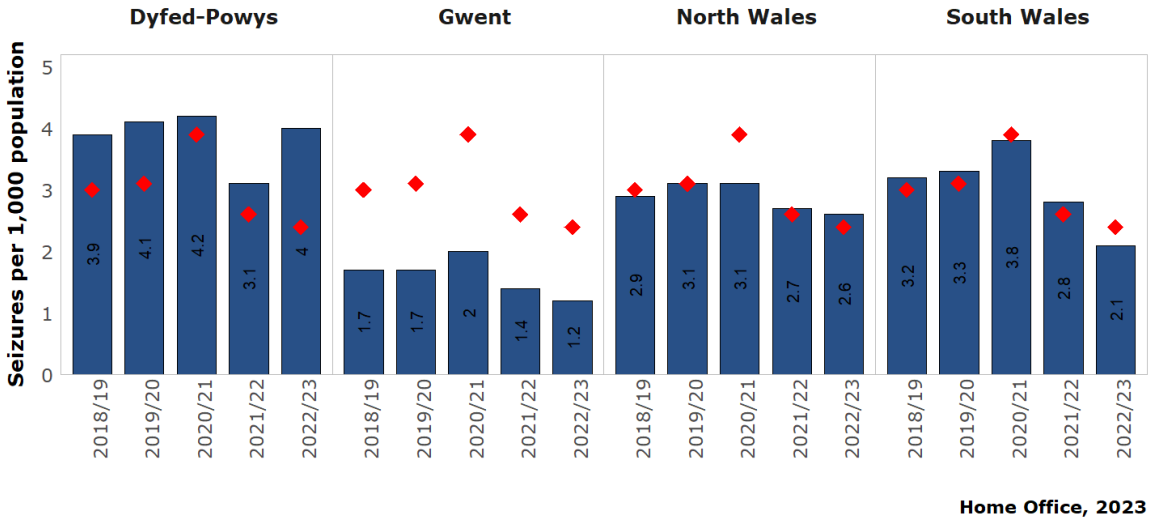


Chart 52: Rate of seizures of illicit drugs by Police Forces in Wales per 1,000 population, by police force and Wales average (red), 2018/19 to 2022/23

17.3 Price and purity of selected illicit drugs – UK

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).[28] 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. *The most recent official data available for price and purity were published in 2020 and may no longer be accurate.* Chart 55 shows the typical street prices of selected illicit drugs in the UK to 2018.

