Focal Point Ireland: national report for 2016 - harms and harm reduction

Health Research Board. Irish Focal Point to the European Monitoring Centre for Drugs and Drug Addiction

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(2017) *Focal Point Ireland: national report for 2016 – drugs.*

Table of Contents

0. Summary

Ireland maintains a special register which is a complete census of all drug-induced deaths. Established in 2005, the National Drug-Related Death Index (NDRDI), which is maintained by the Health Research Board (HRB), is an epidemiological database which records cases of death by drugs poisoning, and deaths among drug users in Ireland, extending back to 1998.

In 2014, the number of drug-induced deaths fell slightly to 214, compared with 223 deaths in 2013. The majority of those who died were male, aged in their thirties. Opiates were the most common drug associated with drug-induced deaths as per the EMCDDA Filter D inclusion criteria. Other prescription drugs are very commonly implicated in polydrug deaths. In 2014, despite the overall small decrease in drug-induced deaths, the number of deaths where methadone, heroin, cocaine and MDMA were implicated rose. This is most likely a reflection of the increase in polydrug poisonings.

Data on drug-related acute emergencies in the Irish context refer to all admissions to acute general hospitals with non-fatal overdoses and are extracted from the Hospital In-Patient Enquiry (HIPE) scheme.

Incidences of newly diagnosed HIV, Hepatitis B (HBV) and Hepatitis C (HCV) cases are notified to the Health Protection Surveillance Centre (HPSC). Notification data for 2015 are included in this workbook.

The number of overdose cases admitted to Irish hospitals increased marginally from 4,233 cases in 2013. However, trends over time indicate a decrease in overdose cases admitted to Irish hospitals, falling from 5,012 cases in 2005 to 4,256 cases in 2014, a reduction of 756 cases.

Since June 2014 there has been an increase in notifications of recently acquired HIV in people who inject drugs (PWID) in Dublin. This is possibly linked with injection of a synthetic cathinone (α-PVP). Enhanced infection control measures have been implemented.

Since the pharmacy-based needle exchange programme was established the number of participating pharmacies has grown from 42 in 2011 to 115 at the end of 2014. The number of people attending these services has also increased from an average of 306 per month in 2012, to 933 per month in 2013 and 1,330 per month in 2014.

1. National profile

1.1 Drug-related deaths

1.1.1 Overdose deaths

In 2014, 214 deaths due to poisoning were recorded in Ireland by the NDRDI as per definition Filter D (also see ST5 and ST6). This represents a slight decrease on the 233 deaths reported in 2013, and may indicate the beginning of a stabilisation of deaths due to poisoning in Ireland. It should be noted that annual data previously reported have been changed because the NDRDI figures have been updated as new information has become available.

Overall, the mean age of those who died from poisoning remained stable (35.5 years) when compared with the corresponding figure for 2013 (36.3 years). The majority of deaths were male (77.6%), which was similar to previous years. The NDRDI does not routinely report the intentionality of the death.

The overall trends in overdose deaths for the EMCDDA definition of Filter D remain the same, with opiates continuing to be associated with most poisoning deaths (189/214, 88.3%) in 2014. Methadone (alone or with another drug) continues to be the opiate most commonly implicated in poisoning deaths. Although overall there was a slight decrease in the total number of deaths, the number of deaths where methadone was implicated (alone or with another drug) rose from 94 in 2013 to 98 in 2014. This compares with a peak in 2011, when there were 116 deaths where methadone was implicated.

The number of deaths where heroin was implicated (alone or with another drug) also rose in 2014, with 90 deaths compared to 86 in 2013. This represents the second year where an increase of heroin-related deaths was recorded. While the reasons for this increase have not been investigated, drug seizures data show that there was a 38% increase in heroin seizures between 2013 and 2014. This could indicate that there was more heroin available during this period (also see Drug Market and Crime workbook, Section 2.1). Purity data for 2014 show that diamorphine purity results ranged from trace level to 80%, with an overall average purity of 35% (also see Drug Market and Crime workbook, Section 1.1.5).

