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SUBSTANCE MISUSE PROGRAMME

Drug deaths in Wales 2017

About Public Health Wales

Public Health Wales exists to protect and improve health and wellbeing and reduce health inequalities for people in Wales. We work locally, nationally and internationally, with our partners and communities.

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

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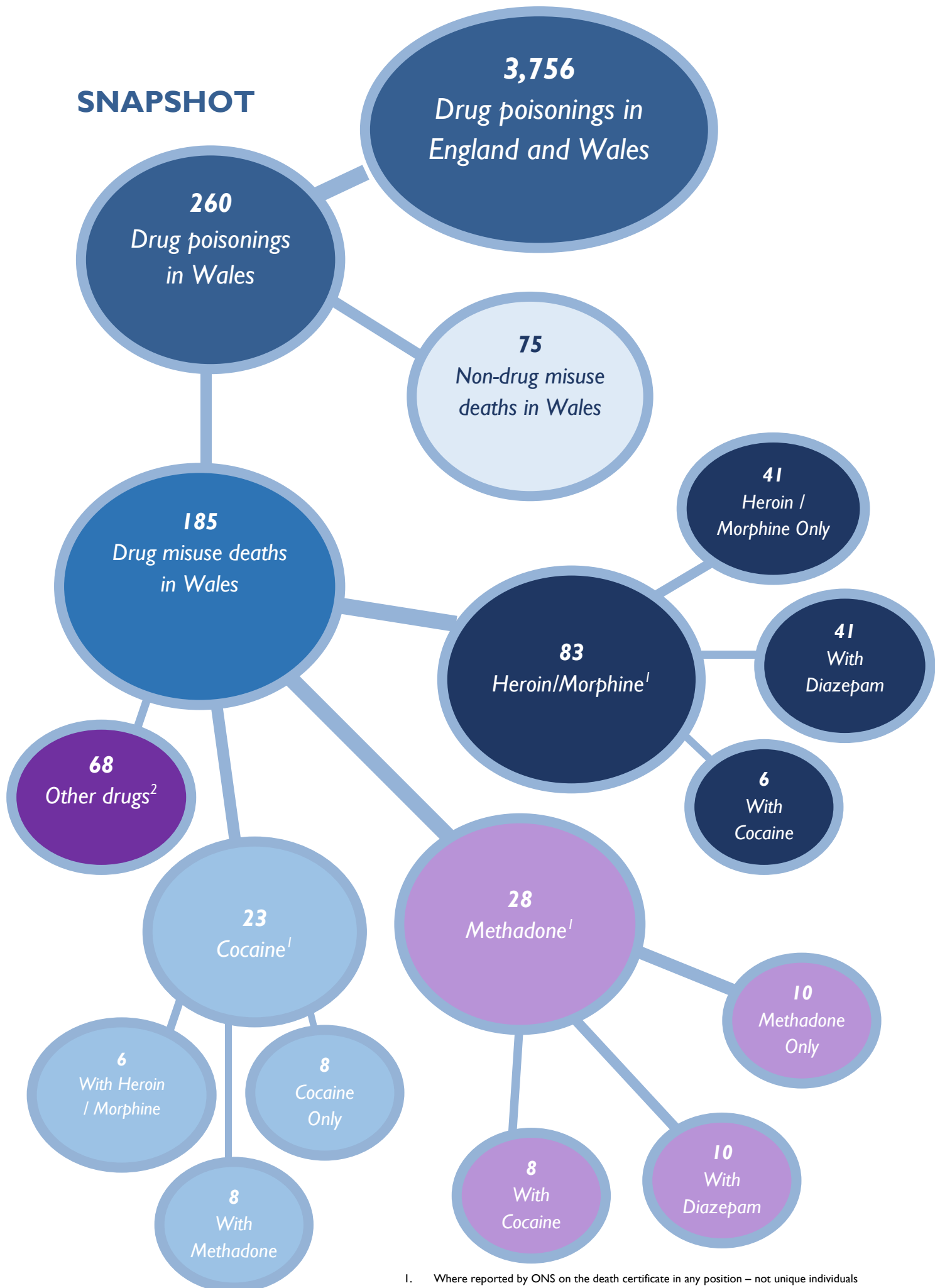
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Abbreviations

ABMUHB	Abertawe Bro Morgannwg University Health Board
ABUHB	Aneurin Bevan University Health Board
BCUHB	Betsi Cadwaladr University Health Board
CTUHB	Cwm Taf University Health Board
CVUHB	Cardiff & Vale University Health Board
HDUHB	Hywel Dda University Health Board
NSP	Needle and Syringe Programme
ONS	Office for National Statistics
OTC	Over the counter medication
POMS	Prescription-only medicines
PTHB	Powys Teaching Health Board
THN	Take-home Naloxone

SNAPSHOT



1. Where reported by ONS on the death certificate in any position – not unique individuals

2. 'Other drug' misuse deaths not involving Cocaine, Methadone or Heroin/Morphine

3. The Snapshot aims to provide a brief insight into the profile of drug misuse deaths, not a full profile – full details are provided within this report

I. Introduction

The number of drug deaths registered in Wales remains high. This document presents the available data produced by the Office for National Statistics (ONS) for Wales along with interpretation of the data, with stated caveats, to detail where drug deaths have occurred and been registered in 2017, and amongst what populations. This report is designed to support service providers, planners, commissioners and policy makers to reduce fatal drug poisonings in Wales.

It is important to make two distinctions in interpreting the data:

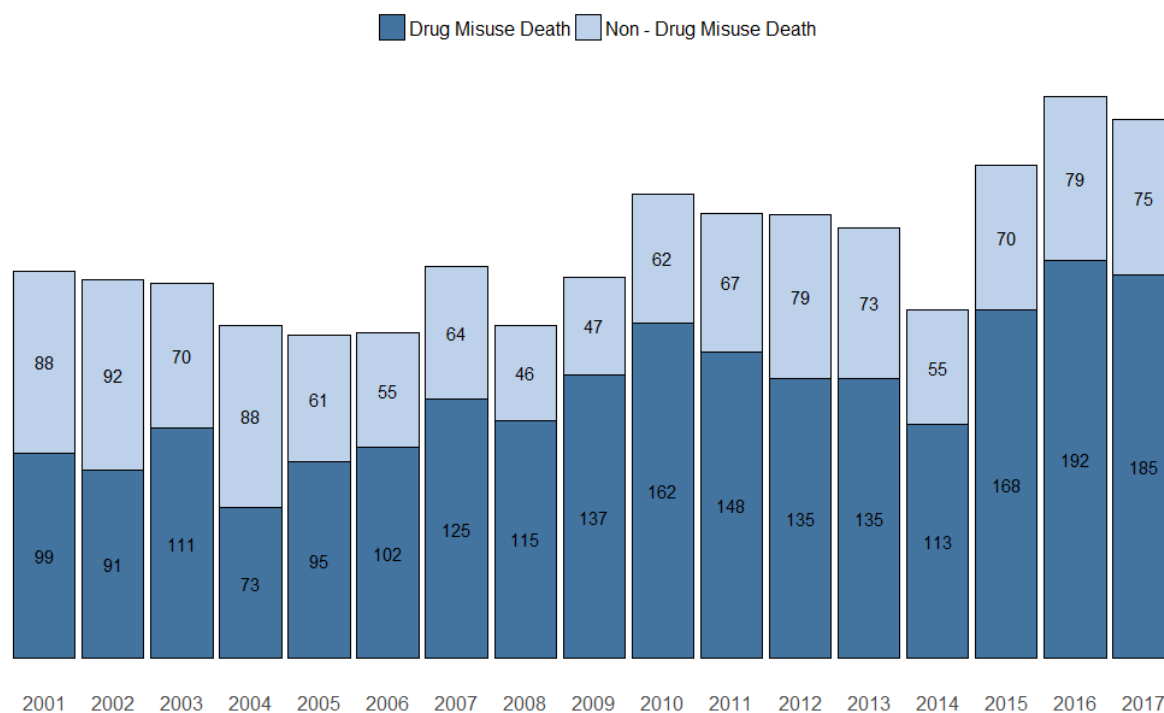
1. Firstly, the distinction between **registered year of death**: routinely reported by ONS and specifying the year in which the death was confirmed by the Coroner's office; and, **date of death year**: the actual year of death. Date of death year data are incomplete for 2017. Accurate comparisons with other countries may be confounded due to delays in registering deaths.
2. Secondly, the distinction between **drug poisoning deaths**: deaths from drugs including both illicit drugs and prescription only medicines (POMs) or over the counter (OTC) drugs and **drug misuse deaths**: deaths resulting from use of illicit drugs only.

2. Executive summary

- In 2017, there were 260 drug poisoning deaths in Wales, a decrease from 271 (4.1 per cent) from those registered for 2016. Of these, 185 deaths were classified as drug misuse deaths, a decrease from 192 (3.7 per cent) in 2016. Despite the decrease, 2017 observed the second highest number of drug misuse deaths registered in the last 15 years in Wales.
- The European age standardised rate (EASR) for drug misuse deaths in Wales was 64.5 deaths per million population. The rate of drug misuse deaths remains higher in Wales than in England, which recorded 42.7 deaths per million population for 2017.
- The most common substance recorded in drug misuse deaths in Wales was heroin/morphine with 83 deaths recorded, a decrease of one from 2016. Heroin/morphine deaths have remained relatively stable since 2014.
- The number of deaths involving cocaine have risen for the fourth consecutive year to 23 deaths.
- The highest rates of drug misuse deaths were observed in Abertawe Bro Morgannwg University Health Board (ABMUHB) with 13.7 deaths per 100,000 population, accounting for 37 percent of the drug misuse deaths in Wales in 2017

3. Drug deaths in Wales – an overview

In 2017, 260 deaths due to drug poisoning were registered in Wales, a decrease of 4.1 per cent from the previous calendar year. Of all drug-poisoning deaths, 185 (71.2 per cent) were defined as a drug misuse death², a reduction of 3.7 per cent from 192 deaths in 2016. However, drug misuse deaths remain high in Wales, demonstrated by 2017 recording the second highest number of deaths in that last 15 years.

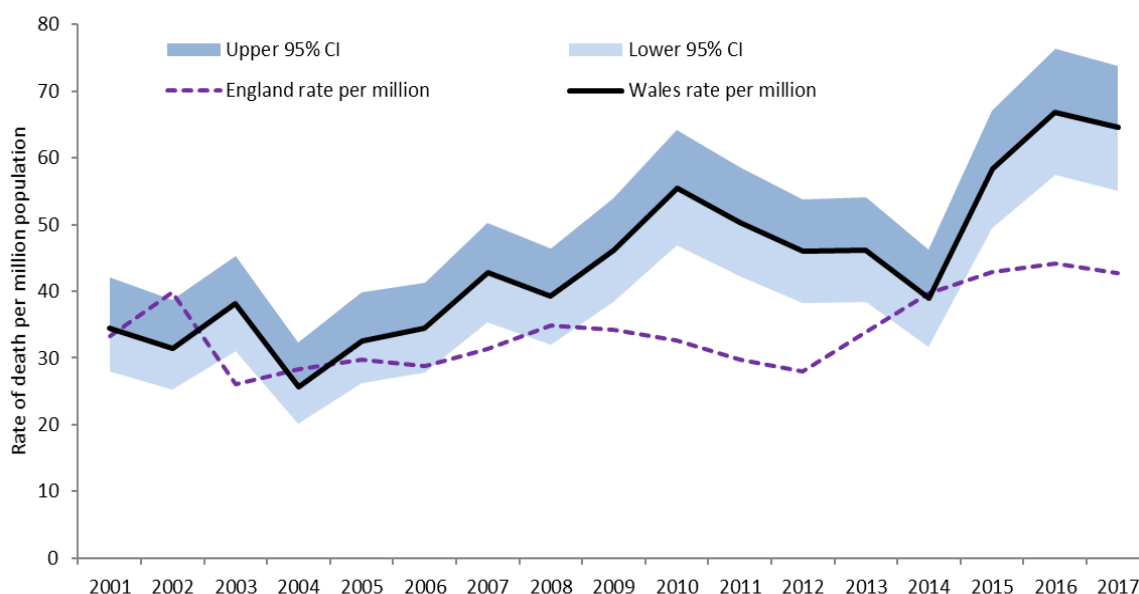


Source: ONS, 2018

Figure 1 - Deaths from drug poisoning and drug misuse by year of registration, Wales, 2001-17

Across the UK there are different methods for recording drug poisoning and drug misuse deaths. As such, comparison with rates in Scotland is not possible, however, data produced by ONS allows for comparison between England and Wales as shown in Figure 2.

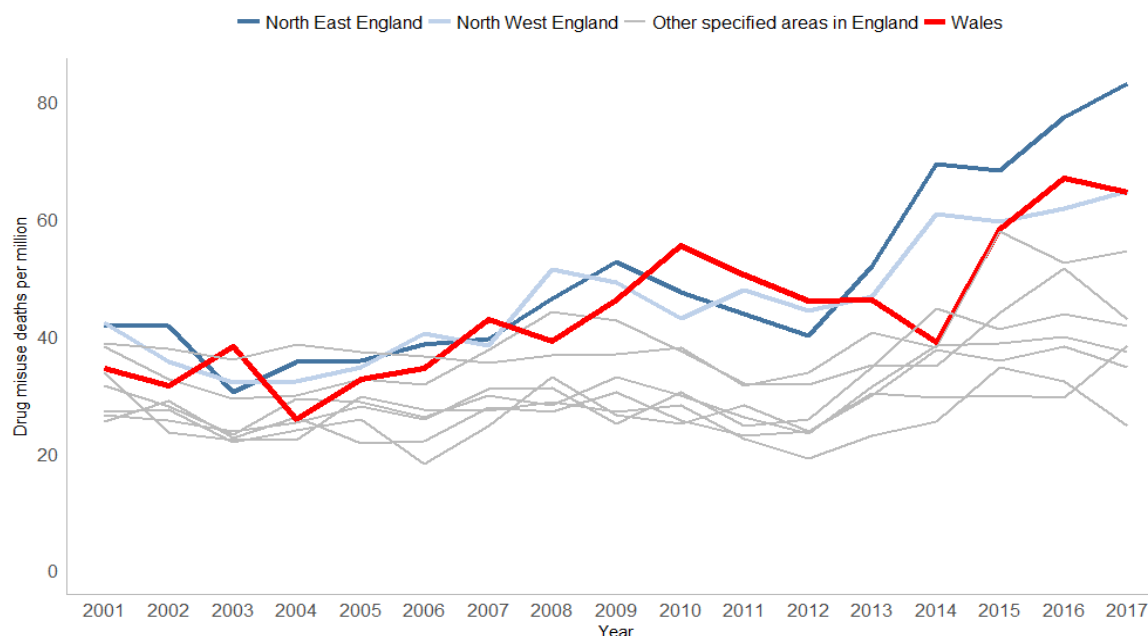
² A death where the underlying cause is either drug abuse or drug dependence, or the underlying cause is drug poisoning and any of the substances controlled under the Misuse of Drugs Act 1971 are involved.



Source: ONS, 2018

Figure 2 - Age standardised rates per million population of drug misuse deaths in England and Wales by registered year of death, with 95% confidence intervals, 2001-17

The rate of drug misuse deaths in Wales (64.5 deaths per million population) remains higher than England (42.7 deaths per million population). Wales has had a higher rate of drug misuse deaths since 2004, with the exception of deaths registered in 2014. Comparing different regions across England and Wales, Wales has the third highest rate of drug misuse deaths per million population, behind the North East and North West of England.

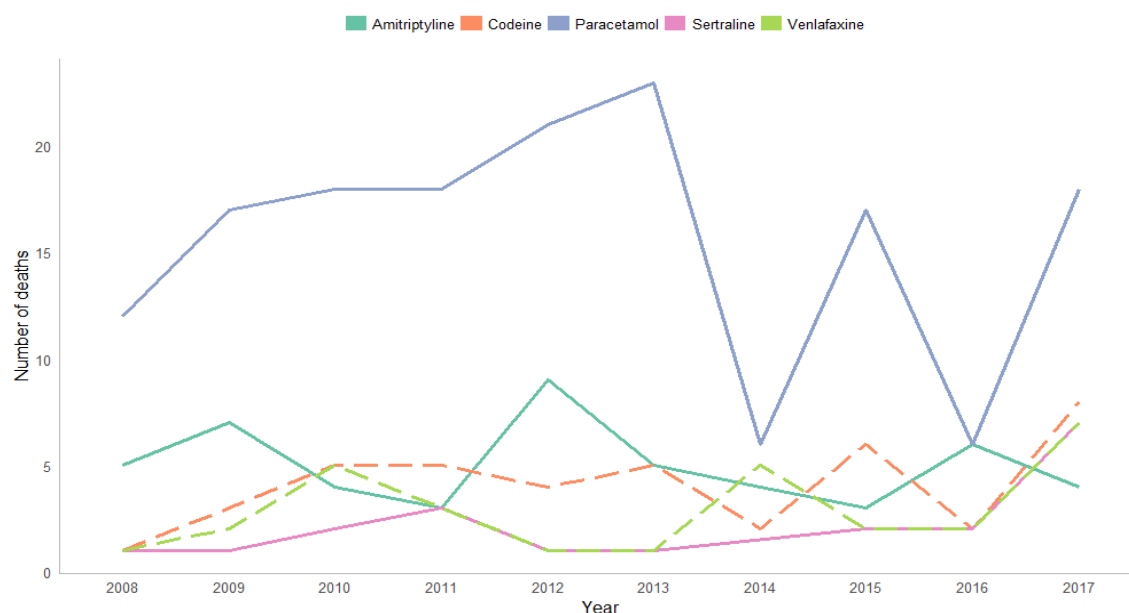


Source: ONS, 2018

Figure 3 - Rate of drug misuse deaths per million population in Wales compared to specified regions in England, 2001 to 2017

4. Drug poisoning deaths

There were 75 drug poisonings in Wales which did not meet the ONS definition of a drug misuse death³. The median age of death was 49 years (range 19 – 97). The most common substance recorded was paracetamol, recorded in 24 per cent of non-drug misuse, drug poisonings deaths. Of the 75 drug poisoning deaths, 23 (30.1 per cent) also involved alcohol.



