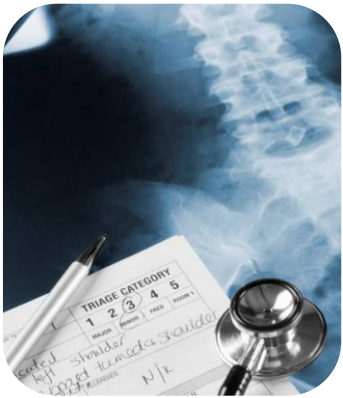


Interim  
2013



# The Burden of Injury in Wales

Interim report 2013  
Poisonings



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales



CAPIC  
Collaboration for Accident  
Prevention and Injury Control

## **ACKNOWLEDGMENTS**

This report was prepared by Public Health Wales NHS Trust in collaboration with Swansea University.

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## Glossary

AWISS	All Wales Injuries Surveillance System
BOI	Burden of Injury
CAPIC	Collaboration for Accident Prevention and Injury Control
CI	Confidence Intervals
DALY	Disability Adjusted Life Year
EASR	European Age-Standardised Rates
ED	Emergency Department
EDDS	Emergency Department Data Set
FCE	Finished Consultant Episodes
GBDI	Global Burden of Disease and Injury
HB	Health Board
HIRU	Health Information Research Unit
IP	In-patient
JAMIE	Joint Action on Monitoring Injuries in Europe
LA	Local Authority
LSOA	Lower Super Output Area
MDS	Minimum Data Set
MYE	Mid Year Estimate
NWIS	NHS Wales Information Service
ONS	Office for National Statistics
OR	Odds Ratio
PEDW	Patient Episode Database for Wales
QALY	Quality Adjusted Life Year
RR	Relative Risk
SAIL	Secure Anonymised Information Linkage
SES	Socio-Economic Status
WIMD	Welsh Index of Multiple Deprivation
YLD	Years Lived with Disability
YLL	Years of Life Lost

# 1 Summary

This report follows on from the 2012 Wales Burden of Injuries report. It is an interim report focussing only on data updates in one of four key areas; poisonings. Subsequent reports will focus on the other three key areas: falls, road traffic crashes and assaults.

Additional data are now included for 2011 and 2012, as well as more detailed socio-economic profiles.

There are still a number of data completeness and coding issues and some of the differences reported here may reflect variations in data quality. However, the best way to improve data quality is to use the data and stimulate interest in the results.

## 1.1 Main findings

Despite some improvements in the quality of coding of ED data there are still considerable problems with all sources of information on injury, including mortality data. These issues are so substantial that they could distort LA and HB comparators. The best way to improve the quality of data is to use the data and so we have released this interim report to stimulate discussion.

The following findings may be influenced by data quality issues but should still be reported.

The main findings were:-

Poisoning related mortality is increasing across all ages and both sexes.

In-patient admissions were highest amongst 15 to 19 year old females.

Cardiff and Vale HB saw the highest in-patient rates for poisonings. This may be associated with large student populations in the area.

Poisoning related mortality was three times higher amongst the most deprived compared with the least deprived.

Burden of poisonings was highest amongst 25 to 44 year olds and much of this was associated with years of life lost (YLL).

Cwm Taf HB area has the greatest burden of poisonings of the HBs in Wales. LA level burden was highest in Bridgend, Merthyr Tydfil, the Vale of Glamorgan and Blaenau Gwent.

Burden of poisonings was 3.6 times higher in the most deprived compared with the least deprived areas.

## 1.2 Recommendations

There are three major recommendations from the entire Wales Burden of Injuries (BOI) series.

1. *Injury data collection and coding in emergency departments needs to be improved. This will require action from policy makers, Health Board executives and managers, ED staff and the cooperation of general public.*
2. *Injury prevention in Wales needs to be more collaborative and cross-sectoral in order to produce greater impact and more quickly reduce burden of injuries on population health and the NHS.*
3. *Given its scale, injury prevention should be recognised as a key public health priority, with greater commitment producing capacity to support the implementation of evidence based injury prevention and control initiatives.*

Specific recommendations coming out of this report are:-

1. *Efforts are needed to investigate and address the causes of poisoning related in-patient admissions amongst 15 to 19 year old females. It is suspected that many of these cases are intentional poisonings and with early intervention, the cycle of repeat attendances could be broken.*
2. *Careful analysis of the mechanism of poisonings is needed to develop appropriate interventions.*
3. *It is likely that the morbidity related burden of poisonings is greatly under-estimated. Data quality improvements are essential if this is to be accurately quantified. It may also be necessary to explore methods of identifying repeat attendances over long periods and to account for this in the burden calculations.*
4. *Poisoning related deaths, particularly amongst 0 to 24 year olds, should be investigated in terms of intent and mechanism to identify appropriate interventions using the Child Death Review process.*

## 2 Introduction

This report follows on from the 2012 Wales Burden of Injuries report. It is an interim report focussing only on data updates in one of four key areas; poisonings. Subsequent reports will focus on the other three key areas; falls, road traffic crashes (RTCs) and assaults.

The background and methods chapters, for the most part, replicate the previous report and so are not repeated here. The only change of note is that the calculations of the burden of disease, in terms of years of life lost (YLL) and years lived with disability (YLD), are now made using the updated Global Burden of Disease (GBD) methodology. This means that discounting and age weighting are no longer included. This also means that a simple comparison of the 2009 burden with the 2011 burden is not sensible.

The full report will be updated in late 2014. This will include an update of the background information, accounting for the new GBD estimates, and the evidence reviews in each section.

Additional data have been included for 2011 and 2012 (except for mortality data), as well as more detailed socio-economic profiles.

Data for 2010 are not included because of time constraints, but 2009 data, as used in the 2012 report, are presented to provide a baseline for comparison.

Emergency Department (ED) data are included in this report, but data quality issues mean that considerable care should be taken with interpretation. As in the previous report, it is believed that all of the injury groups discussed in this report are substantially under-reported. These data should therefore be regarded as under estimates of the true picture. Adoption of the Joint Action on Monitoring Injuries in Europe (JAMIE) Minimum Data Set would substantially improve the robustness and reliability of ED data across Wales.

### 3 Poisonings

Poisonings affect all ages, but obtaining a clear estimate of the magnitude of the problem is difficult. Many cases are treated in EDs, but the data quality is very poor. In addition, there are many issues relating to the classification of cases in terms of intent.

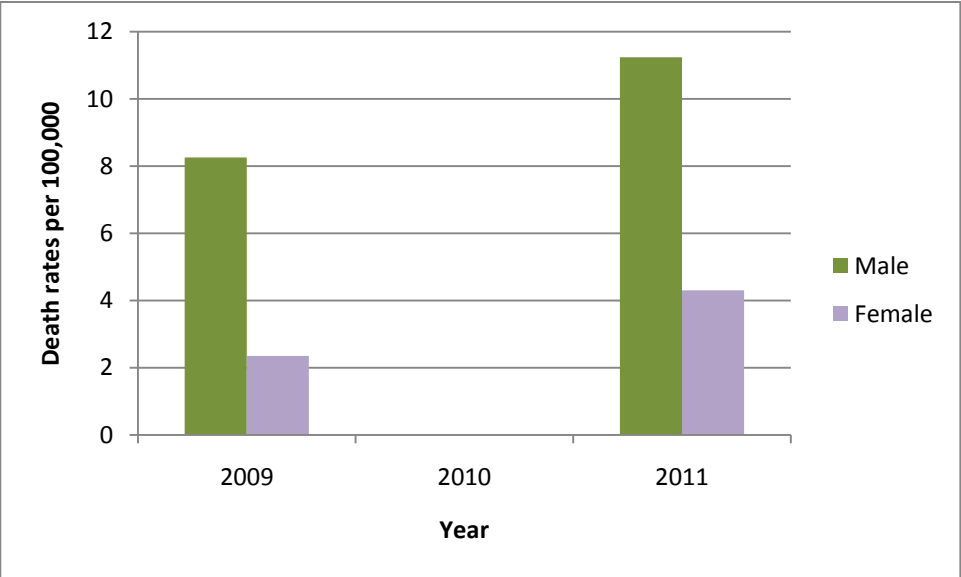
#### 3.1 Epidemiology

##### 3.1.1 Rates – sex

Poisoning fatalities appear to have increased for males and females between 2009 and 2011 (figure 1), but in-patient (IP) admissions have fallen for both sexes (figure 2). Emergency Department attendances for poisonings appear to have increased considerably, but given the data quality issues with ED data, it is not clear if this is a true rise (figure 3).