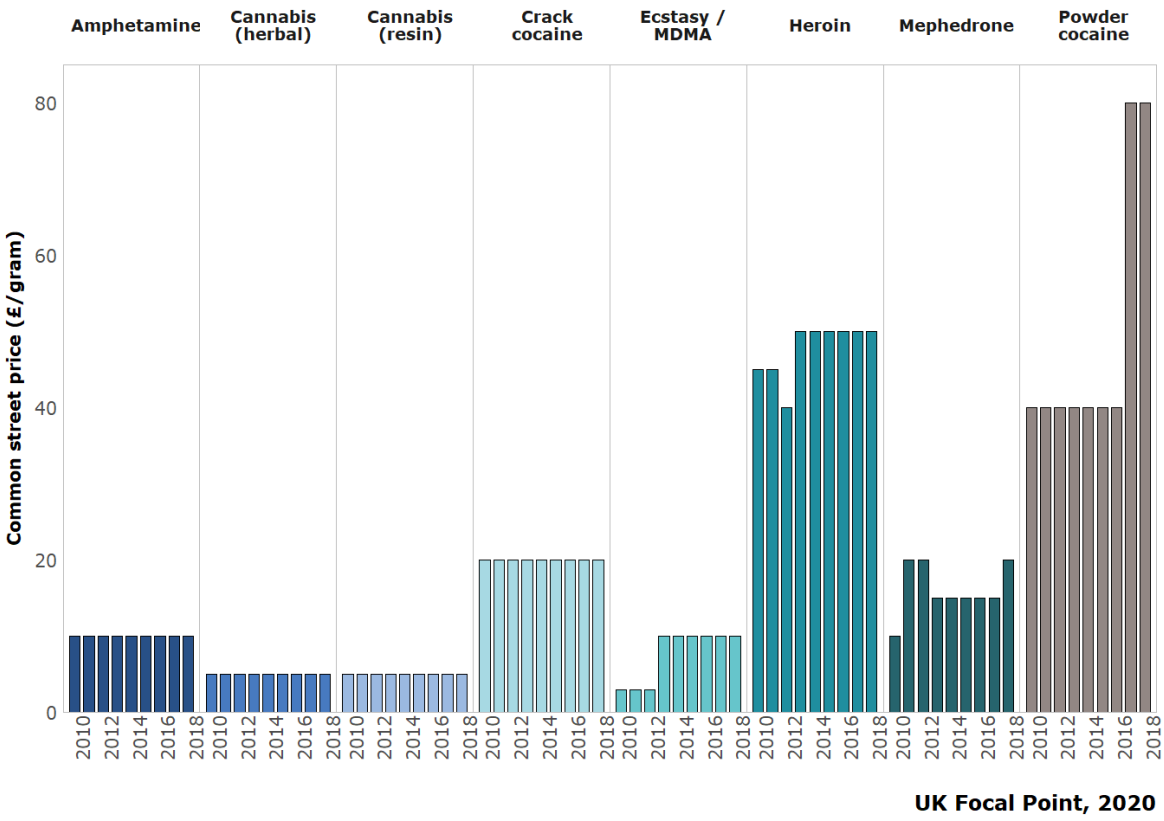


Chart 53: Typical street price of selected illicit drugs based on law enforcement agency reports, UK, 2010-18[29]

Data for the UK suggests that drug prices have remained relatively stable in the most recent years recorded for most substances. This data shows that the price of powder cocaine doubled in 2017, from £40 a gram to £80, which may reflect the increase in overall purity.

In 2024, the Substance Misuse Programme of Public Health Wales undertook a consultation with health and law enforcement stakeholders across Wales to

[28] UK Focal Point annual reports are available at http://www.nta.nhs.uk/focalpoint.aspx
[29] Data for Mephedrone was not available for 2013 to 2015.

prepare a submission to the Advisory Council on the Misuse of Drugs.[30] While these findings also indicated an increase in cocaine purity, it also highlighted that price may be decreasing in Wales.

Police sources reported that demand for cocaine continues to increase and that due to the sheer volume being produced, the wholesale price has dropped. The Police reported that it is common for suppliers to take possession of multiple kilos at a time, and that cocaine is being sold at consumer level with very little adulteration. 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.

Drug services reported that powder cocaine appears more visible, affordable, easy to access and socially acceptable. Since the COVID-19 pandemic there are fewer cash transactions in the night-time economy and therefore individuals tend to carry less cash on their person. Drug markets have responded to this change by selling smaller quantities per deal (i.e. approximately a half-gram of high-quality cocaine for £20-£30), typically enough for just that night. Chart 54 further highlights that the purity of small quantity seizures of both cocaine and crack cocaine have been increasing since 2009 and reached a 10-year maximum in 2018. The purity of heroin has remained consistent between 2009 and 2018 at levels comparable to those observed before the heroin drought. Although data on the mean purity of seizures of MDMA tablets is not available in the UK Focal point report, recent evidence from the EMCDDA indicates that the purity of MDMA generally remains stable across Europe.[31]

[30] Dean Acreman, 'Drivers of Cocaine Use in Wales: Submission to the Advisory Council on the Misuse of Drugs', PHW, 2024

[31] EMCDDA (2023) European Drug Report 2023: Trends and Developments. Available at: https://statics.teams.cdn.office.net/evergreen-assets/safelinks/1/atp-safelinks.html