Source: ONS, 2018

Figure 4 - Number of drug-poisoning / non-drug misuse deaths in Wales involving the top five substances recorded, 2008-17

5. Drug deaths: year of registration and year of death

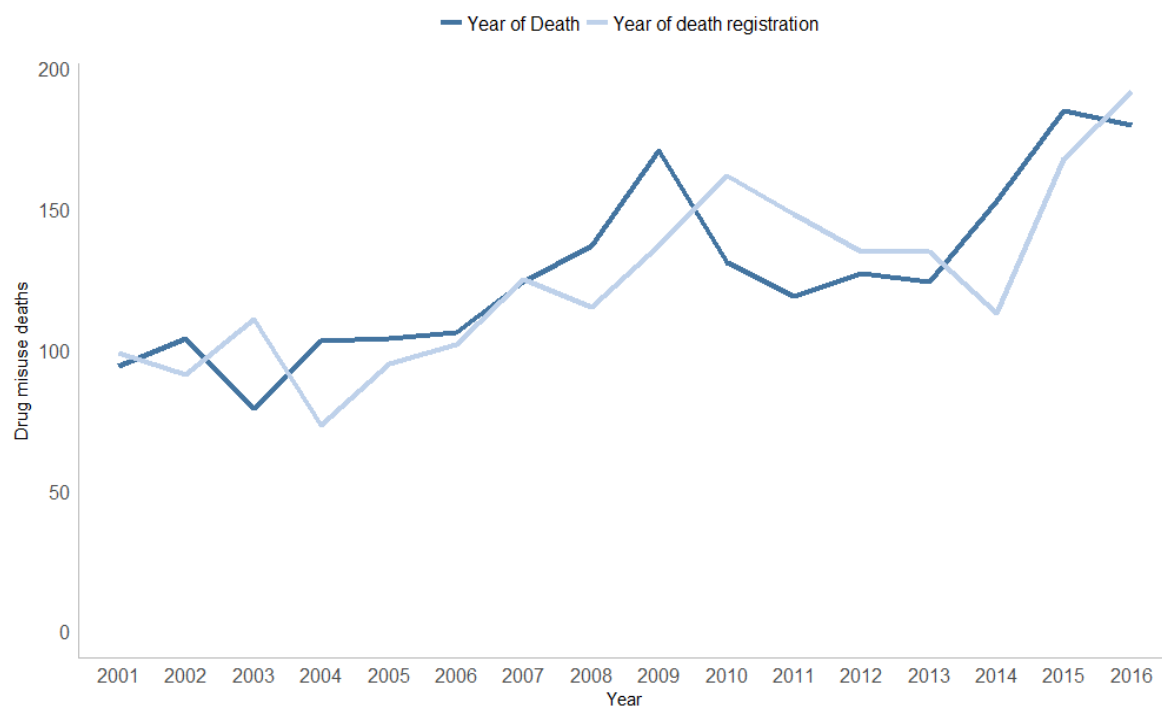
Drug misuse deaths are typically reported by year of registration. This is because deaths identified as possibly involving drugs are referred to a coroner and may require an investigative process including inquest. Therefore, reporting by year of death may not include deaths which have occurred but not been registered and reporting by year of registration may include deaths that occurred one or more years previously. In 2017, the median delay was 172 days for England and 165 days for Wales.⁴

Figure 5 shows that the number of deaths by year of registration mirrors the number of deaths by year of death, with a small delay. As the number of deaths in 2017 may be incomplete, drug deaths by year of registration will be the measure used throughout this document.

³ A death where the underlying cause is either drug abuse or drug dependence, or the underlying cause is drug poisoning and any of the substances controlled under the Misuse of Drugs Act 1971 are involved.

⁴ Office for National Statistics. 2018. Deaths related to drug poisoning in England and Wales: 2017 registrations. Available at:

<https://www.ons.gov.uk/releases/deathsrelatedtodrugpoisoninginenglandandwales2017registrations>



Source: ONS, 2018

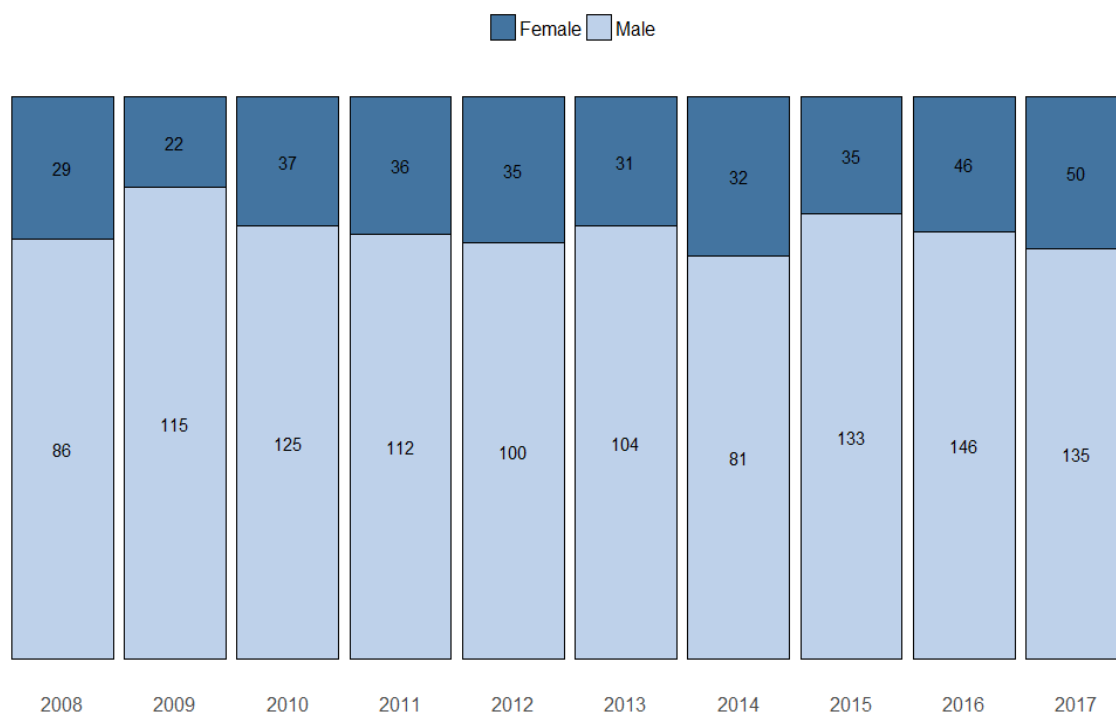
Figure 5 – Number of drug misuse deaths by year of registration of death and year of death, 2001-2016

Note: The remainder of this report will focus on drug misuse deaths rather than drug poisoning deaths. A drug misuse death is defined by ONS as “a death where the underlying cause is either drug abuse or drug dependence, or the underlying cause is drug poisoning and any of the substances controlled under the Misuse of Drugs Act 1971 are involved”.

6. Demographics of drug misuse deaths

6.1 Drug misuse deaths by gender

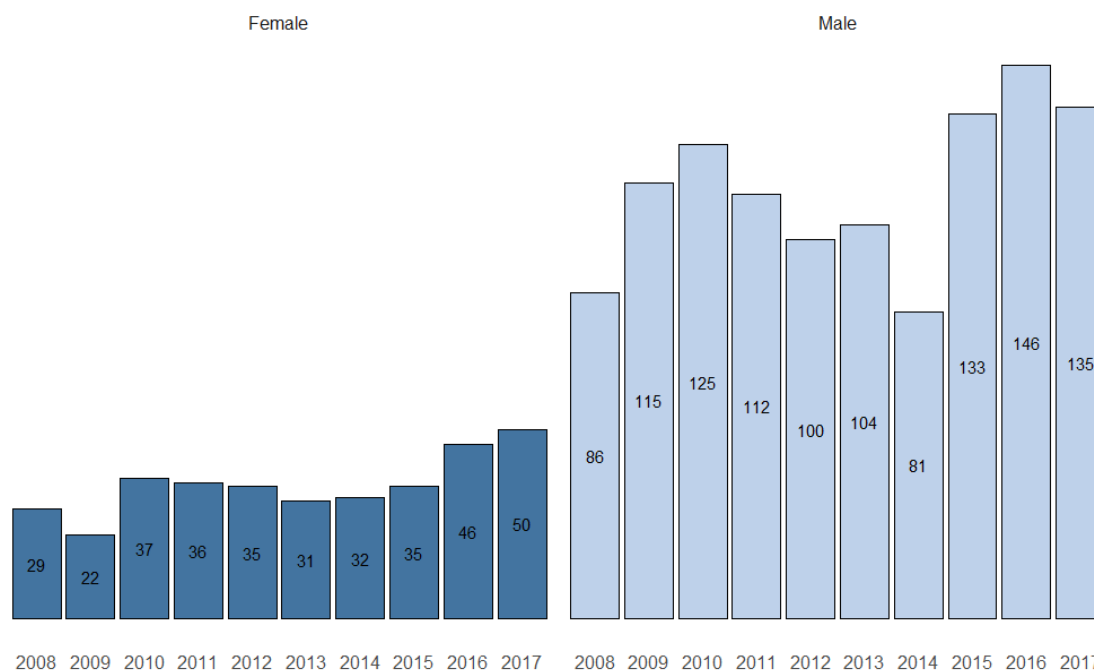
In 2017, the ratio of deaths amongst males and females was around 3:1, with 73.0 per cent (n=135) involving males and 27.0 per cent (n = 50) females. This ratio has remained relatively stable over time as shown in Figure 6.



Source: ONS, 2018

Figure 6 – Number of drug misuse deaths, by gender and year, 2008-17

Figure 7 shows the different trends in drug misuse deaths between the two genders over time. Whilst the number of deaths involving males has generally mirrored the trends of all drug misuse deaths, the number of deaths involving females has risen over time. In 2017, the number of female deaths were at a historic high, rising for the fourth consecutive year from 31 in 2013 to 50 in 2017.

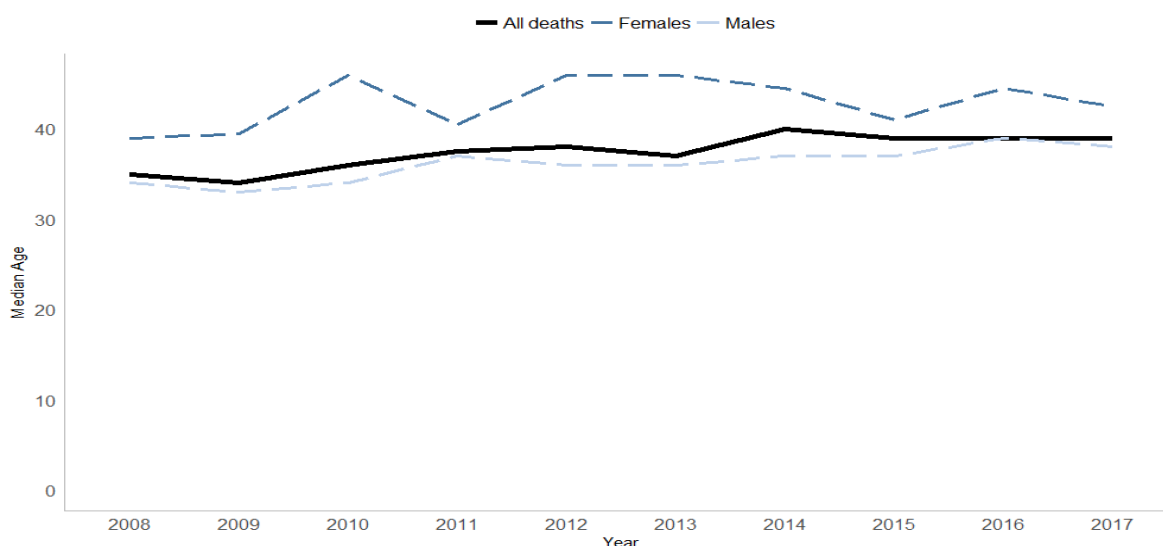


Source: ONS, 2018

Figure 7 - Number of drug misuse deaths, by gender and year, 2008-17

6.2 Drug misuse deaths by age

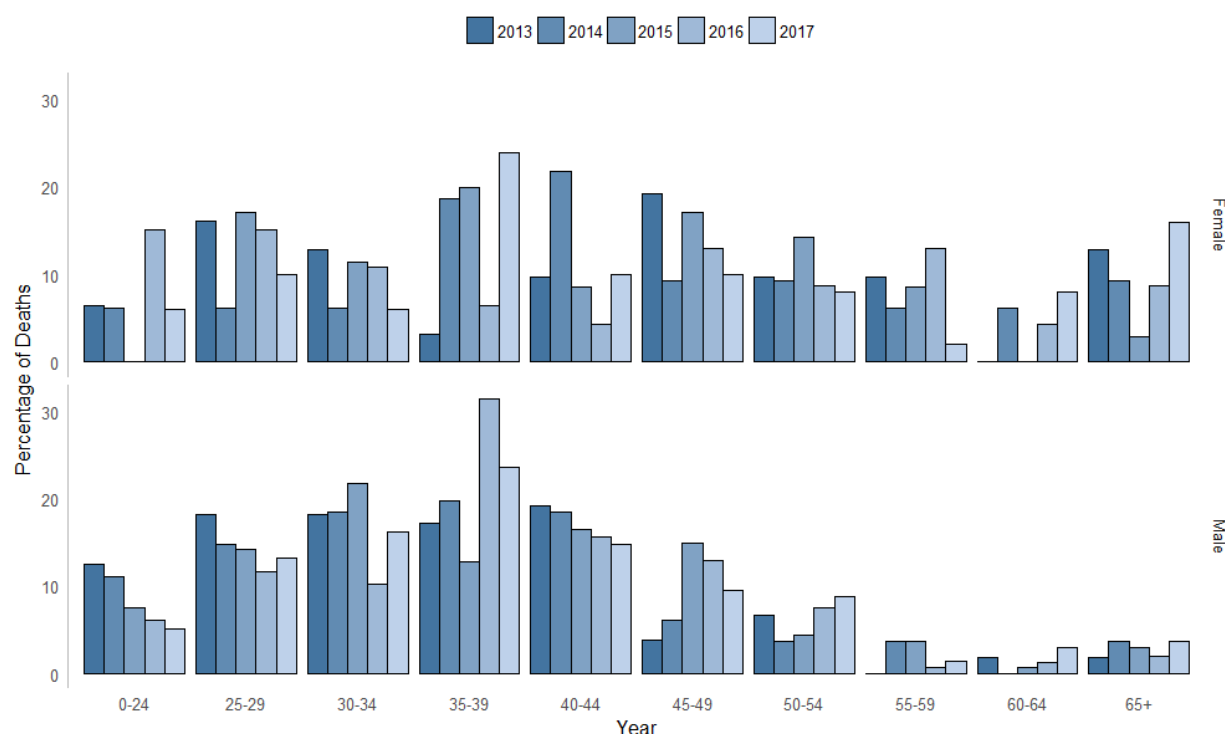
In 2017, the median age of drug misuse deaths was 39 years (range 14-91). The median age of deaths amongst females was 42.5 years (range 14-91), higher than that recorded for males at 38 years (range 21-85). This is a trend observed in each of the last 10 years as shown in figure 8.



Source: ONS, 2018

Figure 8 - Median age of drug misuse deaths by gender, 2008-17

Figure 9 shows the proportion of deaths by age group and gender. The most common age group reported for all deaths was 35-39 years, representing 23.8 per cent of deaths. The proportion of females in this age group increased in 2017 compared to the previous year, whilst the number of males within this age group decreased.