**Figure 1: Poisoning related fatality rates by sex, 2009, 2011 (Data not available for 2010)**

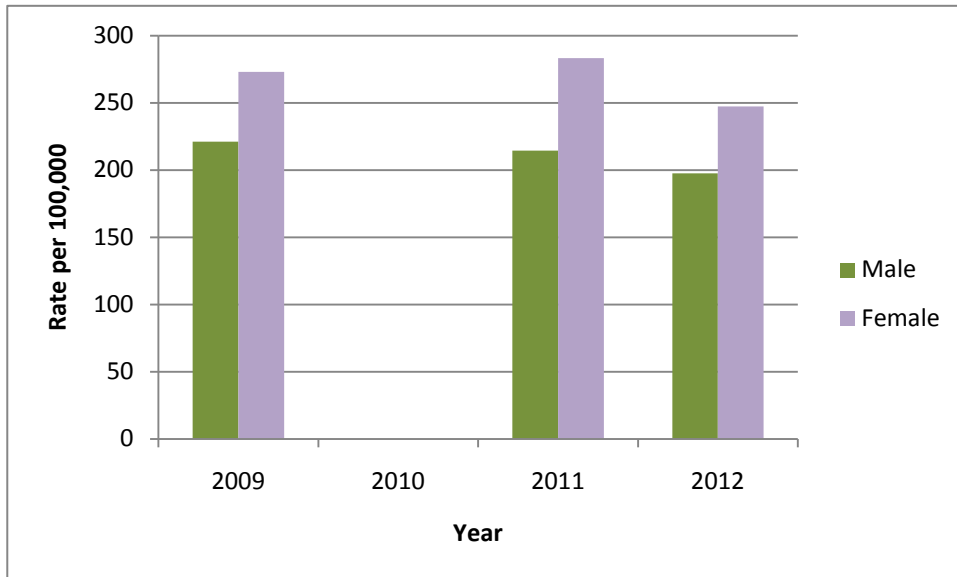
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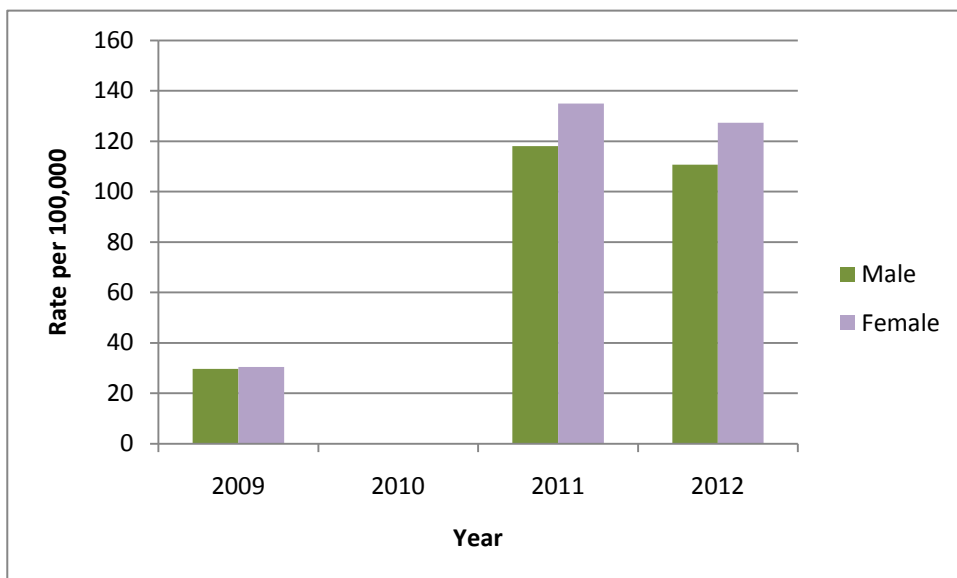
**Figure 2: Poisoning related in-patient admission rates by sex, 2009, 2011, 2012 (data not available for 2010)**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



**Figure 3: Poisoning related emergency department attendance rates by sex, 2009, 2011, 2012 (data not available for 2010)**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

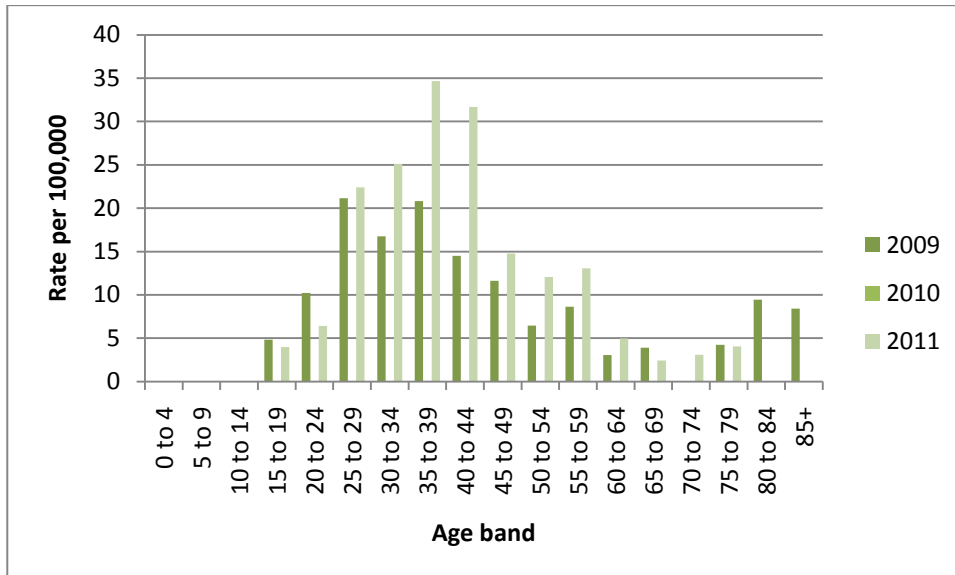


### 3.1.2 Rates – age and sex

Poisoning related mortality is highest during middle adulthood for both males and females, but with male rates consistently greater than female (figures 4, 5). For both sexes, a rise in mortality rates appears to have occurred across all age groups.