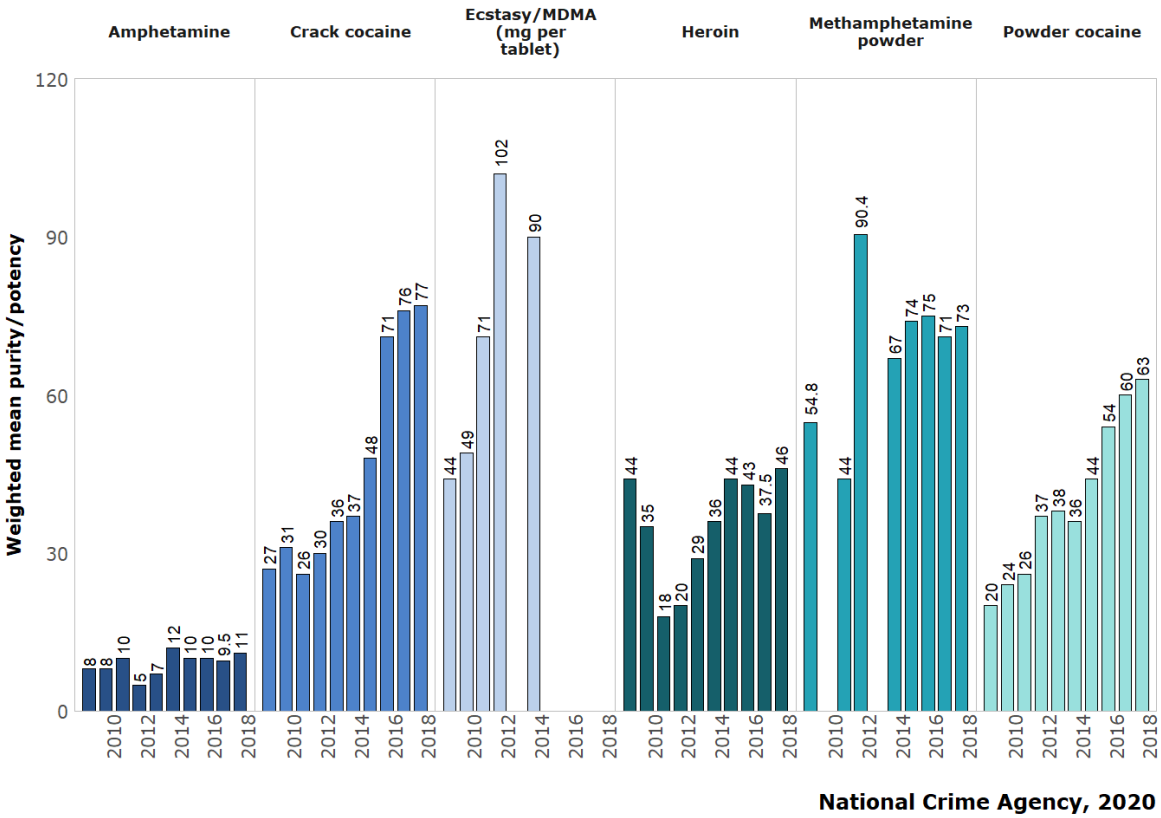


Chart 54: Mean percentage purity of small quantity drug seizures in England and Wales, 2009-18, by selected drugs[32]

[32] 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 1.

Table 1: Dimensions used to measure impact of alcohol on populations and healthcare services

Dimension	Description and options
Selection of core ICD-10 codes	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[33] and adopted by Public Health England[34]. 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.
'Specific' or 'attributable'	**'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,

[33] Jones, L and Bellis, M (2013) Updating England-specific alcohol-attributable fractions, Centre for Public Health, Liverpool John Moores University. Available at https://fingertips.phe.org.uk/documents/2014_03_updating_england_specific_alcohol_attributable_fractions.pdf

[34] Public Health England (2015) Local Alcohol Profiles for England 2015 user guide. Available at https://fingertips.phe.org.uk/profile/local-alcohol-profiles/supporting-information/resources

	alcohol also plays a role 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[35]. Some external cause codes also have an alcohol-attributable fraction: it has been estimated that 27 per cent of assaults are alcohol-related[35]. 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 DHCW 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 ('**any position**'); however, figures for admissions with an alcohol related condition in the primary position are also occasionally cited ('**primary 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. Also, see below for interactions between diagnostic position and person/episode-based figures.

[35] Perkins, C and Hennessey, M (2014) Understanding alcohol-related hospital admissions. Chief Knowledge Officer, Public Health Matters blog, Public Health England. https://publichealthmatters.blog.gov.uk/2014/01/15/understanding-alcohol-related-hospital-admissions/

Person or admission based	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 analysing 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)

For details on the production of figures for England, please see: Public Health England (2015) Local Alcohol Profiles for England 2015 user guide (http://www.lape.org.uk/downloads/LAPE%20User%20Guide_Final.pdf)

The most recent ICD-10 codes for alcohol-specific and alcohol-attributable conditions were published in 2013 and are set out in

Table **2**. 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 2: ICD-10 codes for alcohol-specific and alcohol-attributable conditions, as defined by the Alcohol-attributable Fractions (2013)