Source: ONS, 2018

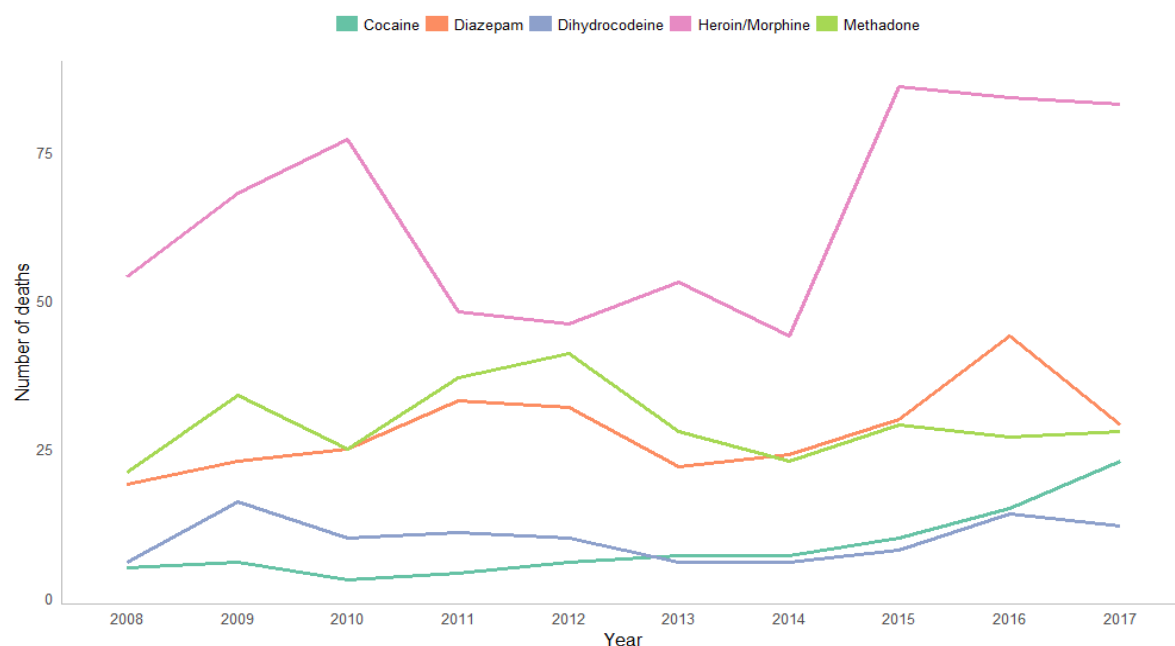
Figure 9 – Drug misuse deaths by age group and gender, 2013-17

In 2017, the proportion of deaths above the age of 60 has almost doubled to 11.3 percent from 5.7 per cent registered in 2016. Deaths in this age group consist of a larger proportion of females than males at 24 per cent (n=12) and 6 per cent (n=9) respectively. Of the 12 deaths involving females over the age of 60, 9 involved prescription-only medicines such as codeine, dihydrocodeine, tramadol and zopiclone.

6.3 Substances recorded in drug misuse deaths

In 2017, the most common substance recorded for a drug misuse death in Wales was heroin/morphine, reported in 44.9 per cent of deaths (n=83). Other substances commonly recorded were:

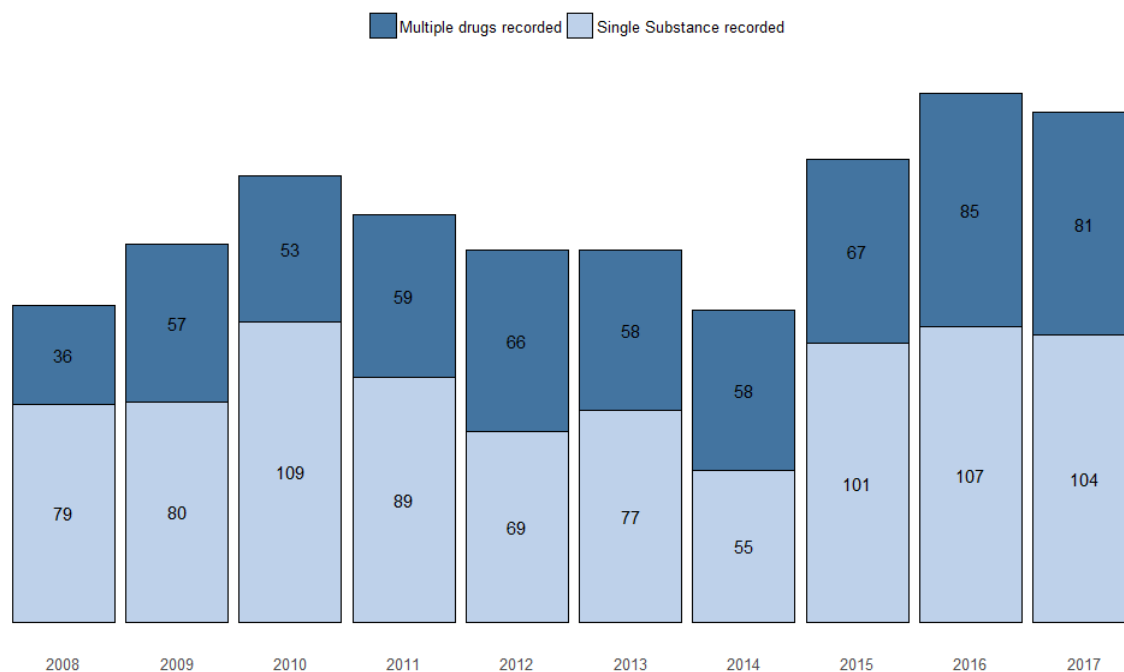
- Diazepam (15.7 per cent, n= 29)
- Methadone (15.1 per cent, n= 28)
- Cocaine (12.4 per cent n=23)
- Dihydrocodeine (6.5 per cent, n= 12)



Source: ONS, 2018

Figure 10 – Top five substances recorded in drug misuse deaths in Wales, 2008 - 17

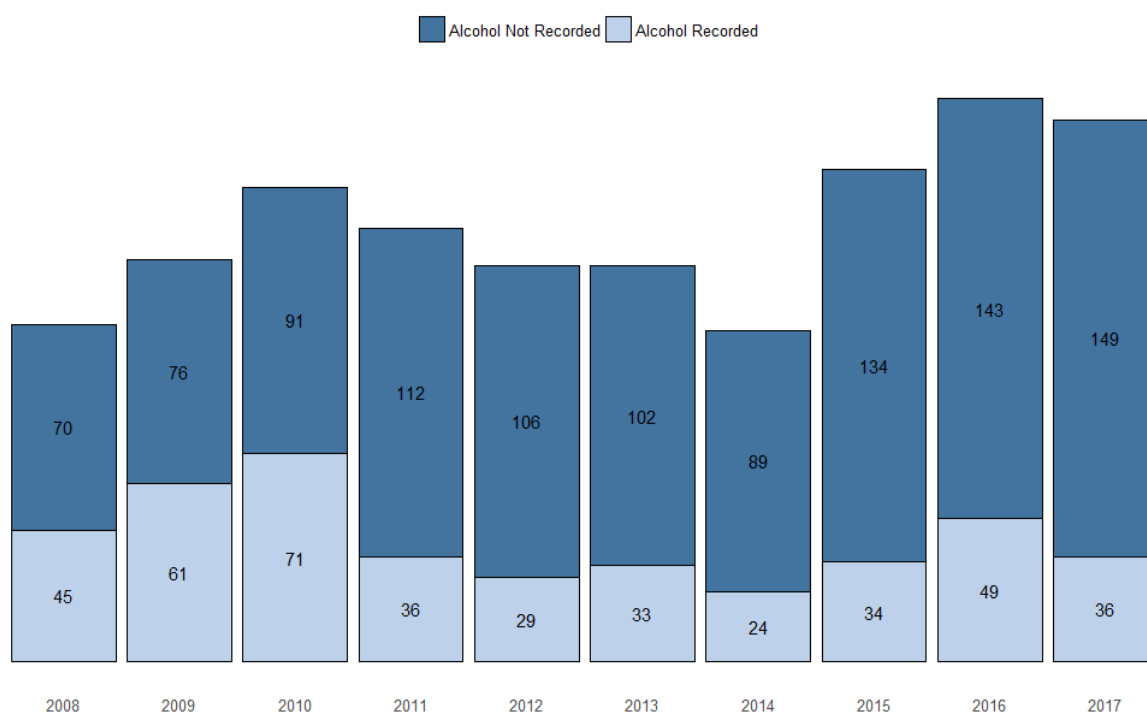
Drug misuse deaths often involve a combination of substances, including alcohol and prescription-only medicines (POM) or over the counter medicines (OTC). In 2017, 43.8 per cent of drug misuse deaths had more than one substance recorded, a marginal decrease from previous year (44.3 per cent). It may be that secondary substances are under-reported as not all substances identified through toxicological screening may be recorded on the death certificate.



Source: ONS, 2018

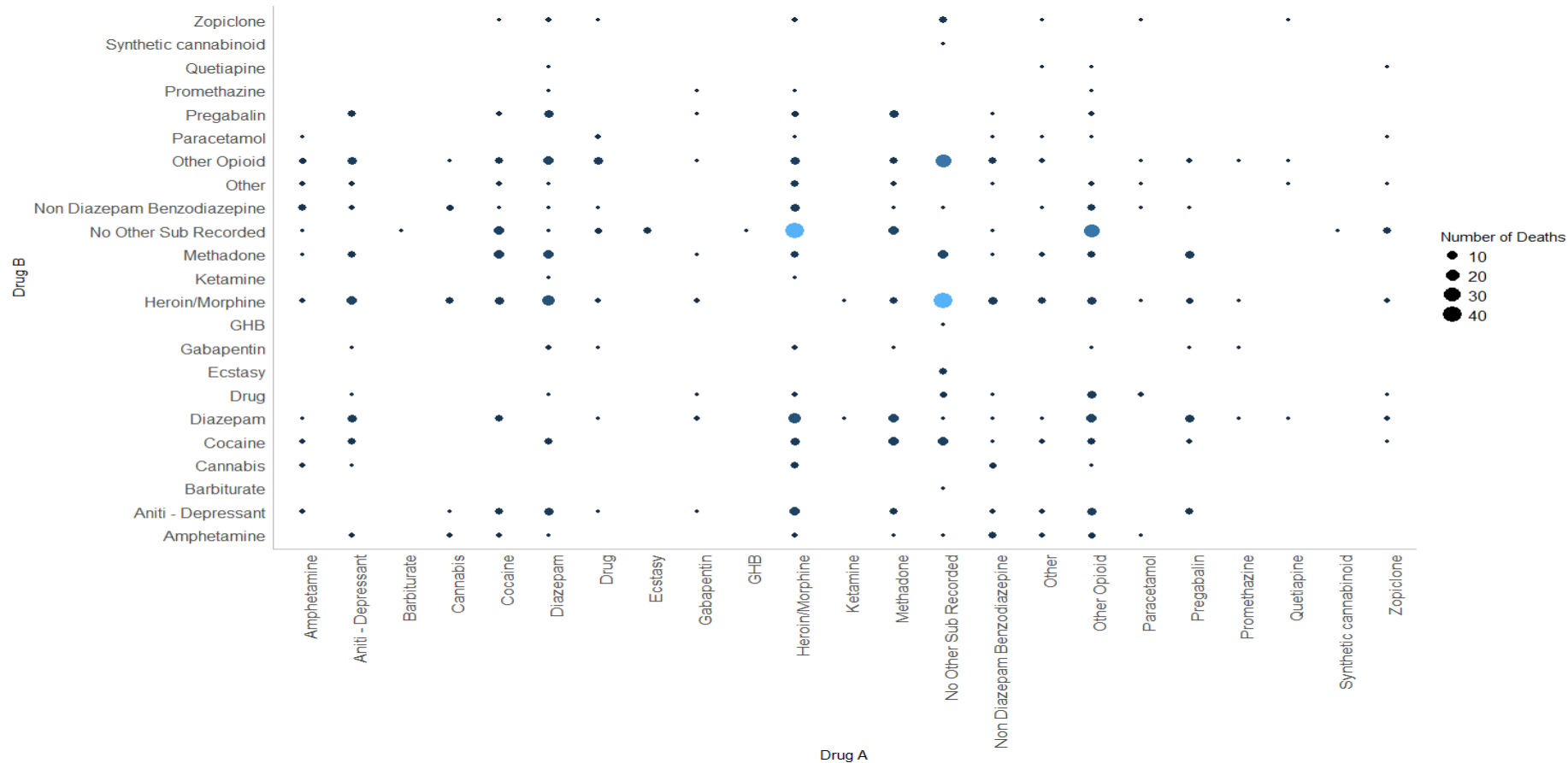
Figure 11 - Drug misuse deaths in Wales with multiple substances recorded, 2008-17

Alcohol use may contribute to a drug misuse death, and in 2017 was toxicologically evidenced in 24.2 per cent of drug misuse deaths. This represents a marginal decrease compared to 25.5 per cent in the previous year.



Source: ONS, 2018

Figure 12 – Number of drug misuse deaths in Wales also involving alcohol, 2008-2017



Source: ONS, 2018

Figure 13 – Relative number of drug misuse deaths involving single or combinations of drugs identified together on any position and recorded on the death certificate in Wales 2017.^{5,6}

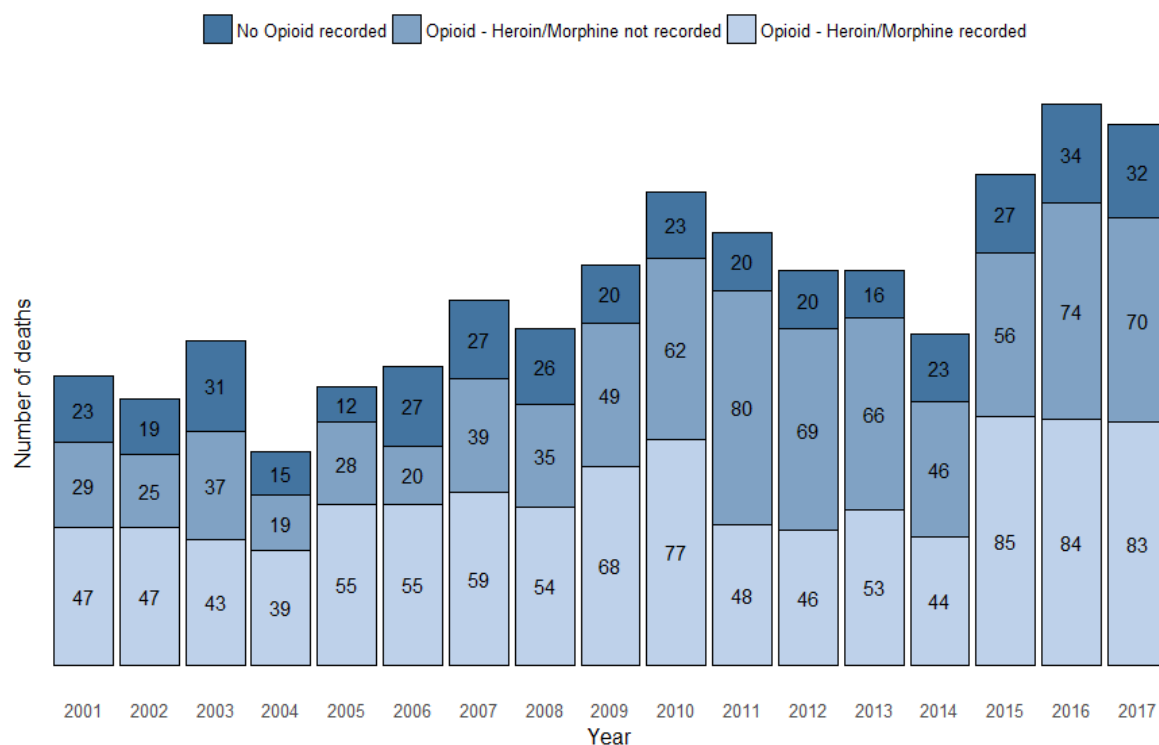
⁵ Substances labelled 'Other' can be found listed in Appendix B

⁶ Drug deaths can involve two or more substances and, as such, number of deaths should not be summed

7. Opioids

7.1 Overview of opioid deaths

A substantial proportion of drug misuse deaths registered in Wales each year involve an opioid. In 2017, there were 153 deaths involving an opioid, 82.7 per cent of all drug misuse deaths. Of these, 54.2 per cent (n=83) involved heroin/morphine. The remaining 45.8 percent (n = 70) involved another or an unknown opioid but did not include heroin/morphine.



Source: ONS, 2018

Figure 14 - Drug misuse deaths in Wales by substance group – opioid (heroin/morphine), opioid (non-heroin/morphine) and no opioid recorded, 2008-17.

7.2 Heroin/Morphine

The most common opioid in 2017 was heroin/morphine, recorded in 83 deaths. Heroin/morphine deaths represent 44.9 per cent of all drug misuse deaths and 54.2 per cent of all deaths involving opioids. The number of heroin/morphine deaths have remained stable over the last three years following a dramatic increase in 2015.

A summary of statistics related to heroin/morphine deaths can be found in Table 1.