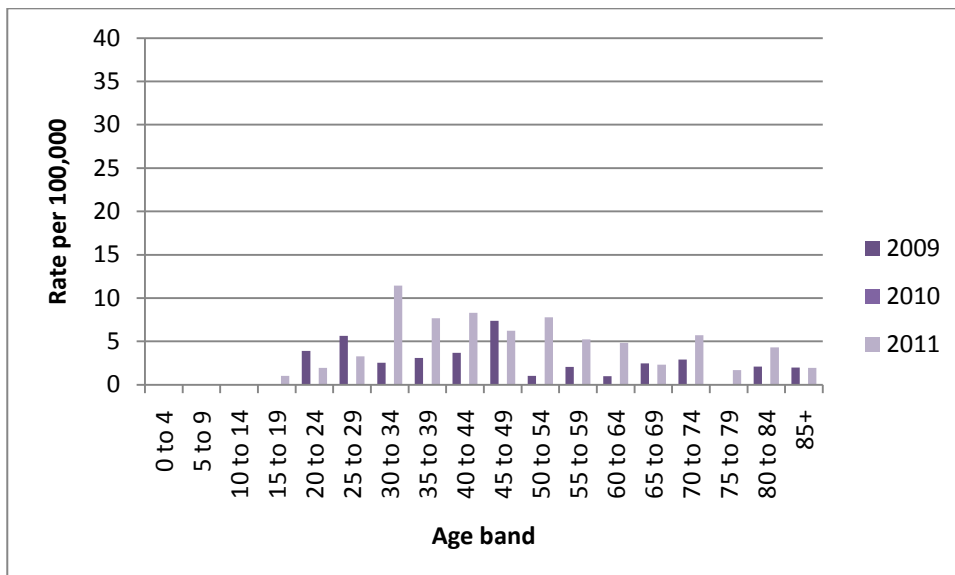
**Figure 4: Poisoning related mortality rates males, 2009, 2011 (data not available for 2010)**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



**Figure 5: Poisoning related mortality rates females, 2009, 2011 (data not available for 2010)**

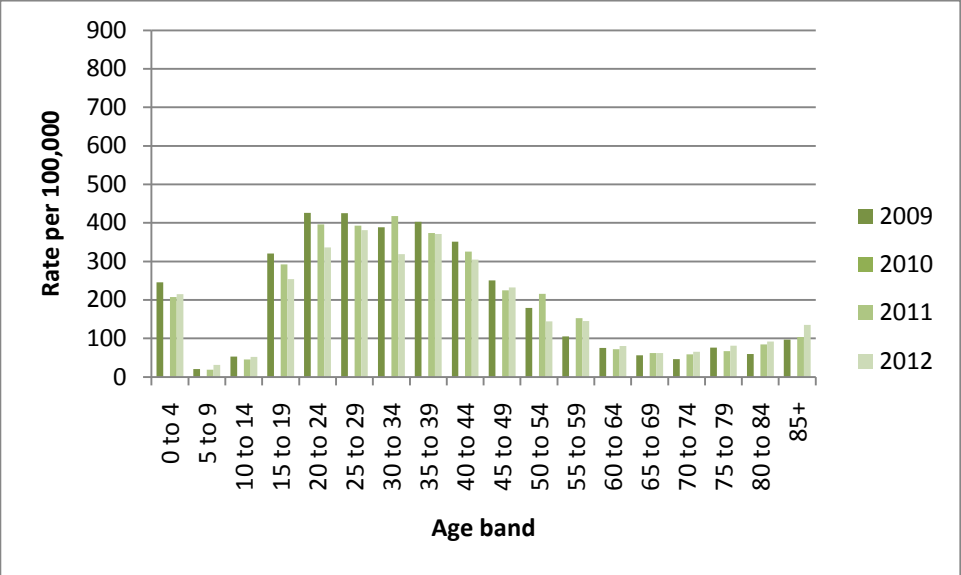
Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



In-patient admission rates are of a similar magnitude for males and females, except for 15 to 29 year old females (figures 6, 7). For this group, IP rates are around double those of any other group. Poisonings amongst the 0-4 year age group are of concern because although the rates are not as high as in some other age groups, they are almost entirely the result of accidental ingestion and avoidable with safe storage practices.

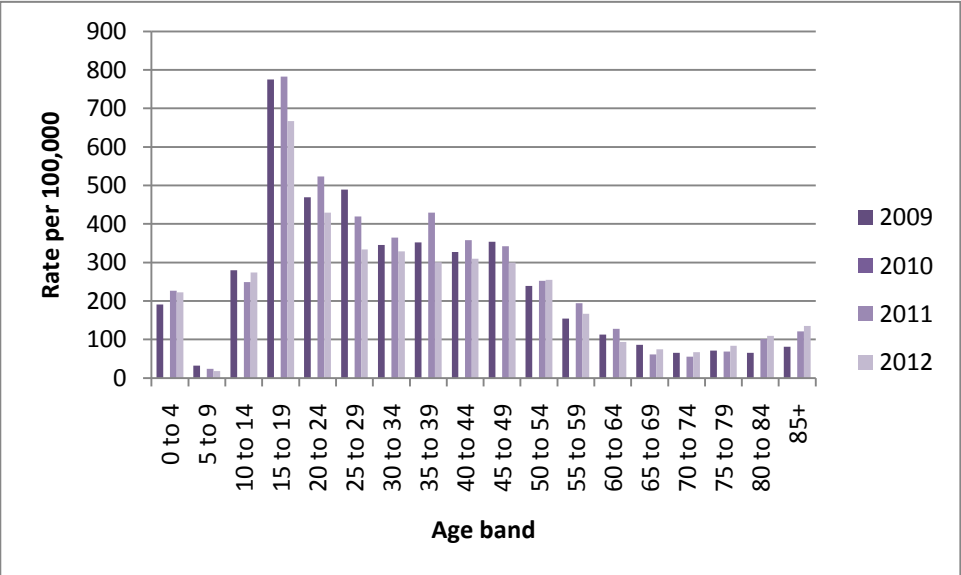
**Figure 6: Poisoning related in-patient admission rates males, 2009, 2011, 2012 (data not available for 2010)**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



**Figure 7: Poisoning related in-patient admission rates females, 2009, 2011, 2012 (data not available for 2010)**

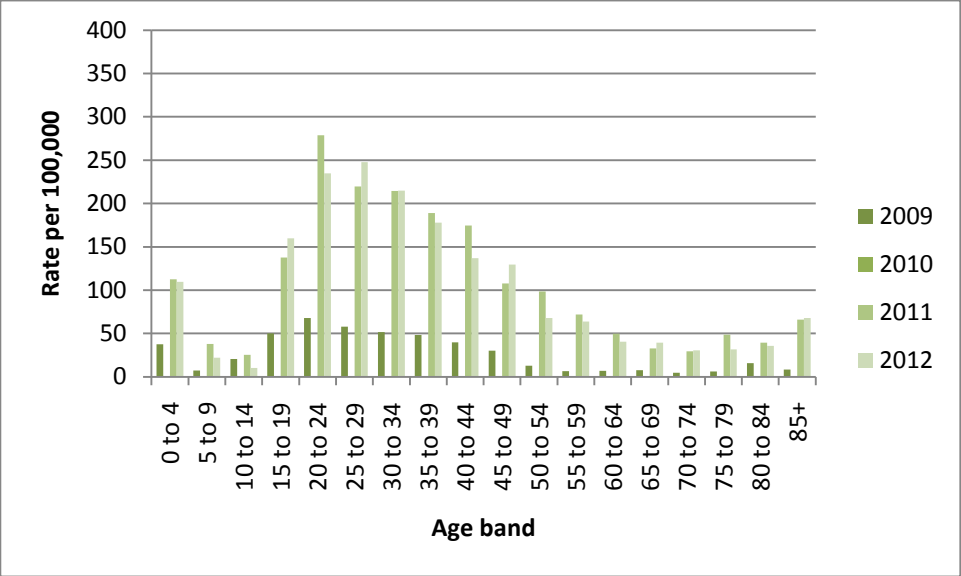
Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



Emergency Department attendance rates for males and females appear considerably higher in 2011 and 2012 than in 2009 (figures 8, 9). The age profile of ED attendances is similar to that for IP.