Condition	Code
Alcohol-specific conditions (100 per cent caused by alcohol)	
Alcohol-induced pseudo-Cushing's syndrome	E24.4
Mental and behavioural disorders due to use of alcohol	F10
Degeneration of nervous system due to alcohol	G31.2
Alcoholic polyneuropathy	G62.1
Alcoholic myopathy	G72.1
Alcoholic cardiomyopathy	I42.6
Alcoholic gastritis	K29.2
Alcoholic liver disease	K70
Alcohol-induced acute pancreatitis*	K85.2*
Alcohol-induced chronic pancreatitis	K86.0
Foetal alcohol syndrome (dysmorphic)*	Q86.0*
Excess alcohol blood levels*	R78.0*
Ethanol poisoning	T51.0
Methanol poisoning	T51.1
Toxic effect of alcohol, unspecified	T51.9
Accidental poisoning by and exposure to alcohol	X45
Intentional self-poisoning by and exposure to alcohol*	X65
Poisoning by and exposure to alcohol, undetermined	Y15
Evidence of alcohol involvement determined by blood	Y90
Evidence of alcohol involvement determined by level of	Y91
****Codes added to list of alcohol-specific conditions in 2013***	
Partially alcohol-attributable conditions	
Chronic conditions	
Infectious and parasitic diseases	
Tuberculosis	A15-A19
Malignant neoplasm	
Malignant neoplasm of lip, oral cavity and pharynx	C00-C14
Malignant neoplasm of oesophagus	C15
Malignant neoplasm of colorectal	C18-C20, C21
Malignant neoplasm of liver and intrahepatic bile ducts	C22
Malignant neoplasm of larynx	C32
Malignant neoplasm of breast	C50
Diseases of the nervous system	
Epilepsy and Status epilepticus	G40-G41
Cardiovascular disease	
Hypertensive diseases	I10-I15

Ischaemic heart disease	I20-I25
Cardiac arrhythmias	I47-I48
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-
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 3: 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

Conditions	ICD-10 codes
Foetal alcohol syndrome	Q860
Foetal/maternal withdrawal from alcohol and drugs of addiction	P043, P044, P961
Alcohol related brain damage	E512, E52, F106, F107, G312, G621, K704, G371

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 4: Details of conditions denoted by the fourth character of ICD-10 codes beginning with 'F'

Fxx0	**Acute intoxication** 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. Acute drunkenness in alcoholism "Bad trips" (drugs) Drunkenness NOS Pathological intoxication

	Trance and possession disorders in psychoactive substance intoxication ***Excludes:*** *intoxication meaning poisoning*
Fxx1	**Harmful use** A pattern of psychoactive substance use that is causing damage to health. The 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
Fxx2	**Dependence syndrome** 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. 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. Chronic alcoholism Dipsomania Drug addiction
Fxx3	**Withdrawal state** 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.
Fxx4	**Withdrawal state with delirium** 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.

	Delirium tremens (alcohol-induced)
Fxx5	**Psychotic disorder** 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)*
Fxx6	**Amnesic syndrome** 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. Amnestic disorder, alcohol- or drug-induced Korsakov's psychosis or syndrome, alcohol- or other psychoactive substance-induced or unspecified ***Excludes:*** *nonalcoholic Korsakov's psychosis or syndrome (F04)*
Fxx7	**Residual and late-onset psychotic disorder** 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

	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: · Korsakov's syndrome (F10-F19 with common fourth character .6) · psychotic state (F10-F19 with common fourth character .5)
Fxx8	**Other mental and behavioural disorders**
Fxx9	**Unspecified mental and behavioural disorder**

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 5, the ICD-10 codes (see Appendix A) used to define each set of 'alcohol-specific' figures overlap considerably, but are not identical.

Table 5: 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

Condition	ICD-10 Code	Included in ONS definition?	Included in ONS Alcohol specific definition?	Included in AAF definition?
Alcohol-induced pseudo-Cushing's syndrome	E24.4		✓	✓
Mental and behavioural disorders due to use of alcohol	F10*	✓	✓	✓
Degeneration of nervous system due to alcohol	G31.2	✓	✓	✓
Alcoholic polyneuropathy	G62.1	✓	✓	✓
Alcoholic myopathy	G72.1		✓	✓
Alcoholic cardiomyopathy	I42.6	✓	✓	✓
Alcoholic gastritis	K29.2	✓	✓	✓
Alcoholic liver disease	K70*	✓	✓	✓
Chronic hepatitis not elsewhere classified	K73*	✓		
Fibrosis and cirrhosis of liver	K74 (Excluding K74.3-K74.5 - Biliary cirrhosis)	✓		

Alcohol-induced acute pancreatitis	K85.2		✓	✓
Alcohol-induced chronic pancreatitis	K86.0	✓	✓	✓
Foetal alcohol syndrome (dysmorphic)	Q86.0		✓	✓
Excess alcohol blood levels	R78.0		✓	✓
Ethanol poisoning	T51.0			✓
Methanol poisoning	T51.1			✓
Toxic effect of alcohol, unspecified	T51.9			✓
Accidental poisoning by and exposure to alcohol	X45*	✓	✓	✓
Intentional self-poisoning by and exposure to alcohol	X65*	✓	✓	✓
Poisoning by and exposure to alcohol, undetermined intent	Y15*	✓	✓	✓
Evidence of alcohol involvement determined by blood alcohol level	Y90			✓
Evidence of alcohol involvement determined by level of intoxication	Y91			✓
*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. DHCW 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:

Office for National Statistics (2016) Alcohol-related deaths in the United Kingdom, registered in 2014. London, The Stationery Office (http://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/bulletins/alcoholrelateddeathsintheunitedkingdom/registeredin2014)

Office for National Statistics (2016) User guide to mortality statistics. Newport, The Stationery Office (https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/methodologies/userguidetomortalitystatistics)

And for Alcohol-attributable Fractions at:

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)

Jones, L and Bellis, M (2013) Updating England-specific alcohol-attributable fractions, Centre for Public Health, Liverpool John Moores University

(http://www.cph.org.uk/wp-content/uploads/2014/03/24892-ALCOHOL-FRACTIONS-REPORT-A4-singles-24.3.14.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 groups codes by substance and also presents the definitions used by NHS Digital, which produces comparable statistics for England.

Table 6: 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

Measure	ICD-10 codes
Any illicit drug use	F11-F16, F18, F19, T40, T-424, T436
Any mental/behavioural condition (NHS Digital definition)	F11-F16, F18, F19
Any poisoning by illicit drugs (NHS Digital definition)	T400-T403, T405-T409, T436
Opioids	F11, T400-T403
Cannabinoids	F12, T407
Sedatives and hypnotics	F13, T408, T409
Cocaine	F14, T405
Other stimulants	F15, T436
Multiple drug use	F19
Benzodiazepines	T424

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 11.

'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 12.

Table 7: ICD-10 codes used by the ONS to define 'drug related deaths'.

Condition	Code
All deaths in which the following conditions are noted as the underlying cause	
Mental and behavioural disorders due to opioids, cocaine, sedatives or hypnotics, cocaine, other stimulants including caffeine, hallucinogens, multiple drug use	F11–F16, F19
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	
Mental and behavioural disorders due to volatile solvents	F18
Accidental poisoning by drugs, medicaments and biological substances	X40–X44
Intentional self-poisoning by drugs, medicaments and biological substances	X60–X64
Assault by drugs, medicaments and biological substances	X85
Poisoning by drugs, medicaments and biological substances, undetermined intent	Y10–Y14

Office for National Statistics (2015) Deaths Related to Drug Poisoning in England and Wales, 2014. London, The Stationery Office

Office for National Statistics (2014) Deaths related to drug poisoning in England and Wales. Quality and methodology information. Newport, The Stationery Office

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 8: Substances listed by the Office for National Statistics as 'new psychoactive substances'

New psychoactive substances	1-(Benzofuran-6-yl)-propan-2-amine, GHB, 2-(1H-Indol-5-yl)-1-methylethylamine, 4-Fluoroephedrine, 4-Fluoromethcathinone, 4-Methylamphetamine, 4-Methylethcathinone, Alpha-methyltryptamine, BZP, Cathinone, Desoxypipradrol, Fluoromethcathinone, Khat, Legal high, Mephedrone, Methiopropamine, Methoxetamine, Methylenedioxypyrovalerone, Methylone, Synthetic cannabinoid, TFMPP

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.[36]

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:

1. 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.
2. 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.
3. 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.

[36] Association of Public Health Observatories (2008) Technical Briefing 3, Commonly Used Public Health Statistics and their Confidence Intervals, www.apho.org.uk/resource/view.aspx?RID=48457

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.[37]

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 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. However, disease and mortality rates may vary widely by age which 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.

The European Standard Population (ESP) is often used for direct standardization, where 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. 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.[38]

---

[37] Association of Public Health Observatories (2008) Technical Briefing 3, Commonly Used Public Health Statistics and their Confidence Intervals, www.apho.org.uk/resource/view.aspx?RID=48457

[38] Detailed information and guidance on the 2013 ESP has been published by the UK's Office for National Statistics: http://www.ons.gov.uk/ons/guide-method/user-guidance/health-and-life-events/revised- european-standard-population-2013--2013-esp-/index.html.

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.[39]

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, 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).

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

[39] EMCDDA (2010), Statistical bulletin 2010: Problem drug use indicator – overview. Lisbon, EMCDDA . Available at https://www.emcdda.europa.eu/data/stats2023/methods/pdu_en

[40] King R, Bird SM, Overstall A, Hay G, Hutchinson SJ. Injecting drug users in Scotland, 2006: Listing, number, demography, and opiate-related death-rates. *Addict Res Theory* 2013; 21(3):235-246