Table 1 – Summary of statistics related to deaths involving heroin/morphine by Health Board area, including European age standardised rates (EASR) per 100,000 population.⁷

	2013	2014	2015	2016	2017
Number of Deaths	53	44	85	84	83
Welsh EASR	1.9	1.5	3.0	3.0	2.9
Median age	36	38.5	36.5	38.5	39
Age range	24-82	23-72	18-78	22-64	14-69
Percentage male	83%	73%	85%	83%	66%
Abertawe Bro Morgannwg					
<i>Number of deaths</i>	17	12	27	28	38
<i>EASR of deaths</i>	3.4	2.3	5.4	5.7	7.7
Aneurin Bevan					
<i>Number of deaths</i>	7	6	12	7	6
<i>EASR of deaths</i>	1.3	1.1	2.2	1.4	1.2
Betsi Cadwaladr					
<i>Number of deaths</i>	9	5	9	7	12
<i>EASR of deaths</i>	1.5	0.8	1.4	1.1	2.0
Cardiff & Vale					
<i>Number of deaths</i>	5	6	15	14	6
<i>EASR of deaths</i>	1.8	2.1	5.5	5.0	2.0
Cwm Taf					
<i>Number of deaths</i>	7	10	13	15	8
<i>EASR of deaths</i>	1.5	2.3	2.9	3.1	1.7
Hywel Dda					
<i>Number of deaths</i>	7	5	7	13	13
<i>EASR of deaths</i>	2.1	1.7	2.1	4.1	4.1
Powys					
<i>Number of deaths</i>	1	0	2	0	0
<i>EASR of deaths</i>	0.7	0.0	2.1	0.0	0.0

7.2.1 Demographics of heroin/morphine deaths

The median age of a heroin/morphine related drug death was 39 years, which is consistent with recent years. For reference, the median age of individuals accessing needle and syringe and take-home naloxone (THN) programmes in the 2017-18 financial year was 38 years.^{8,9}

In 2017, the proportion of heroin/morphine deaths involving males has decreased to 66%, the lowest in the last decade. This is partly due to the number of deaths involving heroin/morphine among females doubling from 14 in 2016 to 28 in 2017. The number of male heroin/morphine deaths has decreased from 70 to 55.

⁷ All rates are calculated using the European age standardised population (EASR) using population data sourced from Stats Wales.

⁸ Public Health Wales: Harm reduction database Wales: Needle and syringe provision 2017-18

⁹ Public Health Wales: Harm reduction database Wales: Take Home Naloxone 2017-18

7.2.2 Heroin/morphine deaths by area of residence

Abertawe Bro Morgannwg University Health Board (ABMUHB) account for 45.8 per cent (n=38) of all Heroin/Morphine related deaths in 2017 in Wales and recorded an EASR of 7.7 deaths per 100,000 population. The only other health board to record an increase in heroin and morphine deaths was Betsi Cadwaladr University Health Board (BCUHB).

7.2.3 Polydrug use and heroin/morphine deaths

Of the 83 Heroin/Morphine deaths:

- 51.6 per cent (n = 42) only reported heroin/morphine
- 49.4 per cent (n= 41) reported at least one other substance

There is the potential for underreporting of secondary substances in heroin and morphine deaths in Wales. By comparison, 90 per cent of heroin deaths in Scotland included a secondary substance.¹⁰

Common substances reported alongside heroin/morphine were:

- Diazepam (17 per cent, n=14)
- Benzodiazepines other than Diazepam (7 percent, n=6)
- Cocaine (7 per cent, n=6)
- Methadone (6 per cent, n=6)
- Other opioids (8 per cent, n=7)
- Anti-depressants (11 per cent, n=9)

It is well evidenced that benzodiazepines, including diazepam, play an important role in opioid overdose deaths.¹¹

7.3 'Other opioids' - Methadone

There were a total of 70 opioid deaths classified here as 'Other opioid' as they exclude those involving heroin/morphine. Other opioids commonly reported in these drug misuse deaths in 2017 were:

- Methadone (15.1 per cent, n=28).
- Dihydrocodeine (6.5 per cent, n = 12)
- Codeine (4.3 per cent, n= 8)
- Tramadol (3.2 per cent , n = 6)
- Oxycodone (2.2 per cent, n = 4)

¹⁰ National Records of Scotland: Drug-Related Deaths in Scotland in 2017. Available at: <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths/drug-related-deaths-in-scotland/2017>

¹¹ EMCDDA: European Drug Report 2018. Available at http://www.emcdda.europa.eu/edr2018_en

Table 2 shows the number of deaths by year for opioids other than heroin/morphine. There are increasing numbers of deaths where the opiate is not specified (20 in 2017). It is still unclear as to the reason for the increase.

Table 2 - Number of drug misuse deaths involving Opioids other than Heroin/Morphine, 2008-17

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Methadone	21	34	25	37	41	28	23	29	27	28
Opiate	5	6	8	12	16	17	7	16	16	20
Dihydrocodeine	6	16	10	11	10	6	6	8	14	12
Codeine	4	4	7	6	4	10	5	13	16	8
Tramadol	3	6	13	15	11	17	9	13	12	6
Oxycodone	3	3	4	4	4	2	5	3	6	4
Fentanyl	0	0	0	3	2	2	1	1	1	3
Buprenorphine	1	1	0	2	1	0	2	1	6	2
Other	0	0	2	1	1	0	1	1	0	1

7.3.1 Demographics for deaths involving 'Other opioids' - Methadone

Table 3 provides a summary of statistics for methadone deaths. The median age of methadone deaths was 39 years (range 19 – 62).

Table 3 - Summary of statistics related to deaths involving methadone, including European age standardised rates (EASR) per 100,000 population.¹²

	2013	2014	2015	2016	2017
Number of Deaths	28	23	29	27	28
Welsh EASR	1.0	0.8	1.0	0.9	1.0
Median age	36.5	39	42	43	39
Age range	21 - 49	18 - 52	27 - 68	26 - 59	19 - 62
Percentage male	79%	74%	76%	63%	86%
Abertawe Bro Morgannwg					
<i>Number of deaths</i>	10	3	8	8	11
<i>EASR of deaths</i>	1.9	0.6	1.7	1.6	2.2
Aneurin Bevan					
<i>Number of deaths</i>	1	2	0	2	0
<i>EASR of deaths</i>	0.2	0.3	0.0	0.3	0.0
Betsi Cadwaladr					
<i>Number of deaths</i>	4	8	4	3	6
<i>EASR of deaths</i>	0.7	1.3	0.6	0.5	1.0
Cardiff & Vale					
<i>Number of deaths</i>	0	0	3	1	5
<i>EASR of deaths</i>	0.0	0.0	1.1	0.4	1.9
Cwm Taf					
<i>Number of deaths</i>	5	2	5	11	5
<i>EASR of deaths</i>	0.9	0.4	1.1	2.2	1.0
Hywel Dda					
<i>Number of deaths</i>	0	0	0	0	1
<i>EASR of deaths</i>	0.0	0.0	0.0	0.0	0.4
Powys					
<i>Number of deaths</i>	0	0	3	0	0
<i>EASR of deaths</i>	0.0	0.0	2.6	0.0	0.0

¹² All rates are calculated using the European age standardised population (EASR) using population data sourced from Stats Wales.

For the other non-heroin/morphine opioids reported, caution has to be taken when analysing demographic information due to small numbers of deaths reported. However, two trends that are worth noting are:

- Deaths involving Codeine have been amongst older people, a trend observed over the last decade
- The median age of deaths involving Oxycodone has dropped from 45 years in 2015 to 33 years in 2017. However, due to very low numbers of Oxycodone related deaths, it is not possible to be confident of any trend

7.3.2 Area of residence of deaths involving ‘Other opioids’ - Methadone

ABMUHB accounted for 39.3 per cent of Methadone deaths (n=10) in 2017, rising from 30 per cent reported in 2016. There have also been increases in deaths involving Methadone recorded in Betsi Cadwaladr University Health Board (BCUHB), from 3 to 6 deaths and Cwm Taf University Health Board (CTUHB), from 1 to 5 deaths.

7.3.3 Polydrug use involving ‘other opioids’ - Methadone

Amongst drug misuse deaths involving Methadone:

- 35.7 per cent (n=10) recorded only methadone
- 64.3 per cent (n=18) recorded at least one other substance

When compared to deaths involving heroin/morphine, there is a higher proportion of methadone deaths with additional substances recorded. Of those where a secondary or tertiary substance was recorded, the most common were:

- Diazepam (n=10)
- Cocaine (n=8), increasing each of last 3 years from 1 in 2015
- Pregabalin (n=6), increasing each of last 3 years from 2 in 2015
- Heroin/morphine (n=5)

7.4 ‘Other opioid’ deaths, excluding those involving heroin/morphine and methadone

There were 47 opioid deaths that did not involve heroin/morphine or methadone. Of these, 25 deaths (53.2 per cent) recorded only ‘opioid’.

7.4.1 Demographics for deaths involving ‘Other opioids’

Table 3 provides a summary of statistics for ‘other opioid’ deaths. The median age of ‘other opioid’ deaths was 40 years (range 21-91). Where a secondary or tertiary substance was recorded, the most common were:

- Anti-depressants (n=6)
- Benzodiazepine – not Diazepam (n = 5)
- Diazepam (n=4)

Table 4 - Summary of statistics related to deaths involving methadone, including European age standardised rates (EASR) per 100,000 population.¹³

	2013	2014	2015	2016	2017
Number of Deaths	44	27	39	52	47
Welsh EASR	1.5	0.9	1.3	1.8	1.6
Median age	41	44	46	44	40
Age range	16 - 80	21 - 80	19 - 71	18 - 70	21 - 91
Percentage male	78%	65%	67%	67%	70%
Abertawe Bro Morgannwg					
<i>Number of deaths</i>	6	3	10	11	16
<i>EASR of deaths</i>	1.2	0.6	2.0	2.1	3.1
Aneurin Bevan					
<i>Number of deaths</i>	7	3	6	9	8
<i>EASR of deaths</i>	1.2	0.5	1.1	1.7	1.4
Betsi Cadwaladr					
<i>Number of deaths</i>	9	3	6	11	7
<i>EASR of deaths</i>	1.4	0.5	0.9	1.7	1.1
Cardiff & Vale					
<i>Number of deaths</i>	9	9	7	5	5
<i>EASR of deaths</i>	2.9	3.2	2.5	1.9	1.6
Cwm Taf					
<i>Number of deaths</i>	10	6	6	5	6
<i>EASR of deaths</i>	2.1	1.4	1.3	1.0	1.2
Hywel Dda					
<i>Number of deaths</i>	3	3	3	8	4
<i>EASR of deaths</i>	0.9	1.0	0.8	2.2	1.4
Powys					
<i>Number of deaths</i>	0	0	1	3	1
<i>EASR of deaths</i>	0.0	0.0	0.7	2.5	1.2

7.5 Fentanyl

It was reported in the ONS statistical bulletin that there was an increase in the number of deaths resulting from fentanyl and its analogues in England and Wales, rising from 58 to 75 deaths.¹⁴ However, in Wales, fentanyl related deaths remain low and are comparable with numbers reported in 2011, as seen in Table 2, with 3 deaths registered in 2017.

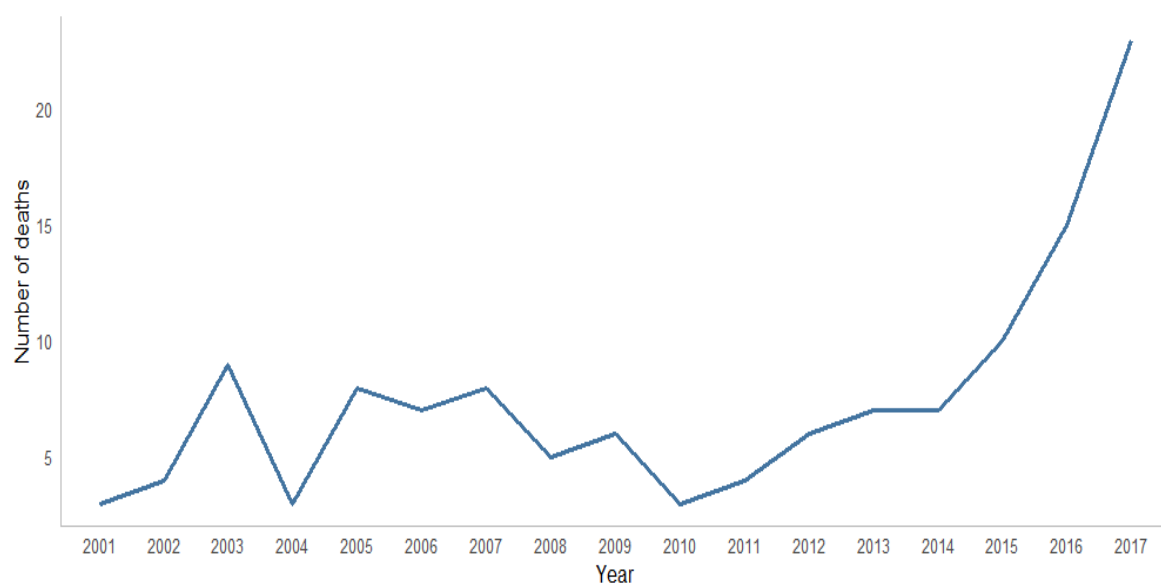
¹³ All rates are calculated using the European age standardised population (EASR) using population data sourced from Stats Wales.

¹⁴ ONS 2018: Deaths related to drug poisoning in England and Wales: 2017 registrations. Available at : <https://www.ons.gov.uk/releases/deathsrelatedtodrugpoisoninginenglandandwales2017registrations>

8. Cocaine

8.1 Overview of cocaine deaths

In Wales in 2017, 12.4 per cent (n = 23) of drug misuse deaths recorded cocaine on the death certificate. This is both the highest number and highest proportion of drug misuse deaths involving cocaine recorded in the last decade (see Figure 15), having risen from under 2 per cent in 2010. Across England and Wales, cocaine deaths have risen from 371 deaths in 2016 to 432 in 2017.¹⁵ Increasing availability, accessibility and high purity of cocaine have been reported across the UK and Europe over recent years¹⁶. It is not possible to establish the form of cocaine (e.g. powder or crack cocaine) that was being used prior to death.



Source: ONS, 2018

Figure 15 – Number of drug misuse deaths involving cocaine in Wales, 2001-17

8.1.2 Deaths involving cocaine – demographic data

A summary of statistics related to deaths involving cocaine can be found in Table 5.

¹⁵ ONS 2018: Deaths related to drug poisoning in England and Wales: 2017 registrations. Available at : <https://www.ons.gov.uk/releases/deathsrelatedtodrugpoisoninginenglandandwales2017registrations>

¹⁶ EMCDDA: European Drug Report 2018. Found at http://www.emcdda.europa.eu/edr2018_en

Table 5 - Summary of statistics related to deaths involving cocaine, including European age standardised rates (EASR) per 100,000 population.¹⁷

	2013	2014	2015	2016	2017
Number of Deaths	7	7	10	15	23
Welsh EASR	0.2	0.3	0.3	0.5	0.8
Median age	25	40	29.5	37	38
Age range	19-33	19-48	22-55	27-51	24-57
Percentage male	86%	86%	80%	100%	87%
Abertawe Bro Morgannwg					
<i>Number of deaths</i>	NA	1	1	6	3
<i>EASR of deaths</i>	NA	0.2	0.2	1.2	0.6
Aneurin Bevan					
<i>Number of deaths</i>	2	1	0	1	1
<i>EASR of deaths</i>	0.4	0.2	0.0	0.2	0.2
Betsi Cadwaladr					
<i>Number of deaths</i>	3	2	4	5	7
<i>EASR of deaths</i>	0.4	0.3	0.6	0.8	1.2
Cardiff & Vale					
<i>Number of deaths</i>	0	0	1	1	2
<i>EASR of deaths</i>	0.0	0.0	0.3	0.4	0.7
Cwm Taf					
<i>Number of deaths</i>	2	3	3	2	6
<i>EASR of deaths</i>	0.3	0.7	0.5	0.3	1.3
Hywel Dda					
<i>Number of deaths</i>	0	0	0	0	3
<i>EASR of deaths</i>	0.0	0.0	0.0	0.0	1.0
Powys					
<i>Number of deaths</i>	0	0	1	0	1
<i>EASR of deaths</i>	0.0	0.0	1.1	0.0	1.0

8.1.3 Deaths involving cocaine by area of residence

In 2017, the highest proportion of drug misuse deaths involving cocaine in Wales were recorded in BCUHB accounting for 30 per cent (n = 7) and CTUHB accounting for 26 per cent (n = 6).

8.1.4 Cocaine deaths and polydrug use

Amongst cocaine deaths in 2017,

- 35 per cent (n= 8) reported only cocaine.

¹⁷ All rates are calculated using the European age standardised population (EASR) using population data sourced from Stats Wales.

- 65 per cent (n = 15) reported at least one other substance

The most common substances reported alongside cocaine were:

- 8 involving Methadone
- 6 involving Heroin/Morphine
- 4 involving other opioids

The number of deaths involving both methadone and cocaine have been rising in recent years, from 1 death in 2015 to 8 deaths in 2017. In the same period, all cocaine deaths have risen from 10 to 23 deaths.