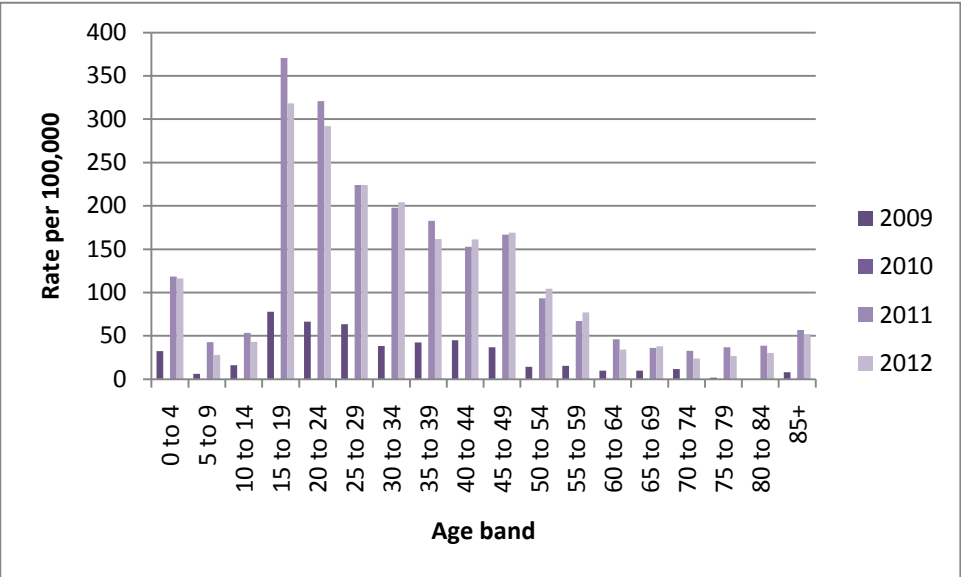
**Figure 8: Poisoning related emergency department attendance rates males, 2009, 2011, 2012 (data not available for 2010)**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



**Figure 9: Poisoning related emergency department attendance rates females, 2009, 2011, 2012 (data not available for 2010)**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



### 3.1.3 Health Board mortality rate profiles

Due to the relatively small numbers of cases, mortality rate profiles are only meaningful at Health Board (HB) level.

Across all age groups, Cwm Taf HB had the highest poisoning mortality rates for both males and females in 2011 (16.7 per 100,000 males, 8.7 females, table 1). Lowest rates were in Powys for males (1.5) and Hywel Dda for females (1.5).

**Table 1:- Poisoning related mortality rates (per 100,000), all males and females, 2011, by Health Board**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

	Male	Female
Betsi Cadwaladr	7.7	3.4
Powys	1.5	3.0
Hywel Dda	9.6	1.5
Abertawe Bro Morgannwg	16.5	6.1
Cardiff Vale	13.0	4.2
Cwm Taf	16.7	8.7
Aneurin Bevan	9.9	3.7
Wales	11.2	4.3

### 3.1.4 Local Authority and Health Board in-patient admission profiles

In-patient admission rates vary by HB, age and sex; generally, Powys has the lowest rates, Cardiff and the Vale the highest (table 2). This is likely to be due, in part, to rurality of Powys, affecting access to IP facilities and likelihood of admission, and the large student population in Cardiff and Vale.

**Table 2:- Poisoning related crude in-patient admission rates (per 100,000), all males and females, 2009, 2011, 2012, by Health Board (data not available for 2010)**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

	Male			Female		
	2009	2011	2012	2009	2011	2012
Betsi Cadwaladr	214	185	190	269	263	243
Powys	124	128	137	118	163	163
Hywel Dda	107	189	163	167	223	195
Abertawe Bro Morgannwg	177	201	166	217	255	214
Cardiff Vale	323	267	244	371	376	326
Cwm Taf	261	240	186	255	254	227
Aneurin Bevan	262	243	240	359	338	280

Analysis at the local authority (LA) level is difficult because of the small numbers of cases (table 3). However, amongst young adult age bands, where IP rates for poisonings were highest, Ceredigion had consistently low rates. Caerphilly saw some of the highest poisoning rates in 2012, with Blaenau Gwent also seeing high male rates.

**Table 3:- Highest and lowest in-patient admission rates by Local Authority, 2009, 2011, 2012, by Health Board (data not available for 2010)**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

	Male						Female					
	2009		2011		2012		2009		2011		2012	
	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest
15 to 19	Gwynedd	Wrexham	Anglesey	Torfaen	Ceredigion	Blaenau Gwent	Ceredigion	Blaenau Gwent	Ceredigion	Torfaen	Ceredigion	Denbigh
20 to 24	Ceredigion	Merthyr Tydfil	Ceredigion	Wrexham	Ceredigion	Caerphilly	Ceredigion	Torfaen	Anglesey	Torfaen	Denbigh	Vale
25 to 29	Pembs	Blaenau Gwent	Ceredigion	Newport	Bridgend	Conwy	Ceredigion	Newport	Ceredigion	Gwynedd	Ceredigion	Anglesey
30 to 34	Denbigh	Blaenau Gwent	Powys	Vale	Conwy	Blaenau Gwent	Bridgend	Newport	Mon	Caerphilly	Bridgend	Caerphilly
Total	Pembs	Merthyr Tydfil	Ceredigion	Vale	Ceredigion	Caerphilly	Ceredigion	Newport	Ceredigion	Torfaen	Ceredigion	Cardiff

Analysis of LA data in HB groups found that:-

- Betsi Cadwaladr (appendix 5.1)
  - Wrexham generally had high IP rates
- Powys (appendix 5.2)
- Hywel Dda (appendix 5.3)
  - Ceredigion generally had low IP rates, Pembrokeshire high
- Abertawe Bro Morgannwg (ABMU; appendix 5.4)
  - Bridgend generally had low IP rates, Neath Port Talbot high
- Cardiff and Vale (appendix 5.5)
  - Cardiff generally had low IP rates, Vale high
- Cwm Taf (appendix 5.6)
  - Rhondda Cynon Taf generally had low IP rates, Merthyr Tydfil high
- Aneurin Bevan (Appendix 5.7)
  - Monmouthshire generally had low IP rates, Blaenau Gwent high

### 3.1.5 Deprivation profiles

Deprivation profiles were only available on an all-Wales basis. Poisoning related mortality was more than three times higher for the most deprived compared with the least deprived (table 4).

**Table 4:- Poisoning related mortality rates (per 100,000), and rate ratio, by deprivation fifth, 2011**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

	Rate per 100,000
Least deprived	4.5
Next least deprived	5.4
Middle	5.5
Next most deprived	9.4
Most deprived	15.1
Total	8.0
<i>Ratio (most deprived to least deprived)</i>	3.4

Inequalities in IP admissions were of a similar magnitude to poisoning related mortality, at over three times higher among the most deprived (table 5).

**Table 5:- Poisoning related in-patient admission rates (per 100,000), and rate ratio, by deprivation fifth, 2011**

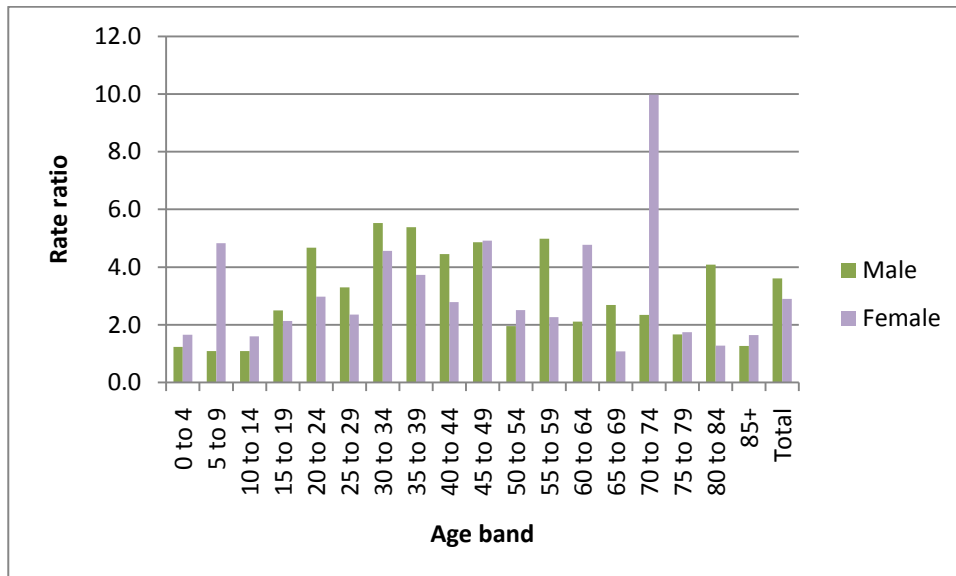
Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

	Rate per 100,000
Least deprived	138.8
Next least deprived	169.5
Middle	228.4
Next most deprived	315.8
Most deprived	440.4
Total	258.1
<i>Ratio (most deprived to least deprived)</i>	3.2

In-patient admissions were consistently higher among the most, compared with the least, deprived, with the inequalities gap ranging from 2 to 5 times depending on the age band (figure 10; appendix 5.8). Large inequalities in the 70 to 74 year old females are likely due to small numbers of cases in this age group.

**Figure 10: Poisoning related in-patient admissions by deprivation fifth; rate ratios (most deprived to least deprived) by age and sex**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



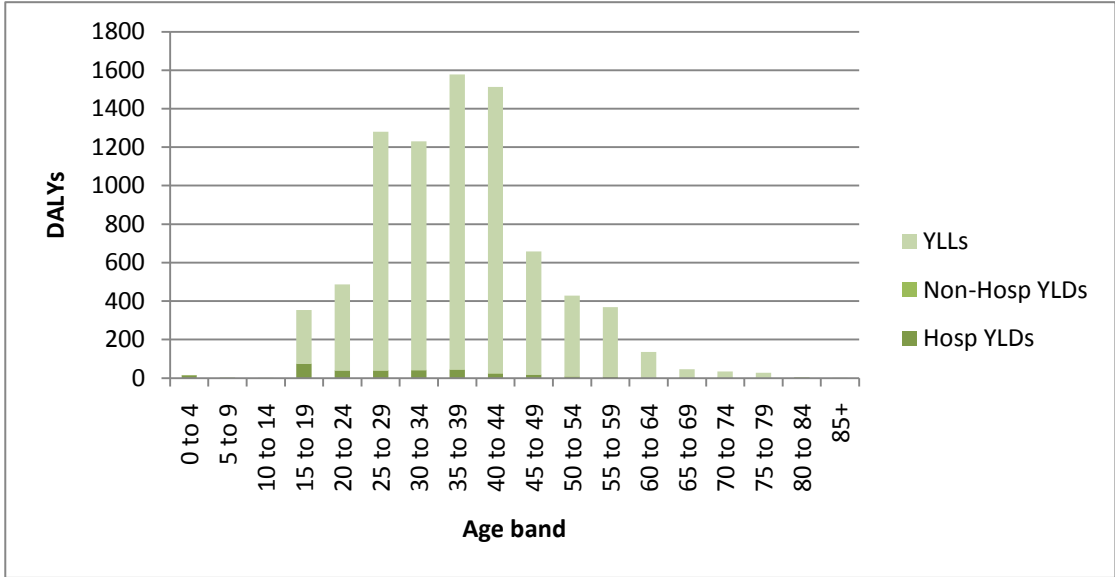


### 3.2 Burden

The total burden of poisonings in Wales in 2011 was 11,260 Disability Adjusted Life Years (DALYs), 72.4% of which were suffered by males.

For males, most of the burden of poisonings was suffered by 25 to 44 year olds, who accounted for 68.7% of the total DALY burden for all males and 70.0% of the total years of life lost (YLL; figure 13, appendix 5.9)

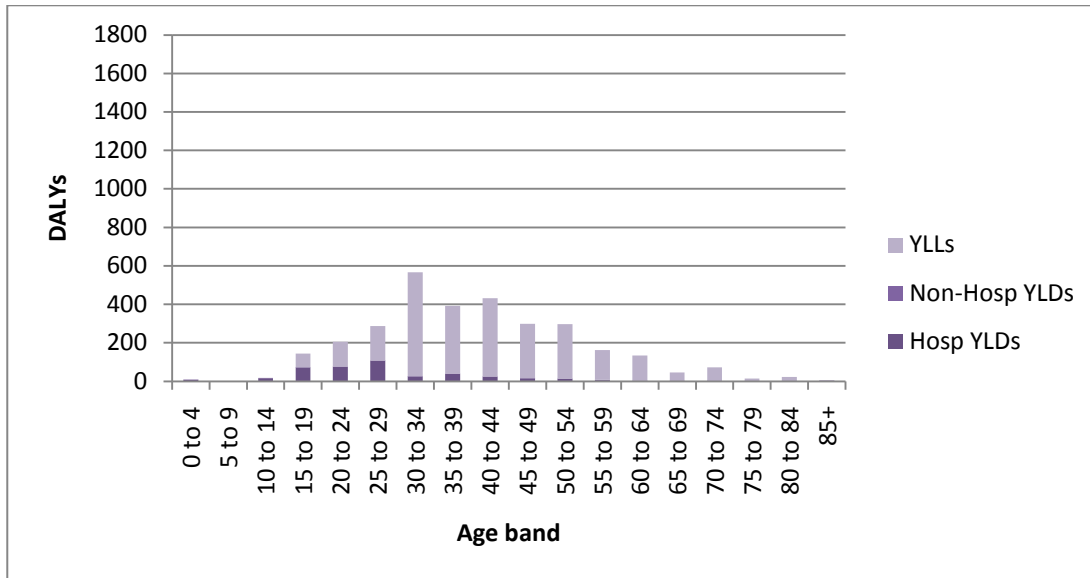
**Figure 11: Burden of poisonings by age group, males**  
 Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



For females, the total DALY burden was 3,106 and, as with the males, the peak was in the adult years, from 30 to 44 years (45.0% of DALYs, figure 14, appendix 5.9). As with the males, much of the burden was associated with YLL (86.6%), with 48.0% of this suffered by 30 to 44 year olds.

**Figure 12: Burden of poisonings by age group, females**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

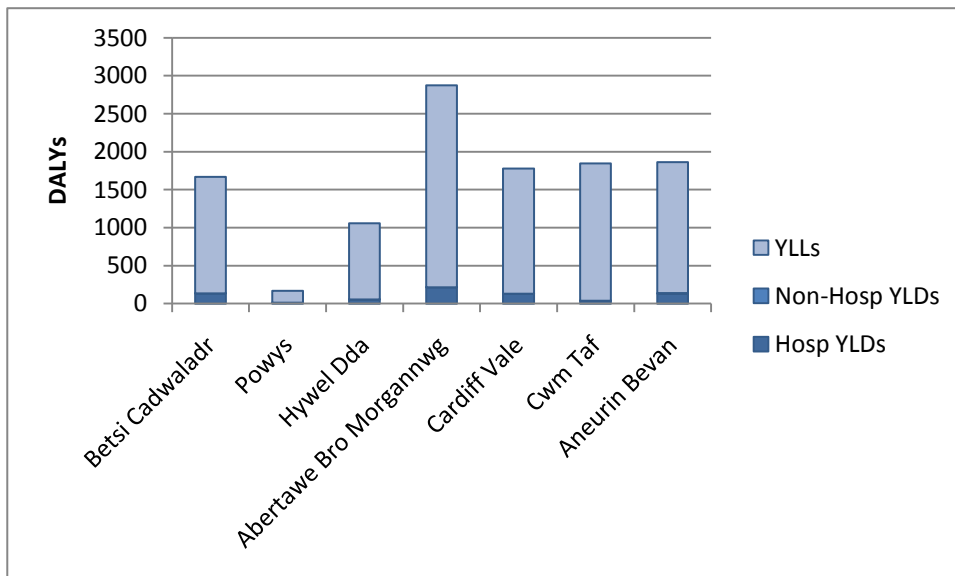


**3.2.1 Burden of poisonings by Health Board and Local Authority**

The greatest overall burden of poisonings in 2011 was in ABMU, but when adjusted for population size, the highest DALY rate was in Cwm Taf (6.3 per 1,000 population; table 7). In all areas, YLL accounted for more than 90% of DALYs.