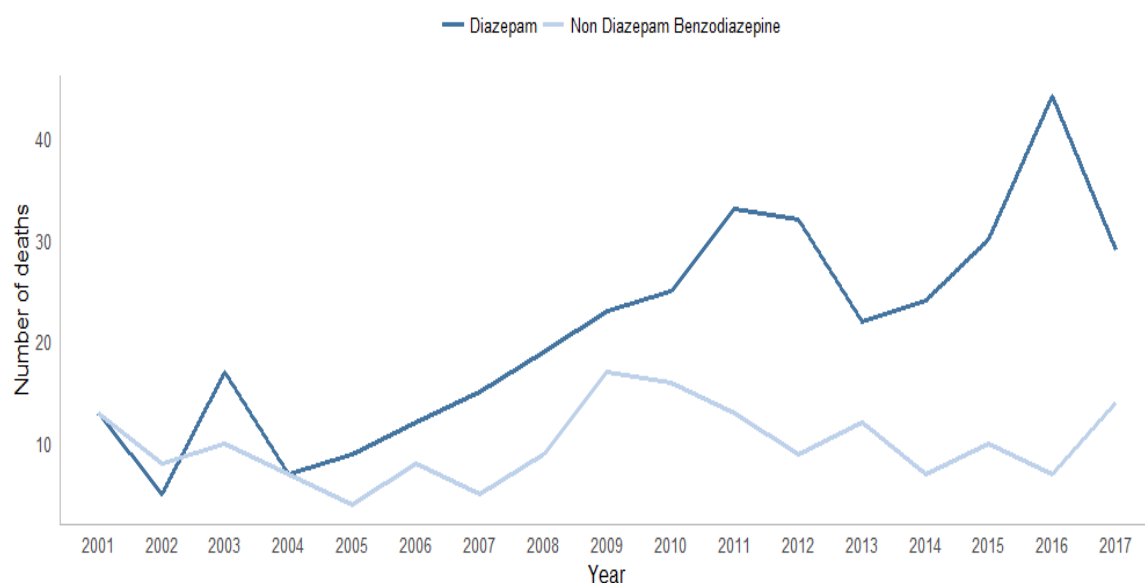
9. Benzodiazepines

9.1 Overview of deaths involving benzodiazepines

In 2017, 22.7 per cent (n=42) of drug misuse deaths involved a benzodiazepine, a decrease from 26.0 per cent in 2016. The proportion of drug misuse deaths involving benzodiazepines have remained between 20 and 30 percent since 2008.

The most commonly reported benzodiazepine was Diazepam recorded in 29 deaths, 15.7 per cent of all drug misuse death. There were two deaths involving Alprazolam and one involving Temazepam. There were 11 deaths involving a non-specified benzodiazepine.

Benzodiazepines were the most commonly identified class of psychoactive substances identified by the Welsh drug analysis service WEDINOS.¹⁸ The service also reported that 45% of benzodiazepines did not contain the substance of purchasing intent.



Source: ONS, 2018

Figure 16 - Number of drug misuse deaths involving benzodiazepines, 2008-17

9.1.1 Deaths involving benzodiazepines – demographic data

The median age for deaths involving diazepam was 37 years (range 21 – 68) and 83 per cent were male, both consistent with previous years. For other benzodiazepines the median age was 38, however, this should be taken with caution due to the relatively small numbers of deaths recorded.

¹⁸ Public Health Wales. WEDINOS: PHILTRE Annual report 2017-18. Available at: http://www.wedinos.org/resources/downloads/Philtre_Annual_Report_2017-18.pdf

9.1.2 Deaths involving benzodiazepines by area of residence

A summary of statistics related to deaths involving Benzodiazepines can be found in Table 6.

Table 6 - Summary of statistics related to deaths involving benzodiazepines, including European age standardised rates (EASR) per 100,000 population.

	2013	2014	2015	2016	2017
Number of Deaths	33	31	37	50	42
Welsh EASR	1.1	1.0	1.3	1.8	1.5
Median age	35.5	40	39	39	37
Age range	24-90	22-70	19-68	18-59	21-80
Percentage male	76%	68%	70%	82%	81%
Abertawe Bro Morgannwg					
<i>Number of deaths</i>	14	5	14	19	18
<i>EASR of deaths</i>	2.6	1.0	2.9	3.8	3.6
Aneurin Bevan					
<i>Number of deaths</i>	3	6	4	5	8
<i>EASR of deaths</i>	0.6	1.0	0.7	1.0	1.5
Betsi Cadwaladr					
<i>Number of deaths</i>	0	3	0	1	0
<i>EASR of deaths</i>	0.0	0.4	0.0	0.2	0.0
Cardiff & Vale					
<i>Number of deaths</i>	3	3	3	5	2
<i>EASR of deaths</i>	1.2	1.0	1.0	1.8	0.7
Cwm Taf					
<i>Number of deaths</i>	5	4	10	11	4
<i>EASR of deaths</i>	1.0	0.9	2.3	2.2	0.8
Hywel Dda					
<i>Number of deaths</i>	6	10	4	9	10
<i>EASR of deaths</i>	1.8	3.2	1.2	3.0	3.3
Powys					
<i>Number of deaths</i>	0	0	2	0	0
<i>EASR of deaths</i>	0.0	0.0	1.2	0.0	0.0

9.1.3 Benzodiazepines and polydrug use

In 2017, 97 per cent (n=29) of deaths related to Diazepam included at least one other substance. There was one death involving only Diazepam.

The most common substances also recorded in diazepam deaths were:

- heroin/morphine (48 per cent, n = 14)
- methadone (34 per cent, n= 10)
- other opioids (31 per cent, n = 9)

- pregabalin (20 per cent, n=6)
- cocaine (14 per cent, n=4)

The most common substances recorded alongside other benzodiazepines were:

- heroin/morphine(n=6)
- other opioids(n=5)
- amphetamine(n=4)

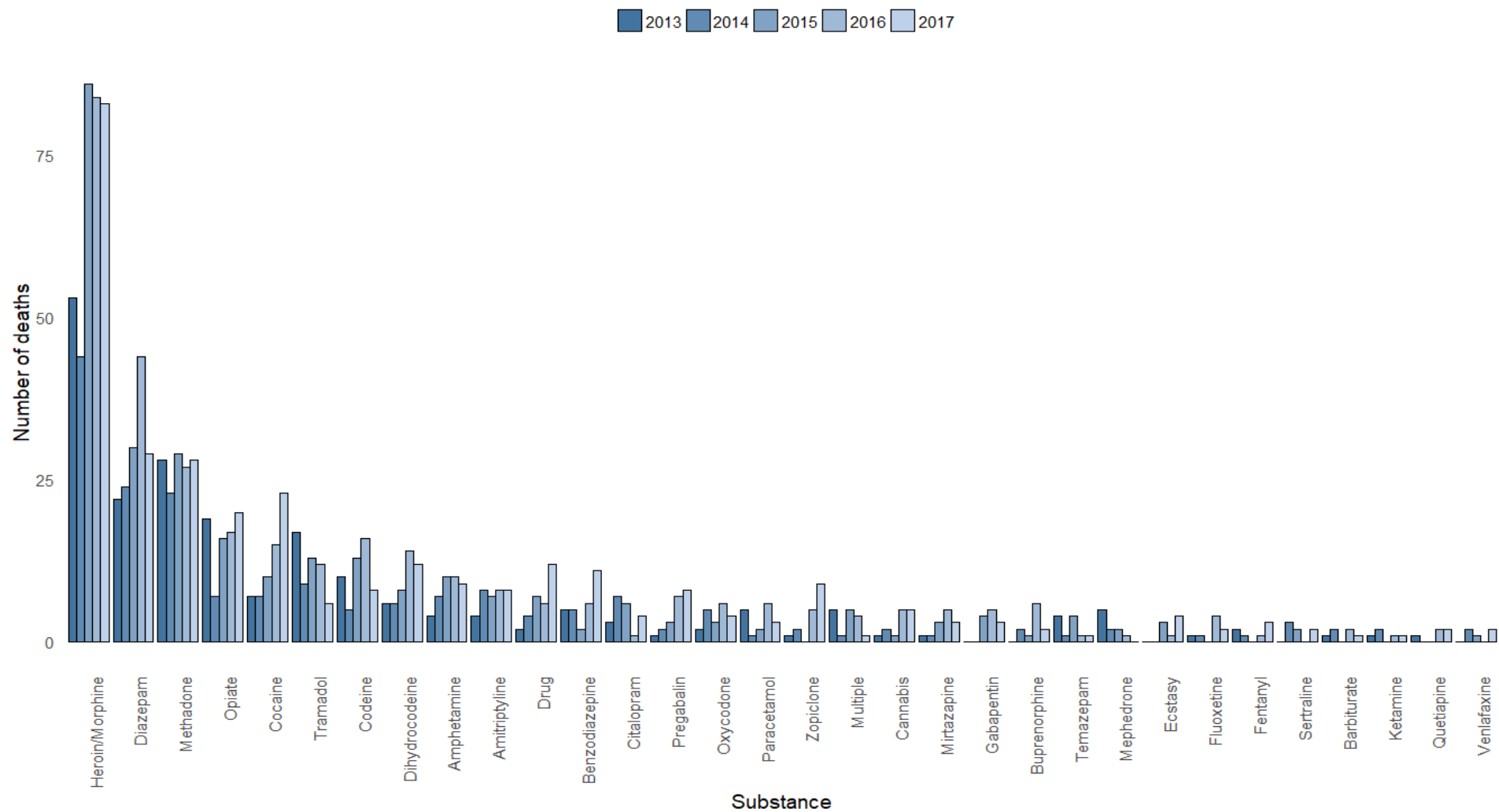
10. Other substances

Figure 17 shows the number of deaths per year, for each substance with five or more deaths between 2013 and 2017. Apart from the substances already mentioned in this report there have been increases in deaths related to Pregabalin (2 in 2014 to 8 in 2017) and Zopiclone (from 2 in 2014 to 9 in 2017).

There has also been a small increase in deaths involving Ecstasy from zero in 2014 to 4 in 2017. One explanation could be the increase of purities of MDMA tablets observed over the last few years¹⁹. All four deaths in 2017 had no other substances recorded on the death certificate.

Deaths involving any new psychoactive substance has decreased from a peak of 8 in 2015 to 2 in 2017.

¹⁹ Public Health Wales. WEDINOS: PHILTRE Annual report 2017-18. Available at: <http://www.wales.nhs.uk/sitesplus/documents/888/Philtre%20Annual%20Report%202018%20FINAL.pdf>



Source: ONS, 2018

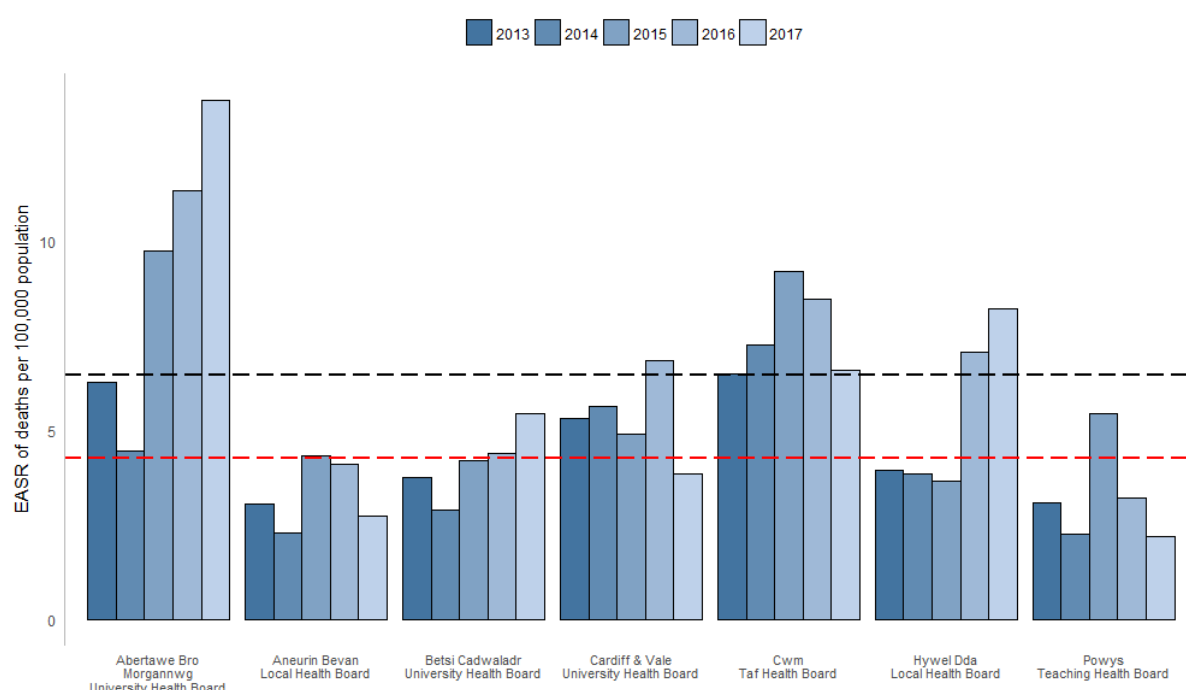
Figure 17 – Number of deaths^a involving substances with at least five deaths in the past 4 years, by substance, 2013-17.

a. Where reported by ONS on the death certificate in any position – not unique individuals

11. Drug misuse deaths by area of residence in Wales

Note: All rates of deaths within this report have been calculated using the European age standardised rate per 100,000 population.^{20,21}

Figure 18 shows the European age standardised rate (EASR) of drug deaths per 100,000 population for each health board. The highest rates of death in 2017 were observed in Abertawe Bro Morgannwg University Health Board (ABMUHB), with a rate of 13.7 deaths per 100,000 population. This has been a consistent trend since 2015. The lowest rate of deaths were observed in Aneurin Bevan University Health Board (2.7 deaths per 100,000 population) and Powys Teaching Health Board (2.2 deaths per 100,000 population).



Source: ONS, 2018

Figure 18 - EASR of drug misuse deaths per 100,000 population by health board, 2013-17, with national rates for Wales (black) and England (Red).

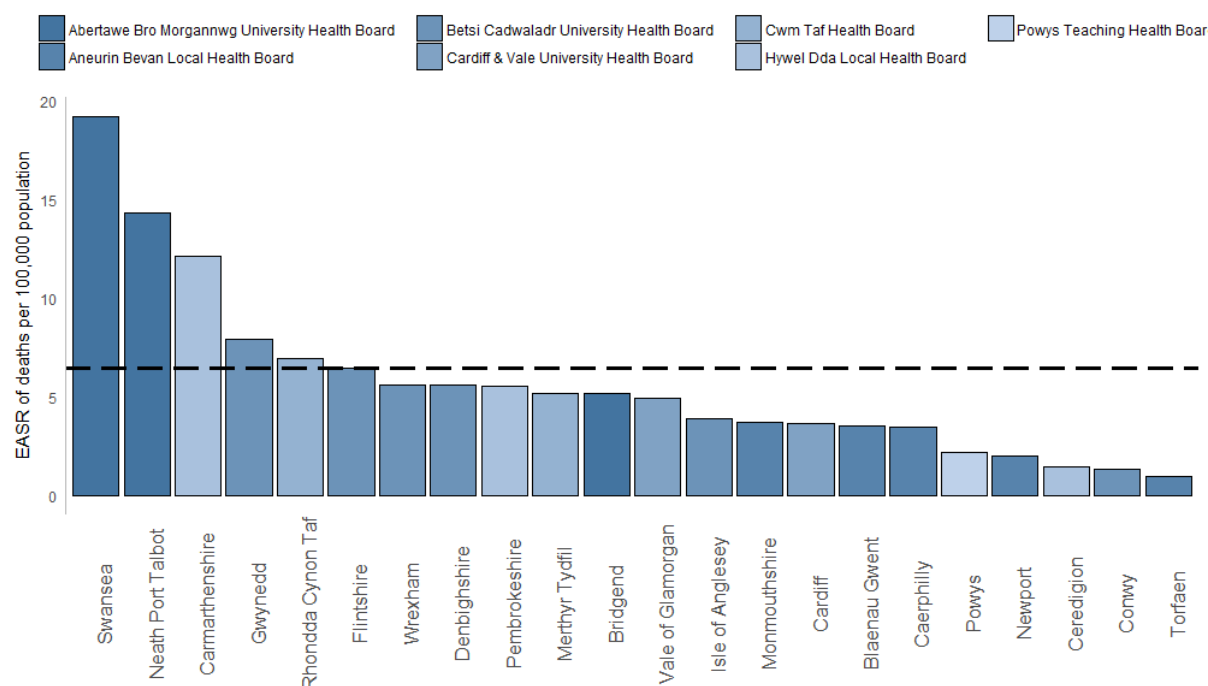
Figure 19 shows the EASR rates by local authority. The local authorities with the two highest rates were both found in ABMUHB, namely Swansea (19.2 deaths per 100,000 population) and Neath Port Talbot (14.3 deaths per 100,000 population). Data from ONS shows that both of these local authorities were in the top five highest rates in England and Wales for all substance deaths over the last 3 years.²²

²⁰ Eurostat: revision of European standard population – report of Eurostats task force – 2013 edition. Available at: <http://ec.europa.eu/eurostat/en/web/products-manuals-and-guidelines/-/KS-RA-13-028>

²¹ Population estimate data sourced from Stats Wales: <https://statswales.gov.wales/Catalogue>

²² Office for National Statistics 2018: Deaths related to drug poisoning in England and Wales: 2017 registrations. Available at : <https://www.ons.gov.uk/releases/deathsrelatedtodrugpoisoninginenglandandwales2017registrations>

The lowest rates were observed in Torfaen (1.0 deaths per 100,000 population), Conwy (1.3 deaths per 100,000 population) and Ceredigion (1.4 deaths per 100,000 population).