**Figure 13: Burden of poisonings by Health Board**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



**Table 6:- Poisoning related burden by Health Board**

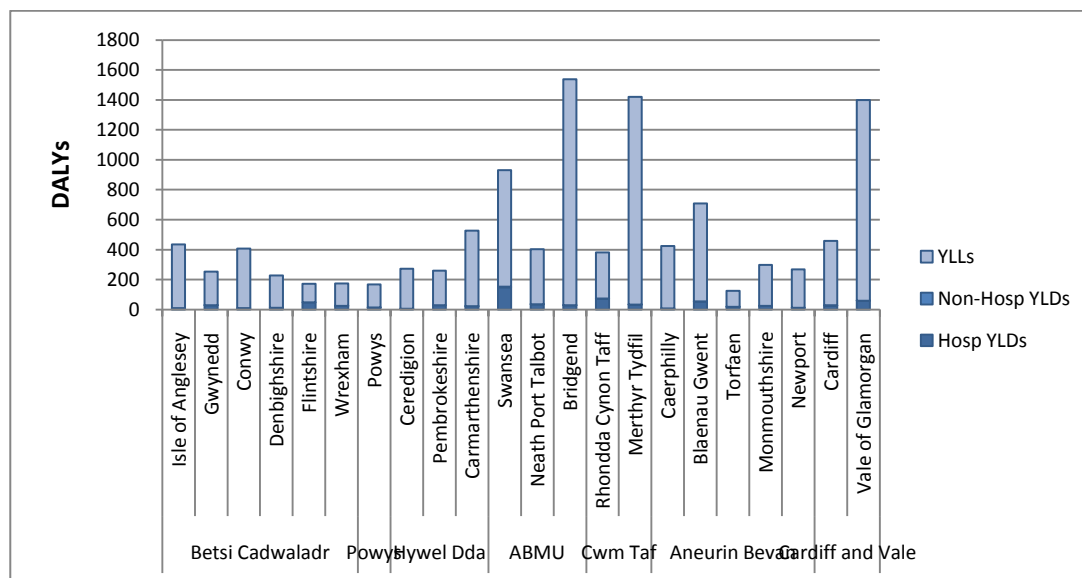
Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

	Hosp YLDs	Non-Hosp YLDs	YLLs	DALYs	% YLL	Population	DALYs per 1000 population	DALYs at Powys rate	DALYs Saved	% decrease
Betsi Cadwaladr	135	0	1,535	1,670	91.9%	688.4	2.4	895	775	46.4%
Powys	14	1	154	168	91.4%	133.1	1.3	--	--	--
Hywel Dda	56	0	1,003	1,059	94.7%	381.9	2.8	496	562	53.1%
Abertawe Bro Morgannwg	214	4	2,656	2,874	92.4%	518.0	5.5	673	2,200	76.6%
Cardiff Vale	132	0	1,648	1,781	92.6%	472.1	3.8	614	1,167	65.5%
Cwm Taf	40	0	1,807	1,847	97.8%	293.3	6.3	381	1,466	79.4%
Aneurin Bevan	134	6	1,722	1,861	92.5%	577.1	3.2	750	1,111	59.7%
Total	726	10	10,525	11,260	93.5%	3,063.9	3.7	3,983	7,277	64.6%

Analysis at the LA level showed considerable variations, with Bridgend suffering over 1,500 DALYs due to poisoning, followed closely by Merthyr Tydfil and the Vale of Glamorgan (figure 14). Rural areas generally saw much lower burdens of poisoning. Adjusting for population size had little impact; DALY rates were highest in Merthyr Tydfil (24.1 per 1000 population; table 7), followed by Bridgend (11.0), Vale of Glamorgan (11.0) and Blaenau Gwent (10.2). Only in Flintshire was the burden associated with YLL less than 80% of the total DALY burden (71.7%).

**Figure 14: Burden of poisonings by Local Authority**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



**Table 7:- Poisoning related burden by Local Authority**

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) &amp; MYE (ONS)

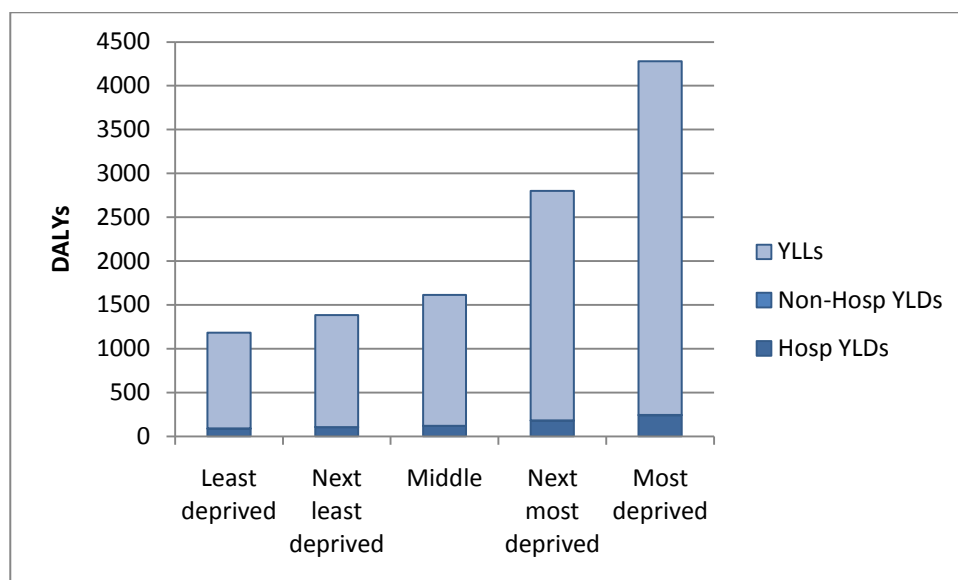
	Hosp YLDs	Non-Hosp YLDs	YLLs	DALYs	% YLL	Population	DALYs per 1000 population	DALYs at Flintshire rate	DALYs Saved	% decrease
Isle of Anglesey	10	0	426	436	97.7%	69.9	6.2	77	359	82.4%
Gwynedd	29	0	225	254	88.5%	121.5	2.1	134	120	47.4%
Conwy	9	0	398	407	97.8%	115.3	3.5	127	280	68.8%
Denbighshire	13	0	215	228	94.5%	93.9	2.4	103	125	54.7%
Flintshire	49	0	124	172	71.7%	152.7	1.1	--	--	--
Wrexham	25	0	148	173	85.4%	135.1	1.3	149	25	14.3%
Powys	14	1	154	168	91.4%	133.1	1.3	146	22	13.0%
Ceredigion	5	0	267	272	98.1%	75.3	3.6	83	190	69.6%
Pembrokeshire	29	0	231	260	88.9%	122.6	2.1	135	125	48.0%
Carmarthenshire	22	0	505	527	95.9%	184.0	2.9	202	324	61.6%
Swansea	150	3	780	932	83.6%	238.7	3.9	263	670	71.8%
Neath Port Talbot	35	1	368	404	91.2%	139.9	2.9	154	250	61.9%
Bridgend	30	0	1508	1538	98.1%	139.4	11.0	153	1385	90.0%
Rhondda Cynon Taff	73	0	308	381	80.8%	234.4	1.6	258	124	32.4%
Merthyr Tydfil	32	0	1389	1422	97.7%	58.9	24.1	65	1357	95.4%
Caerphilly	8	0	417	425	98.1%	178.8	2.4	197	229	53.8%
Blaenau Gwent	54	1	654	709	92.3%	69.8	10.2	77	632	89.2%
Torfaen	18	1	107	126	85.1%	91.2	1.4	100	26	20.4%
Monmouthshire	24	1	273	299	91.5%	91.5	3.3	101	198	66.3%
Newport	11	1	257	269	95.6%	145.8	1.8	160	108	40.3%
Cardiff	27	2	430	459	93.7%	345.4	1.3	380	79	17.3%
Vale of Glamorgan	59	0	1340	1399	95.8%	126.7	11.0	139	1260	90.0%
Total	726	10	10525	11260	93.5%	3,063.9	3.7	3370	7890	70.1%

### 3.2.2 Burden of poisonings by deprivation fifth

The burden of poisonings is considerably greater in the most deprived areas, at 3.6 times the number of DALYs as in the least deprived areas (figure 15, table 8). Burden also increased with increasing deprivation. However, there was little variation in the proportion of the DALY burden that was due to YLLs.

### Figure 15: Burden of poisonings by deprivation fifth

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)



### Table 8:- Poisoning related burden by deprivation fifth

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

	Hosp YLDs	Non-Hosp YLDs	YLLs	DALYs	% YLL
Least deprived	86	2	1095	1183	92.6%
Next least deprived	105	1	1278	1384	92.4%
Middle	118	1	1495	1614	92.6%
Next most deprived	177	2	2620	2799	93.6%
Most deprived	240	3	4037	4281	94.3%
Total	726	10	10525	11260	93.5%

## **4 Conclusions and recommendations**

### **4.1 Conclusions**

Despite some improvements in the quality of coding of ED data there are still considerable problems with all sources of information on injury, including mortality data. These issues are so substantial that they could distort LA and HB comparators. Nevertheless, the best way to improve the quality of data is to use the data and so we have released this interim report to stimulate discussion.

The following findings may be influenced by data quality issues but nevertheless should be reported.

The main findings were:-

Poisoning related mortality is increasing across all ages and both sexes.

In-patient admissions were highest amongst 15 to 19 year old females.

Cardiff and Vale HB saw the highest IP rates for poisonings. This may be associated with large student populations in this area.

Poisoning related mortality was three times higher amongst the most deprived compared with the least deprived.

Burden of poisonings was highest amongst 25 to 44 year olds and much of this was associated with YLL.

Cwm Taf HB area has the highest DALY rate of the HBs in Wales. LA level DALY rates were highest in Bridgend, Merthyr Tydfil, the Vale of Glamorgan and Blaenau Gwent.

Burden of poisonings was 3.6 times higher in the most deprived compared with the least deprived areas.

### **4.2 Recommendations**

There are three major recommendations from the entire Wales Burden of Injuries series.

- 1. Injury data collection and coding in emergency departments needs to be improved. This will require action from policy makers, Health Board executives and managers, ED staff and the cooperation of general public.*

2. *Injury prevention in Wales needs to be more collaborative and cross-sectoral in order to produce greater impact and more quickly reduce burden of injuries on population health and the NHS.*
3. *Given its scale, injury prevention should be recognised as a key public health priority, with greater commitment producing capacity to support the implementation of evidence based injury prevention and control initiatives.*

Specific recommendations coming out of this report are:-

1. *Efforts are needed to investigate and address the causes of poisoning related in-patient admissions amongst 15 to 19 year old females. It is suspected that many of these cases are intentional poisonings and with early intervention, the cycle of repeat attendances could be broken.*
2. *Careful analysis of the mechanism of poisonings is needed to develop appropriate interventions.*
3. *It is likely that the morbidity related burden of poisonings is greatly under-estimated. Data quality improvements are essential if this is to be accurately quantified. It may also be necessary to explore methods of identifying repeat attendances over long periods and to account for this in the burden calculations.*
4. *Poisoning related deaths, particularly amongst 0 to 24 year olds, should be investigated in terms of intent and mechanism to identify appropriate interventions using the Child Death Review process.*

## 5 Appendices

### 5.1 IP admissions, poisonings, rates – Betsi Cadwaladr

#### In-patient admission rates per 100,000 by age, sex and local authority for 2009, 2011, 2012, Betsi Cadwaladr HB

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

Shading indicates lowest (Green) and highest (Red) admission rates by sex and age group for all LAs in the HB area.

	Isle of Anglesey						Gwynedd						Conwy						Denbigh					
	Male			Female			Male			Female			Male			Female			Male			Female		
	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012
15 to 19	238	50	201	1333	746	832	93	154	201	860	667	780	500	231	115	438	840	977	419	128	298	1000	913	1438
20 to 24	263	296	359	500	111	326	229	197	133	510	537	554	333	464	338	542	361	284	556	300	185	391	314	119
25 to 29	647	272	376	294	388	552	406	595	319	710	731	336	333	369	1184	542	518	222	500	343	249	364	183	131
30 to 34	375	274	319	235	344	557	571	222	441	111	240	239	250	221	74	320	456	293	43	429	287	240	296	471
Total	228	160	200	230	208	250	224	179	184	257	269	295	183	168	192	263	244	225	224	202	233	267	230	257

	Flintshire						Wrexham						Betsi					
	Male			Female			Male			Female			Male			Female		
	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012
15 to 19	208	301	229	717	966	578	548	289	525	1333	1180	654	330	213	270	919	899	841
20 to 24	455	344	260	684	488	307	442	736	298	579	515	247	380	395	247	547	432	332
25 to 29	535	414	182	707	357	279	523	182	250	429	452	159	487	363	394	537	447	260
30 to 34	286	144	351	341	281	163	359	286	255	211	293	263	320	248	293	249	311	295
Total	205	186	170	277	295	220	229	203	179	300	293	227	214	185	190	269	263	243



## 5.2 IP admissions, poisonings, rates – Powys

### In-patient admission rates per 100,000 by age and sex for 2009, 2011, 2012, Powys HB

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

	Powys					
	Male			Female		
	2009	2011	2012	2009	2011	2012
15 to 19	205	120	216	463	486	316
20 to 24	290	171	114	80	169	334
25 to 29	321	131	256	160	247	176
30 to 34	179	69	207	185	206	68
Total	124	128	137	118	163	163

## 5.3 IP admissions, poisonings, rates – Hywel Dda

### In-patient admission rates per 100,000 by age, sex and local authority for 2009, 2011, 2012, Hywel Dda HB

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

Shading indicates lowest (Green) and highest (Red) admission rates by sex and age group for all LAs in the HB area.

	Ceredigion						Pembrokeshire						Carmarthenshire						Hywel Dda					
	Male			Female			Male			Female			Male			Female			Male			Female		
	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012
15 to 19	125	65	30	226	268	201	103	500	391	816	930	663	217	430	172	600	681	458	160	363	201	573	657	456
20 to 24	48	154	80	0	181	141	167	488	684	115	407	457	420	333	489	408	407	325	230	312	390	204	335	298
25 to 29	59	108	229	48	60	124	36	329	318	269	350	309	200	272	245	375	312	333	122	258	265	274	278	289
30 to 34	167	119	310	214	63	311	80	566	403	143	434	534	366	633	200	261	224	257	244	515	286	216	264	352
Total	67	115	110	102	87	142	65	207	191	145	281	224	151	208	166	209	238	197	107	189	163	167	223	195

## 5.4 IP admissions, poisonings, rates – Abertawe Bro Morgannwg

### In-patient admission rates per 100,000 by age, sex and local authority for 2009, 2011, 2012, Abertawe Bro Morgannwg HB

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

Shading indicates lowest (Green) and highest (Red) admission rates by sex and age group for all LAs in the HB area.

	Swansea						Neath Port Talbot						Bridgend						Abertawe Bro Morgannwg					
	Male			Female			Male			Female			Male			Female			Male			Female		
	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012
15 to 19	265	275	183	760	758	582	413	268	386	762	1025	779	140	202	134	325	725	480	273	254	222	650	820	608
20 to 24	264	372	227	408	378	332	488	599	475	775	707	434	175	239	284	111	277	126	293	391	290	430	429	309
25 to 29	475	406	426	288	312	272	333	225	390	333	581	399	108	250	161	189	174	196	353	318	347	275	350	287
30 to 34	443	363	243	356	202	368	429	738	181	250	248	190	243	302	161	83	295	49	383	448	204	252	239	234
Total	205	222	172	241	247	244	201	210	174	279	322	228	103	157	148	114	203	148	177	201	166	217	255	214

## 5.5 IP admissions, poisonings, rates – Cardiff and Vale

### In-patient admission rates per 100,000 by age, sex and local authority for 2009, 2011, 2012, Cardiff and Vale HB

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

Shading indicates lowest (Green) and highest (Red) admission rates by sex and age group for all LAs in the HB area.