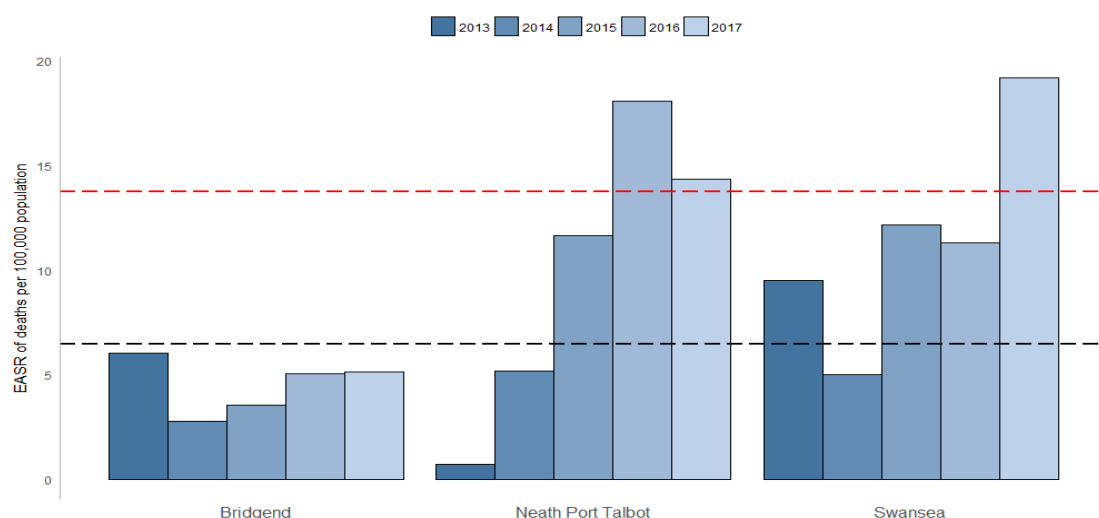
Source: ONS, 2018

Figure 19 - EASR of drug misuse deaths per 100,000 population in Wales by local authority, 2017, with the national rate for Wales (black)

12. Drug misuse use deaths by health board area

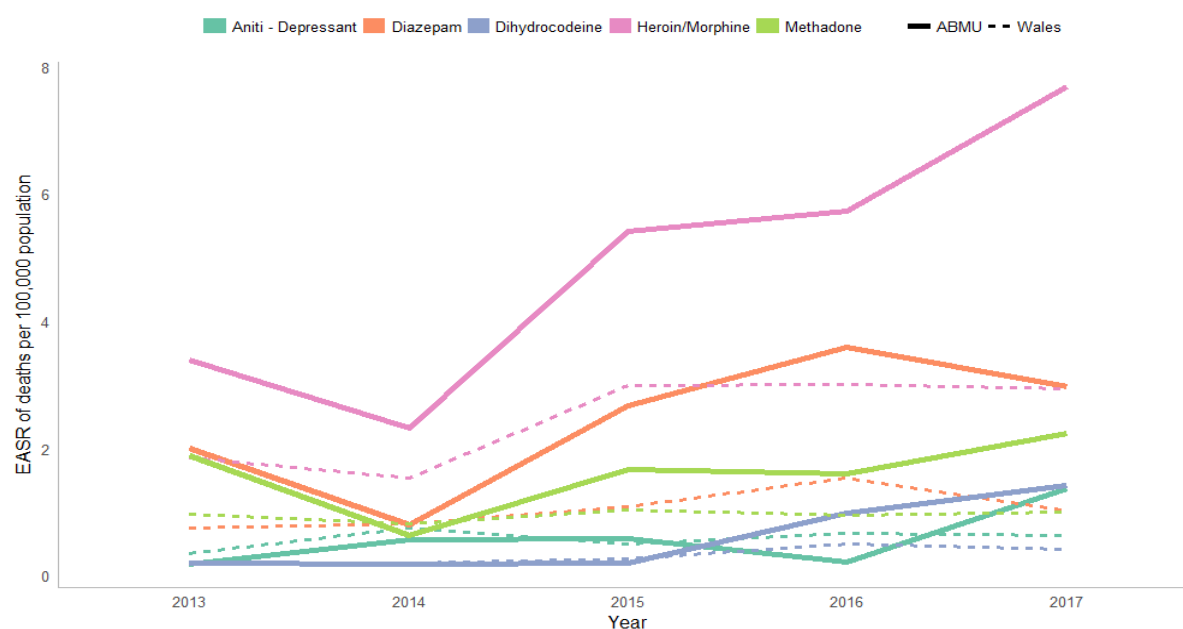
12.1 Abertawe Bro Morgannwg University Health Board (ABMUHB)

ABMUHB had an EASR of 13.7 deaths per 100,000 population, higher than the Welsh average. This ranked as the highest of all health boards in Wales. Swansea and Neath Port Talbot are above the Welsh average. Swansea recorded the highest number of drug misuse deaths in Wales in 2017.



Source: ONS, 2018

Figure 20 - EASR of drug misuse deaths per 100,000 population by local authority and year in ABMUHB, 2013-17. The lines indicate the EASR per 100,000 population for the health board (red) and all Wales (black)

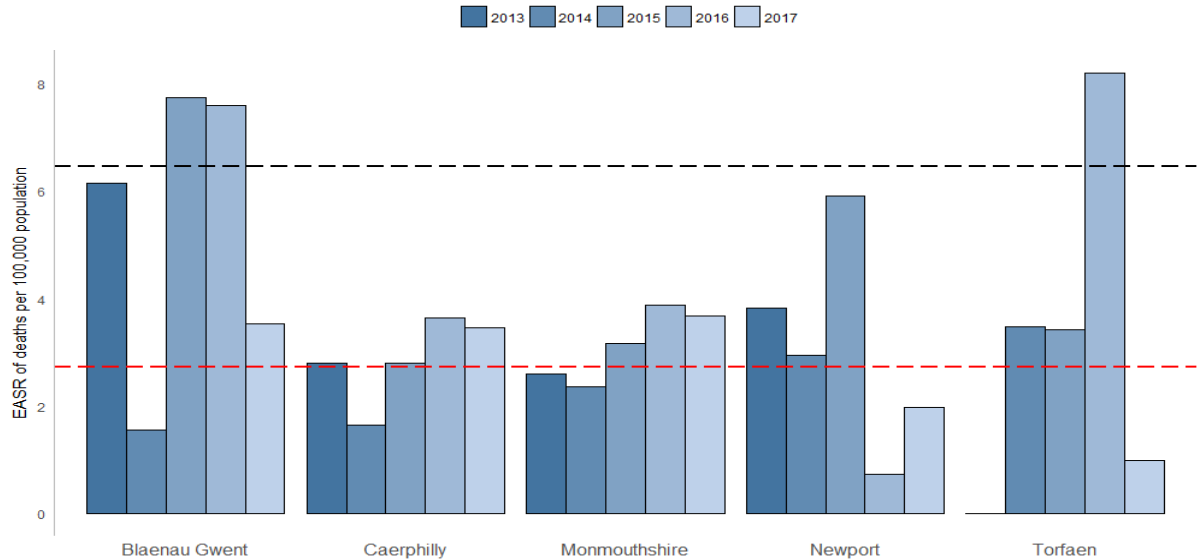


Source: ONS, 2018

Figure 21 – EASR of drug misuse deaths per 100,000 population of the five most reported substances in ABMUHB, 2013-2017, along with the national rates.

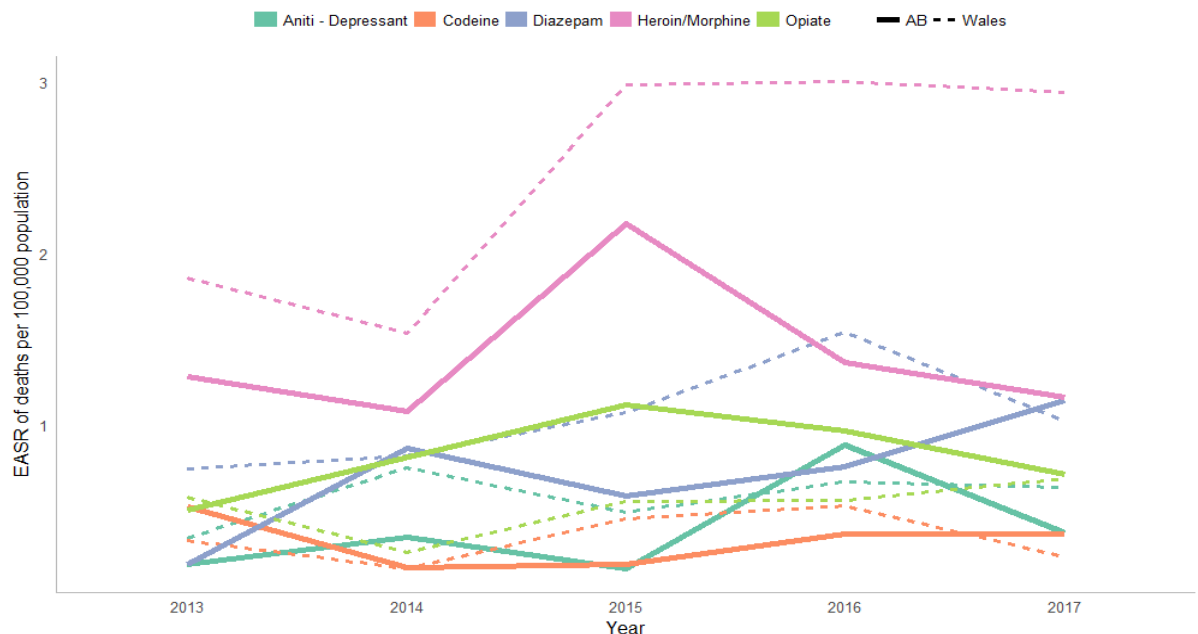
12.2 Aneurin Bevan University Health Board (ABUHB)

ABUHB had an EASR of 2.7 deaths per 100,000 population, which is lower than the Welsh average. ABUHB ranked as the second lowest in all health boards in Wales. All local authorities in ABUHB were below the Welsh national average in 2017.



Source: ONS, 2018

Figure 22 - EASR of drug misuse deaths per 100,000 population by local authority and year in ABUHB, 2013-17. The lines indicate the EASR per 100,000 population for the health board (red) and all Wales (black)

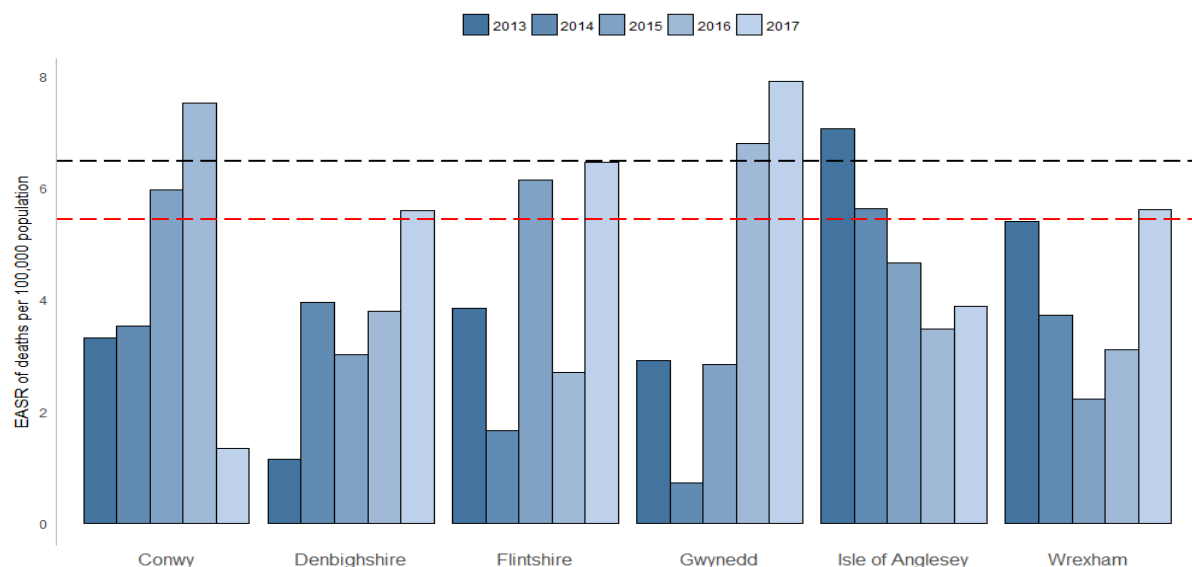


Source: ONS, 2018

Figure 23 – EASR drug misuse deaths per 100,000 population of the five most reported substances in ABUHB, 2013-2017, along with the national rates.

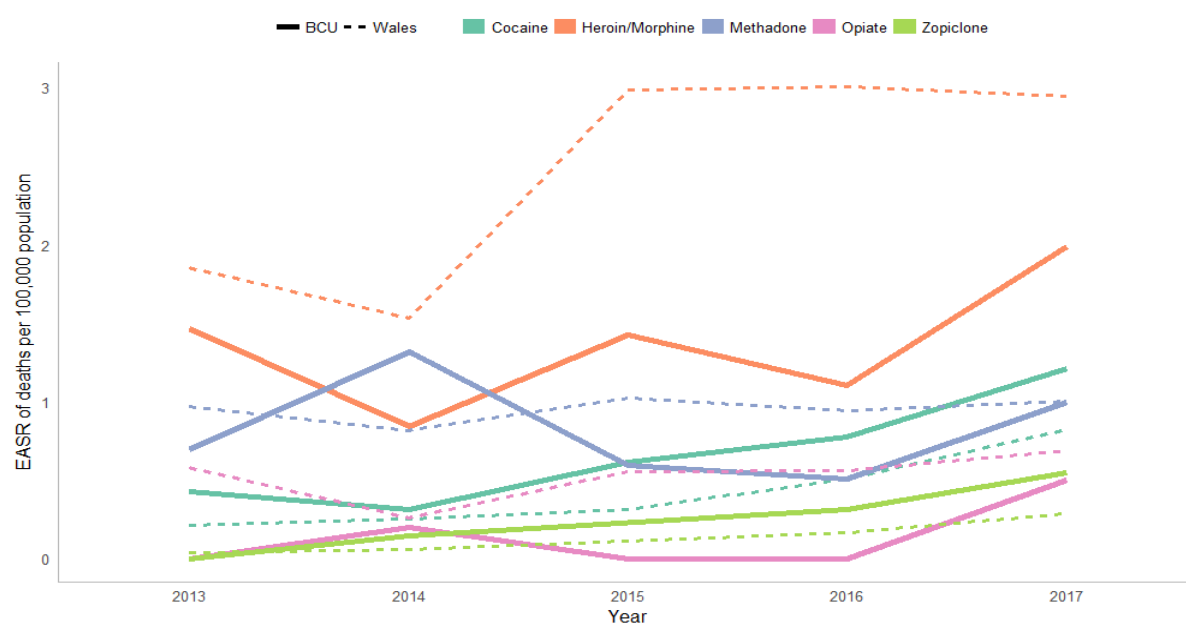
12.3 Betsi Cadwaladr University Health Board (BCUHB)

BCUHB had an EASR of 5.4 deaths per 100,000 population, which is lower than the Welsh average. BCUHB ranked as the fourth highest in all health boards in Wales. Gwynedd had an EASR of drug misuse deaths above the national average in 2017.



Source: ONS, 2018

Figure 24 - EASR of drug misuse deaths per 100,000 population by local authority and year in BCUHB, 2013-17. The lines indicate the EASR per 100,000 population for the health board (red) and all Wales (black)

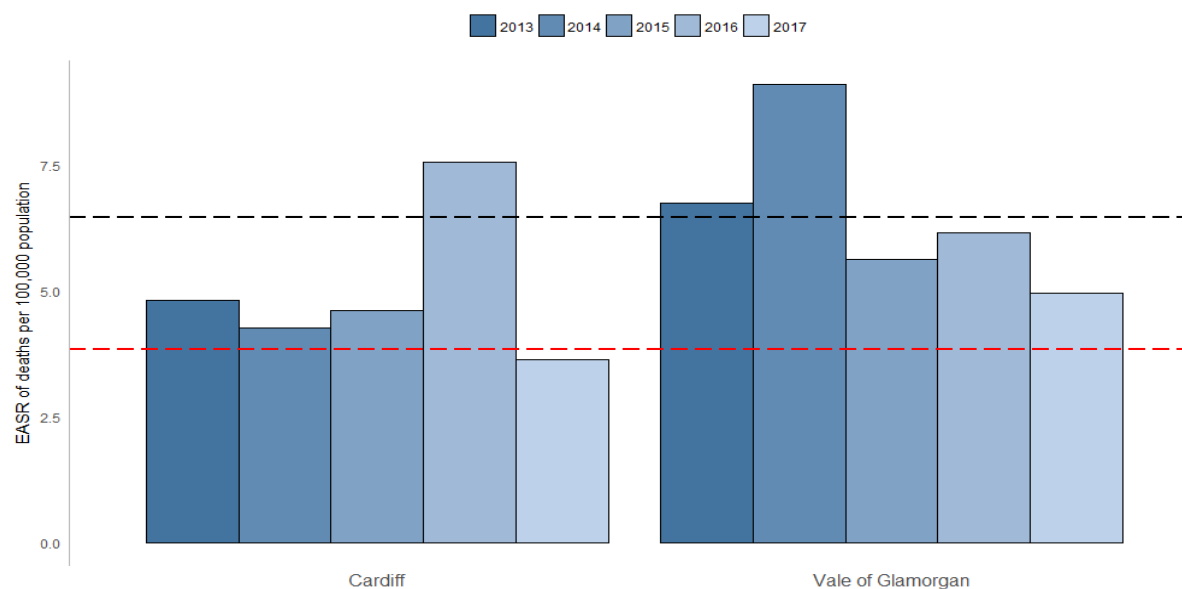


Source: ONS, 2018

Figure 25 – EASR of drug misuse deaths per 100,000 population of the five most reported substances in BCUHB, 2013-2017, along with the national rates.

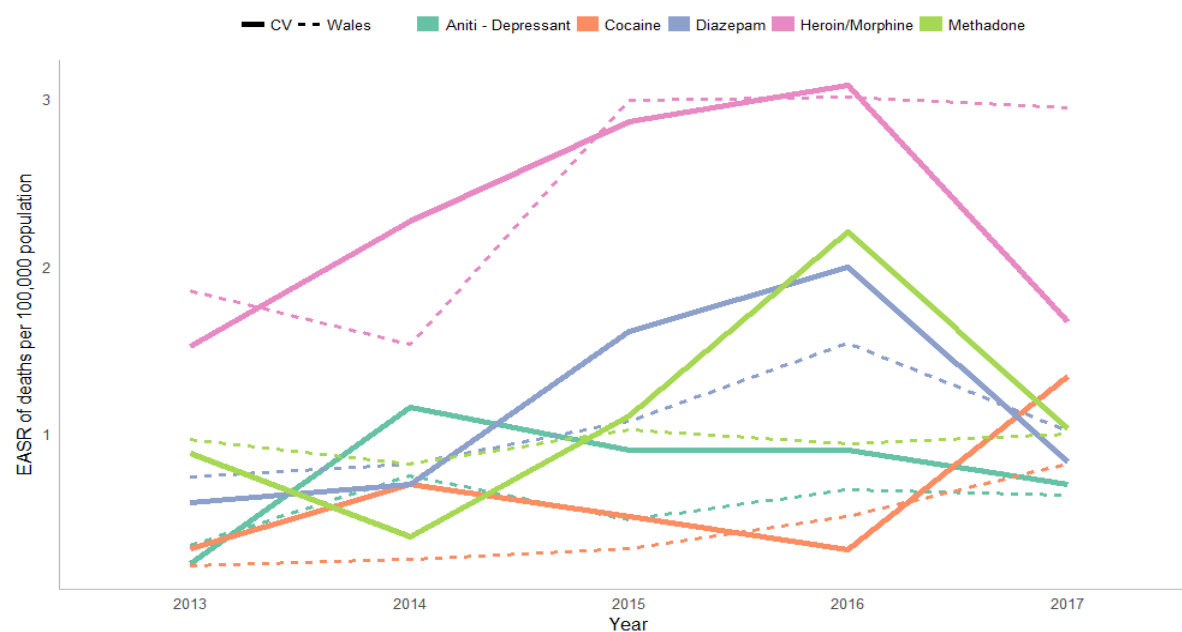
12.4 Cardiff & Vale University Health Board (CVUHB)

CVUHB had an EASR of 3.8 deaths per 100,000 population, which is lower than the Welsh average. CVUHB ranked as the third lowest in all health boards in Wales. Both local authorities in CVUHB were below the Welsh national average in 2017.



Source: ONS, 2018

Figure 26 - EASR of drug misuse deaths per 100,000 population by local authority and year in CVUHB, 2013-17. The lines indicate the EASR per 100,000 population for the health board (red) and all Wales (black)

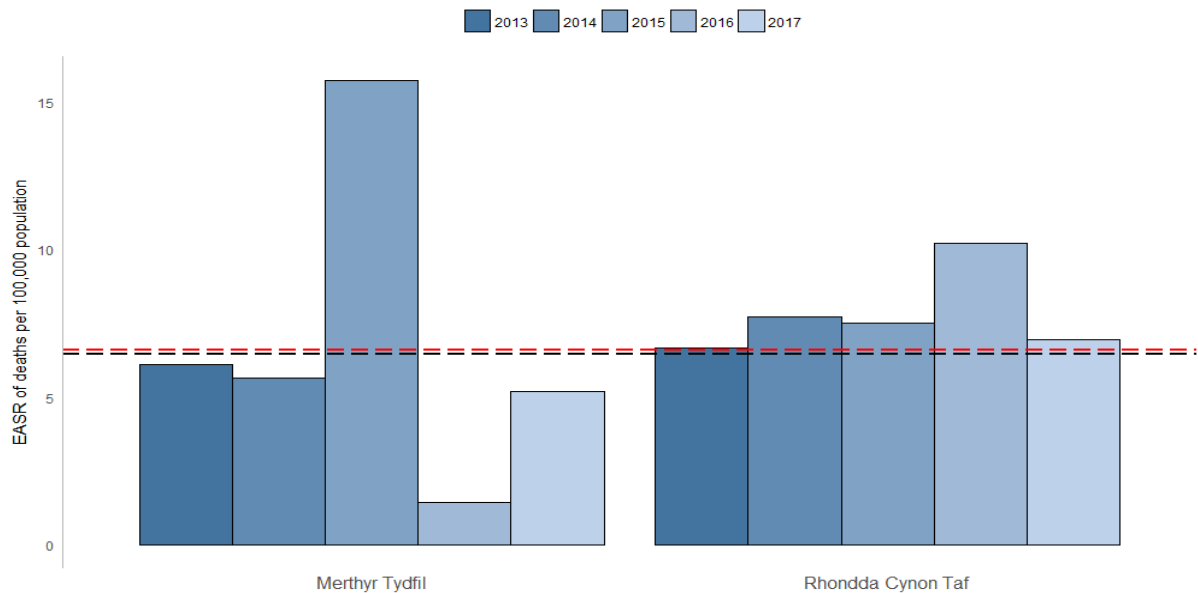


Source: ONS, 2018

Figure 27 – EASR of drug misuse deaths per 100,000 population of the five most reported substances in CVUHB, 2013-2017, along with the national rates.

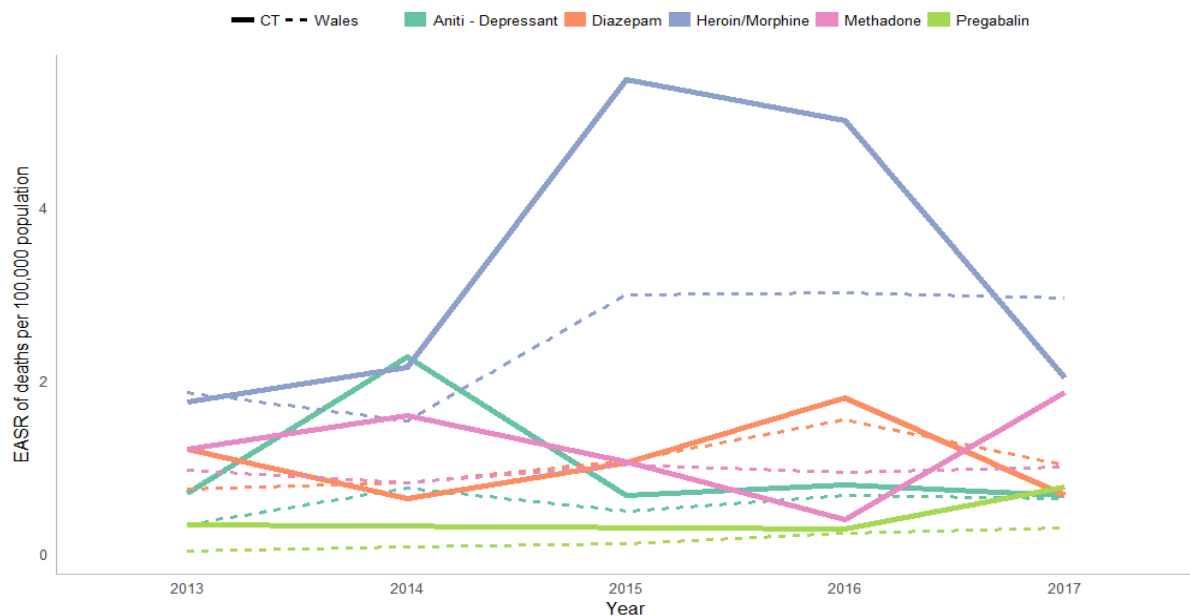
12.5 Cwm Taf University Health Board (CTUHB)

CTUHB had an EASR of 6.6 deaths per 100,000 population, which is higher than the Welsh average. CTUHB ranked as the third highest in all health boards in Wales. Rhondda Cynon Taf had a higher EASR than the Welsh average in 2017



Source: ONS, 2018

Figure 28 - EASR of drug misuse deaths per 100,000 population by local authority and year in CTUHB, 2013-17. The lines indicate the EASR per 100,000 population for the health board (red) and all Wales (black)

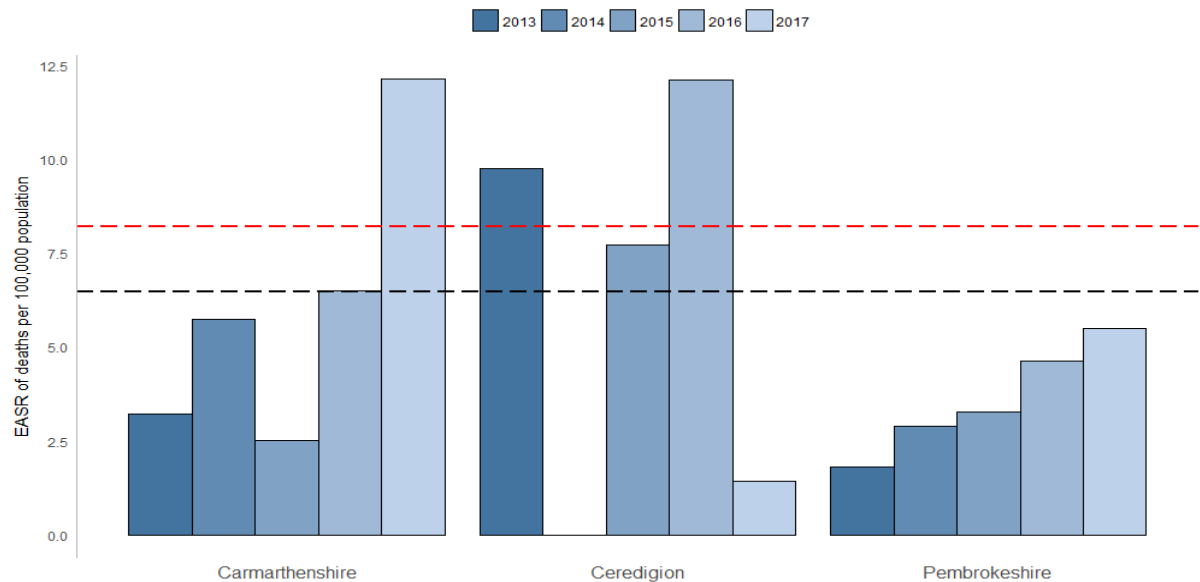


Source: ONS, 2018

Figure 29 – EASR of drug misuse deaths per 100,000 population of the five most reported substances in CTUHB, 2013-2017, along with the national rates.

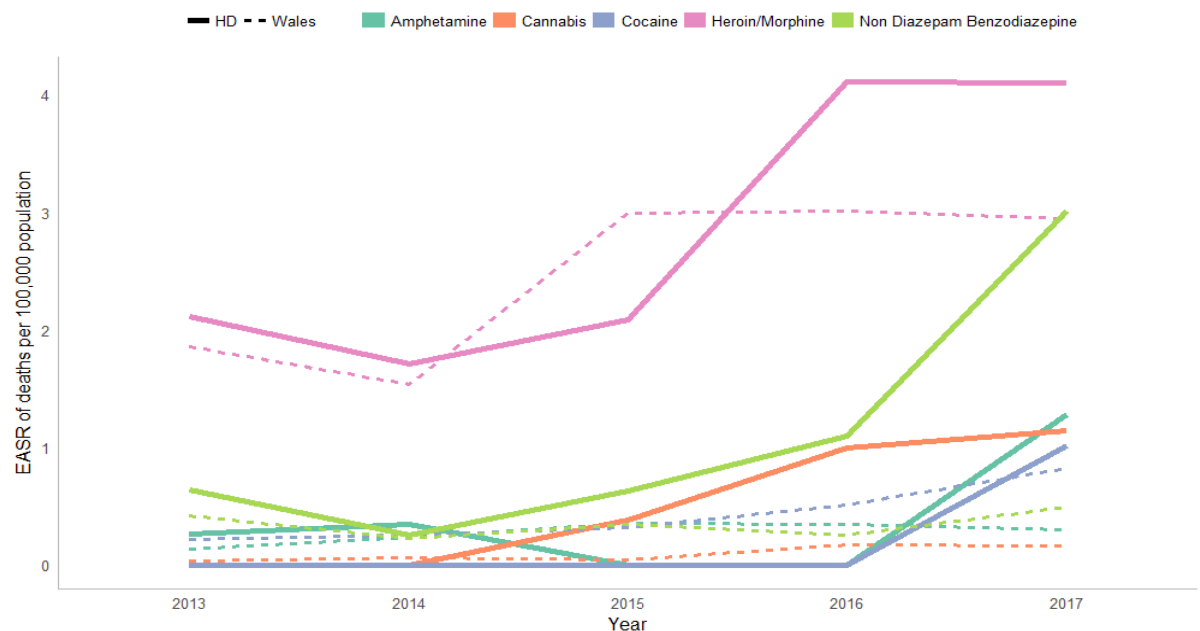
12.6 Hywel Dda University Health Board (HDUHB)

HDUHB had an EASR of 8.2 deaths per 100,000 population, which is higher than the Welsh average. HDUHB ranked as the second highest Health Board in drug misuse deaths in Wales. Carmarthenshire had a higher EASR than the Welsh average in 2017.



Source: ONS, 2018

Figure 30 - EASR of drug misuse deaths per 100,000 population by local authority and year in HDUHB, 2013-17. The lines indicate the EASR per 100,000 population for the health board (red) and all Wales (black)

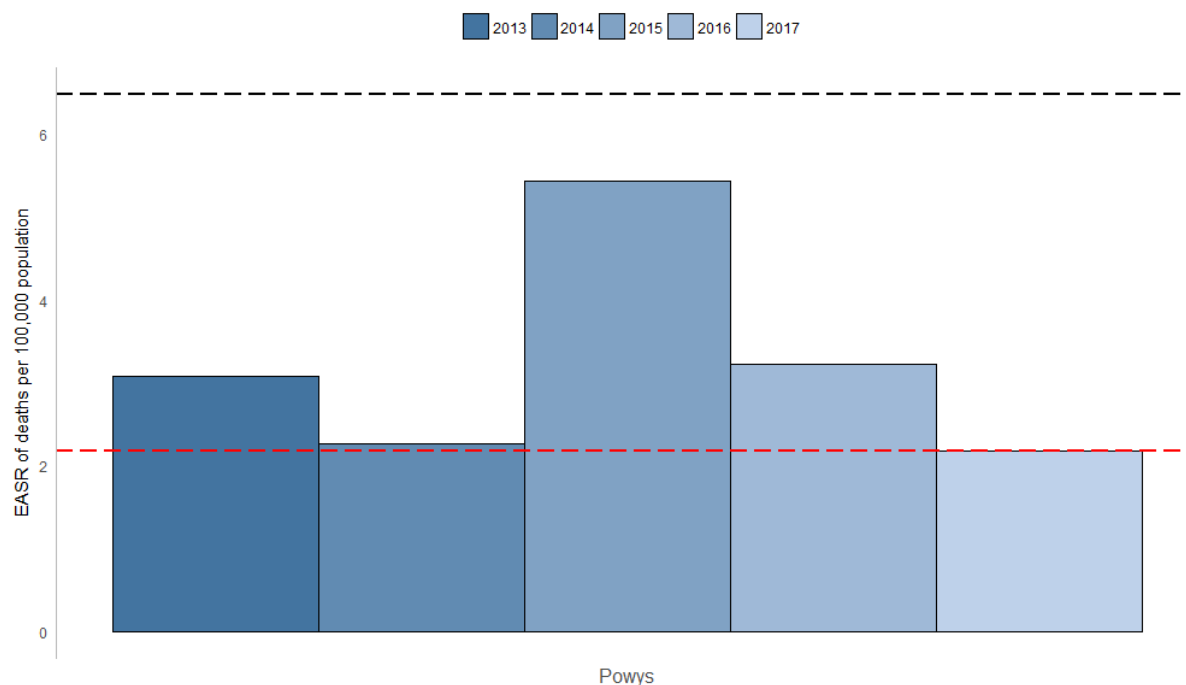


Source: ONS, 2018

Figure 31 – EASR of drug misuse deaths per 100,000 population of the five most reported substances in HDUHB, 2013-2017, along with the national rates.