	Cardiff						Vale						Cardiff and Vale					
	Male			Female			Male			Female			Male			Female		
	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012
15 to 19	315	165	172	624	681	641	341	425	147	1025	969	810	321	233	165	721	751	682
20 to 24	500	274	319	454	606	561	730	701	523	382	752	906	536	343	351	444	627	608
25 to 29	318	556	296	430	569	414	794	248	653	559	509	331	403	498	365	453	558	399
30 to 34	496	430	376	491	388	351	467	824	441	455	390	527	490	517	390	482	388	390
Total	328	243	240	379	378	333	311	335	258	352	371	307	323	267	244	371	376	326

## 5.6 IP admissions, poisonings, rates – Cwm Taf

### In-patient admission rates per 100,000 by age, sex and local authority for 2009, 2011, 2012, Cwm Taf HB

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

Shading indicates lowest (Green) and highest (Red) admission rates by sex and age group for all LAs in the HB area.

	Rhondda Cynon Taff						Merthyr Tydfil						Cwm Taf					
	Male			Female			Male			Female			Male			Female		
	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012
15 to 19	488	321	221	658	427	701	350	578	472	789	849	647	460	373	271	684	514	690
20 to 24	545	439	273	415	502	317	895	400	414	474	307	464	607	431	299	426	463	345
25 to 29	440	389	353	329	380	378	647	605	454	882	411	414	478	435	375	430	387	386
30 to 34	406	483	283	348	363	314	467	686	278	357	289	430	418	524	282	350	349	337
Total	235	228	179	229	246	216	373	288	212	366	286	269	261	240	186	255	254	227

## 5.7 IP admissions, poisonings, rates – Aneurin Bevan

### In-patient admission rates per 100,000 by age, sex and local authority for 2009, 2011, 2012, Aneurin Bevan HB

Produced by Public Health Wales and Swansea University, using EDDS (NWIS) & MYE (ONS)

Shading indicates lowest (Green) and highest (Red) admission rates by sex and age group for all LAs in the HB area.

	Caerphilly						Blaenau Gwent						Torfaen					
	Male			Female			Male			Female			Male			Female		
	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012
15 to 19	492	455	413	745	789	703	538	607	535	1375	1023	489	406	616	321	1167	1301	595
20 to 24	500	566	748	642	829	616	652	616	258	696	1026	856	533	601	556	963	1073	787
25 to 29	640	388	577	623	362	445	842	662	463	1050	405	264	200	331	477	615	566	454
30 to 34	479	561	410	549	976	607	647	506	549	556	302	96	429	241	279	250	797	376
Total	250	259	280	304	362	303	345	283	245	402	377	251	231	245	205	413	417	296

	Monmouthshire						Newport						Aneurin Bevan					
	Male			Female			Male			Female			Male			Female		
	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012	2009	2011	2012
15 to 19	226	161	380	679	617	467	380	322	284	1224	995	1049	414	417	374	1011	929	713
20 to 24	350	344	422	278	814	395	566	602	337	820	571	405	528	559	498	713	818	587
25 to 29	632	345	460	471	331	544	714	663	509	1550	465	345	613	482	514	897	426	406
30 to 34	333	569	458	389	46	141	472	279	529	676	419	470	471	427	446	514	602	416
Total	179	162	180	245	211	202	308	252	249	441	321	305	262	243	240	359	338	280

## 5.8 IP admissions, poisonings, rates by age, sex and deprivation fifth

2011	Rate per 100,000											Rate ratios	
	Least deprived		Next least deprived		Middle		Next most deprived		Most deprived				
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
0 to 4	158.3	161.8	233.1	268.3	298.4	243.7	186.0	212.6	195.8	268.7	1.2	1.7	
5 to 9	19.8	7.0	26.2	20.4	12.4	26.6	18.0	31.5	21.6	34.0	1.1	4.8	
10 to 14	47.4	207.1	29.2	235.1	40.0	219.2	62.8	275.4	52.0	331.7	1.1	1.6	
15 to 19	189.8	512.1	185.7	597.5	296.3	820.0	363.1	1025.9	474.8	1091.9	2.5	2.1	
20 to 24	180.8	315.8	214.4	344.8	308.2	441.0	522.0	636.0	846.1	941.2	4.7	3.0	
25 to 29	225.6	283.4	209.7	291.5	344.2	388.0	443.6	442.8	743.3	668.7	3.3	2.4	
30 to 34	144.8	140.3	162.4	167.0	450.8	469.1	504.0	397.3	801.1	639.7	5.5	4.6	
35 to 39	121.7	203.0	326.7	300.8	252.4	292.5	572.1	651.9	654.6	756.7	5.4	3.7	
40 to 44	147.0	243.7	196.7	190.9	225.0	336.0	480.6	417.5	654.2	679.2	4.5	2.8	
45 to 49	88.4	158.8	123.9	193.2	206.8	327.4	335.1	349.8	430.4	781.3	4.9	4.9	
50 to 54	155.0	149.7	160.3	195.1	226.3	224.6	282.9	378.4	302.7	376.4	2.0	2.5	
55 to 59	59.5	149.4	141.1	144.1	120.4	165.8	196.0	231.8	296.7	338.5	5.0	2.3	
60 to 64	49.5	55.5	41.2	125.4	83.7	108.1	106.0	137.3	104.7	265.1	2.1	4.8	
65 to 69	23.6	61.3	67.0	48.5	89.5	70.5	75.3	72.2	63.6	66.4	2.7	1.1	
70 to 74	54.2	6.9	36.3	75.5	71.3	66.7	25.8	71.5	126.7	69.1	2.3	10.0	
75 to 79	77.2	64.5	37.7	41.1	55.4	78.3	58.3	64.7	128.9	112.5	1.7	1.7	
80 to 84	54.6	72.6	70.9	116.5	57.0	120.3	68.9	115.8	222.7	92.9	4.1	1.3	
85+	110.5	96.9	99.5	104.9	57.7	100.0	139.0	172.0	140.4	159.5	1.3	1.6	
Total	108.7	167.8	137.8	200.0	192.9	262.5	282.7	347.8	391.8	486.3	3.6	2.9	

## 5.9 Burden of poisonings by age and sex

	Male				Female			
	Hosp YLDs	Non-Hosp YLDs	YLLs	DALYs	Hosp YLDs	Non-Hosp YLDs	YLLs	DALYs
0 to 4	14	0	0	14	7	0	0	8
5 to 9	0	0	0	0	0	0	0	0
10 to 14	0	0	0	0	16	0	0	16
15 to 19	74	0	279	353	72	1	71	145
20 to 24	39	1	448	487	75	2	128	205
25 to 29	39	0	1240	1279	108	0	179	287
30 to 34	41	0	1190	1231	25	0	541	566
35 to 39	44	0	1533	1577	40	1	351	391
40 to 44	24	0	1489	1514	23	0	408	432
45 to 49	18	0	639	657	16	0	283	299
50 to 54	8	0	419	428	12	0	285	297
55 to 59	6	0	362	368	7	0	156	162
60 to 64	3	0	132	135	3	0	130	133
65 to 69	2	0	44	46	1	0	46	46
70 to 74	2	0	33	35	2	0	71	73
75 to 79	1	0	27	27	0	0	15	15
80 to 84	2	0	0	2	1	0	22	23
85+	0	0	0	0	1	0	4	6
Total	316	4	7835	8155	410	6	2690	3106