12.7 Powys Teaching Health Board

Powys had an EASR of 2.2 deaths per 100,000 population, which is lower than the Welsh average. Powys ranked as the lowest in all health boards in Wales. Due to the small numbers reported, the top five substances in Powys have not been reported. No single substance was recorded in more than one death.



Source: ONS, 2018

Figure 32 - EASR of drug misuse deaths per 100,000 population by local authority and year in Powys Teaching Health Board, 2013-17. The lines indicate the EASR per 100,000 for the health board (red) and all Wales (black)

12.8 Summary of drug misuse deaths by local authority and health board area 2013 – 17

Table 7 provides a geographic summary profile of both the EASR per 100,000 population and numbers of drug misuse deaths across Wales.

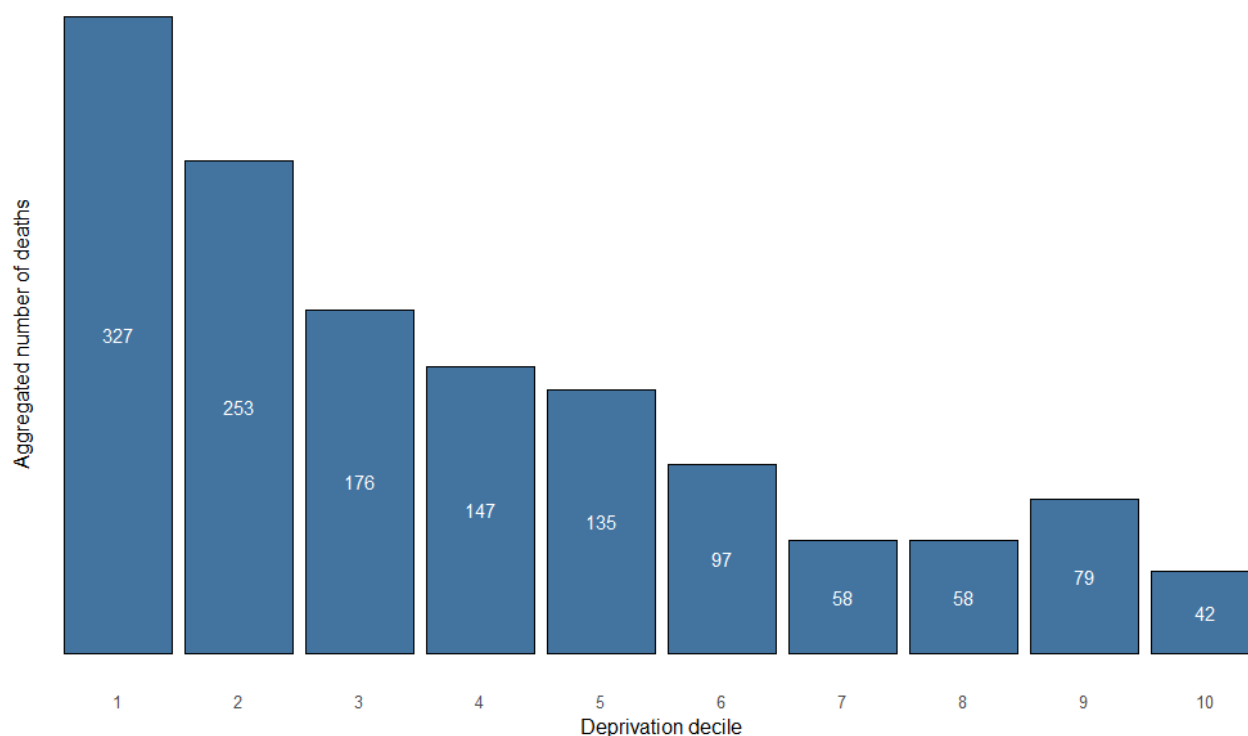
Table 7 – European age standardised rates²³ of drug misuse deaths by local authority and Health Board area in Wales 2013-17. Number of deaths is provided in brackets.

	2013	2014	2015	2016	2017
Abertawe Bro Morgannwg	6.3 (32)	4.5 (23)	9.8 (49)	11.3 (57)	13.7 (69)
<i>Bridgend</i>	6 (8)	2.8 (4)	3.6 (5)	5.1 (7)	5.2 (7)
<i>Neath Port Talbot</i>	0.7 (1)	5.2 (7)	11.7 (15)	18.1 (24)	14.3 (19)
<i>Swansea</i>	9.5 (23)	5 (12)	12.2 (29)	11.3 (26)	19.2 (43)
Aneurin Bevan	3 (17)	2.3 (13)	4.3 (24)	4.1 (22)	2.7 (15)
<i>Blaenau Gwent</i>	6.2 (4)	1.6 (1)	7.7 (5)	7.6 (5)	3.5 (2)
<i>Caerphilly</i>	2.8 (5)	1.6 (3)	2.8 (5)	3.6 (6)	3.5 (6)
<i>Monmouthshire</i>	2.6 (2)	2.4 (2)	3.2 (2)	3.9 (3)	3.7 (3)
<i>Newport</i>	3.8 (6)	3 (4)	5.9 (9)	0.7 (1)	2 (3)
<i>Torfaen</i>	0 (0)	3.5 (3)	3.4 (3)	8.2 (7)	1 (1)
Betsi Cadwaladr	3.8 (24)	2.9 (18)	4.2 (27)	4.4 (28)	5.4 (34)
<i>Conwy</i>	3.3 (3)	3.5 (4)	6 (6)	7.5 (7)	1.3 (2)
<i>Denbighshire</i>	1.1 (1)	4 (3)	3 (3)	3.8 (3)	5.6 (5)
<i>Flintshire</i>	3.9 (6)	1.7 (2)	6.1 (9)	2.7 (4)	6.5 (9)
<i>Gwynedd</i>	2.9 (3)	0.7 (1)	2.8 (3)	6.8 (8)	7.9 (9)
<i>Isle of Anglesey</i>	7.1 (4)	5.6 (3)	4.7 (3)	3.5 (2)	3.9 (2)
<i>Wrexham</i>	5.4 (7)	3.7 (5)	2.2 (3)	3.1 (4)	5.6 (7)
Cardiff & Vale	5.3 (26)	5.6 (25)	4.9 (23)	6.8 (34)	3.8 (19)
<i>Cardiff</i>	4.8 (18)	4.3 (14)	4.6 (16)	7.6 (27)	3.6 (13)
<i>Vale of Glamorgan</i>	6.7 (8)	9.1 (11)	5.6 (7)	6.2 (7)	4.9 (6)
Cwm Taf	6.5 (19)	7.3 (20)	9.2 (26)	8.5 (24)	6.6 (19)
<i>Merthyr Tydfil</i>	6.1 (3)	5.6 (3)	15.8 (9)	1.4 (1)	5.2 (3)
<i>Rhondda Cynon Taf</i>	6.7 (16)	7.7 (17)	7.5 (17)	10.2 (23)	7 (16)
Hywel Dda	4 (13)	3.8 (12)	3.7 (13)	7.1 (23)	8.2 (26)
<i>Carmarthenshire</i>	3.2 (5)	5.7 (9)	2.5 (4)	6.5 (10)	12.1 (19)
<i>Ceredigion</i>	9.7 (6)	0 (0)	7.7 (5)	12.1 (8)	1.4 (1)
<i>Pembrokeshire</i>	1.8 (2)	2.9 (3)	3.3 (4)	4.6 (5)	5.5 (6)
Powys Teaching	3.1 (4)	2.3 (2)	5.4 (6)	3.2 (4)	2.2 (2)
<i>Powys</i>	3.1 (4)	2.3 (2)	5.4 (6)	3.2 (4)	2.2 (2)

²³ Population estimate data sourced from Stats Wales : <https://statswales.gov.wales/Catalogue>

13. Drug misuse deaths and deprivation

Drug harms are typically associated with social and economic deprivation and this relationship is strikingly illustrated in data on drug misuse deaths. Taking all 1,372²⁴ drug misuse deaths occurring in the last five years, 2008 to 2017, over 75 percent occurred amongst those from the 50 per cent most deprived areas (deciles 1-5). It also shows that 7.8 times as many individuals who died of drug misuse over this period in Wales came from the 10 per cent most deprived areas compared with the 10 per cent least deprived areas.



Source: ONS, 2018 and WIMD²⁵

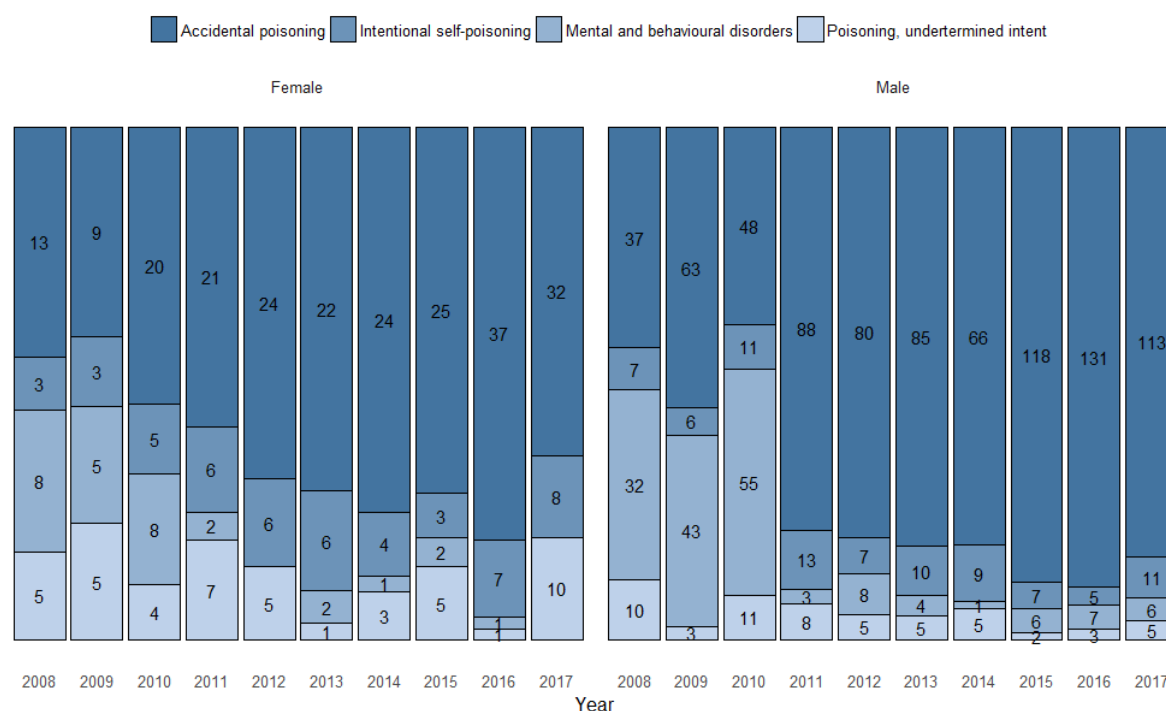
Figure 33 – Number of drug misuse deaths between 2008 and 2017 by deprivation decile.²⁴ (1 = highest deprivation to 10 = lowest deprivation)

²⁴ There were 20 deaths where a WIMD rank could not be established.

²⁵ Deprivation decile calculated using the Welsh Index of Multiple Deprivation (WIMD) available at: <https://gov.wales/statistics-and-research/welsh-index-multiple-deprivation/?lang=en>

14. Underlying causes of death

Figure 34 shows the proportion of drug misuse deaths categorised by the recorded underlying cause of death. Data are presented by year of registration, as changes in classification practice are likely to be better understood by the year of classification than the year of death. The marked change in the data between 2010 and 2011 is understood to be as a result of changes in guidance given to those allocating the codes. Whilst there is variation over the most recent five years in terms of the proportions of deaths categorised by each code, it is not clear how far these reflect actual changes in intentionality of those dying of these causes and variation in categorisation practices between different practitioners.



Source: ONS, 2018

Figure 34 - Underlying cause of death for drug misuse deaths by year of registration and gender, Wales 2008-17

15. Appendices

Appendix A: Data and Definitions

'Drug related deaths' typically encompasses two measures. Deaths related to both licit and illicit drugs are typically described as 'drug poisoning deaths.' 'Drug misuse deaths', which is the preferred measure for analysis of drug related deaths in the context of substance misuse strategies, include only illicit drugs (i.e. those controlled under the 1971 Misuse of Drugs Act and not prescribed to the individual). Drug misuse deaths are therefore a subset of both 'drug poisoning deaths' and 'drug related deaths'. All figures in this document refer to drug misuse deaths unless otherwise indicated.

Drug poisoning and drug misuse deaths are identified using the 10th edition of the International Classification of Disease codes (ICD-10 codes). Where the underlying cause of death is classified by a code indicating:

- Mental and behavioural disorders due to drug use (excluding alcohol and tobacco)
- Accidental poisoning by drugs, medicaments and biological substance
- Intentional self-poisoning by drugs, medicaments and biological substances
- Poisoning by drugs, medicaments and biological substances, undetermined intent
- Assault by drugs, medicaments and biological substances

The Office for National Statistics (ONS) classifies the death as 'drug related'. 'Drug poisoning deaths' include all deaths so classified; 'drug misuse deaths' include those deaths in which a substance controlled under the Misuse of Drugs Act 1971 (MDA) is identified. Note that since substances can be added to the definitions included in the MDA via secondary legislation, previously published numbers of deaths are subject to revision. Further, it is not typically possible to distinguish between heroin and morphine in toxicology tests on deceased persons, and therefore deaths involving these substances are conventionally described as 'heroin/morphine'. Note also that intentional poisoning and poisoning of undetermined intent are categorised by the ONS as 'suicides'.

Figures for drug related deaths are typically reported by year of registration of the death. All deaths where use of illicit drugs is considered a possible factor are referred to a Coroner, leading to a delay between death and registration. This delay in turn means that a substantial number of deaths are registered in a different year to that in which they occurred. Whilst reporting by year of registration enables a comprehensive list of deaths to be analysed and allows comparison between UK countries, changes in the length of time taken to register drug misuse deaths may suppress or enhance annual trends in the data.

Further details of the methods used by the ONS to identify drug related deaths can be found at: <http://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsrelatedtodrugpoisoninginenglandandwales/2015registrations#quality-and-methodology>

The ONS publishes annual figures for drug related deaths, with the most recent report available at: <http://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsrelatedtodrugpoisoninginenglandandwales/2015registrations>

Most of these figures are presented for England and Wales, with only a small number of headline figures broken down annually by UK country. The Mortality team at the ONS provide Public Health Wales with detailed figures for Wales by special arrangement. Where detailed in this document, figures for England have been calculated by subtracting figures for Wales from figures for England and Wales. This method is expected to provide accurate figures but has not been cross-checked with the ONS.

Appendix B: Named ‘New Psychoactive Substances’ for drug misuse death analysis by Office for National Statistics

1-(benzofuran-5-yl)-N-methylpropan-2-amine
1-(Benzofuran-5-yl)-propan-2-amine
1-(Benzofuran-6-yl)-propan-2-amine
2-aminoindane
2-(1H-Indol-5-yl)-1-methylethylamine
25B-NBOMe
25C-NBOMe
25I-NBOMe
2-diphenylmethylpyrrolidine
3-methoxyphencyclidine
3f-phenmetrazine
4,4'-DMAR
4-Fluoroephedrine
4-Fluoromethcathinone
4-Methoxymethcathinone
4-Methylamphetamine
4-Methylethcathinone
5-EAPB
5F-ADB
5F-AKB-48
5F-PB-22
AB-CHMINACA
Acetylfentanyl
AH-7921
Alpha-methyltryptamine
Alpha-PVP
APB
APDB
Butylone
BZP
Cathinone
Clephedrone
Desoxypipradrol
Diclazepam
Diphenidine
EAPB
Ethylphenidate
Etizolam
Flubromazepam
Flubromazolam
Fluoromethamphetamine
Fluoromethcathinone

Fluorophenmetrazine
GHB
Khat
MDDA
MDMB-CHMICA
Mephedrone
Methiopropamine
Methoxetamine
Methoxphenidine
Methylenedioxypropylone
Methylethcathinone
Methylone
Mexedrone
N-Methyl-3-phenyl-norbornan-2-amine
Phenazepam
Pyrrolam
Synthetic cannabinoid
TFMPP
U-47700