In 2014, there was a significant increase in the number of deaths where cocaine was implicated (alone or with another drug), rising to 40 deaths. This represents a 25% increase compared with 2013, when 32 deaths were reported. The number of deaths where cocaine was implicated has steadily risen since a low in 2009, when only 21 deaths were reported. The reason for this increase has not been investigated. It may be related to the increase in cocaine seizures between 2013 and 2014. This increase represented a 10% spike between 2013 and 2014. However, overall the number of cocaine seizures in Ireland has decreased since reaching a peak in 2007 (also see Drug Market and Crime workbook, Section 2.1).

The number of deaths where MDMA was implicated peaked in 2007, when 19 deaths were recorded. Between 2008 and 2010 the number of deaths decreased to less than five. However, since 2011, the number of deaths where MDMA was implicated has increased, from 11 in 2011 to 15 in 2014.

There were 13 deaths where novel psychoactive substances (NPS) were implicated. Six of these deaths involved more than one type of NPS drug. Almost all deaths where a NPS was implicated involved more than one drug (all types). This represents a decrease on figures for 2013, when there were 17 deaths where NPS were implicated.

The majority of poisoning deaths (182, 85%) in 2014 involved more than one drug. The majority (163/182, 89.6%) of polydrug poisoning deaths involved opiates. As in previous years, benzodiazepines, alcohol, antidepressants, and other prescription medications were the most common additional drugs implicated in polydrug poisonings.

Almost all deaths (93.5%) recorded by the NDRDI had positive toxicology results. The NDRDI has the capacity to record up to six different drugs implicated in the death as information is taken almost exclusively directly from the death certificate.

Table 1.1.1.1 shows the combinations of the actual drugs implicated in deaths. The majority of deaths where methadone (90, 91.8%), heroin (73, 81.1%) and cocaine (39, 97.5%) were implicated involved other drugs. The majority of polydrug methadone deaths involved prescription medications, in particular benzodiazepines. The most common benzodiazepine implicated was diazepam (62.2%). Other prescription medications (n=62) and antidepressants (n=43) were also frequently implicated. Prescribed medication also was very frequently implicated along with heroin polydrug deaths, again most frequently benzodiazepines.

While prescription drugs were also commonly found in deaths where cocaine was implicated, a higher proportion of polydrug cocaine deaths also had illicit drugs implicated: heroin (15, 38.5%) and MDMA (9, 23.1%). Six deaths where cocaine was implicated had 12 occurrences of NPS drugs, i.e. some deaths involved more than one type of NPS.

Table 1.1.1.1 Multi-response table: combinations of drugs implicated along with methadone, heroin and cocaine, NDRDI, 2014

	Methadone	Heroin	Cocaine
Polydrug poisoning	n=90	n=73	n=39
Methadone	*	22	16

	Methadone	Heroin	Cocaine
Diazepam	56	43	18
Heroin	22	*	15
Alcohol	18	20	8
Flurazepam	17	13	~
Cocaine	16	15	*
MDMA	~	~	9
Combined drug groups*			
Other prescription medication(s)**	62	46	20
Antidepressants	43	25	13
Other benzodiazepines	31	28	9
Other opiate(s)	19	~	~
Non-opiate analgesics	7	11	8
Novel psychoactive substance(s)	~	0	12
Other†	~	5	~

Source: NDRDI, 2014
Multi-response table: columns and rows add up to more than 100% as multiple drugs were implicated in the deaths.
~ Figures less than 5 are not routinely published.
* Some drug types are combined in groups, and therefore can be implicated in the same death one or more times. These include: other prescription medication; antidepressants; other benzodiazepines; other opiates; non-opiate analgesics; novel psychoactive substances; other.
**Other prescription medication includes for example non-benzodiazepine hypnotics.
†Other includes for example amphetamines, volatile inhalants.

1.1.2 Toxicology of overdose deaths

Toxicology information were available for 200 deaths in 2014 (also see ST5). Opiates were found in the post-mortem toxicology of 90.3% (169/187) of these deaths. See Section 1.1.1 and Table 1.1.1.1 for in-depth analysis of the combination of drugs implicated in polydrug deaths.

1.1.3 Mortality cohort studies

On and off methadone substitution treatment: risks of mortality

A recently published study aimed to assess the risk of death when initiating or stopping methadone treatment in primary care (Cousins*, et al.* 2016). In addition, the study looked to assess the effect of supervised methadone consumption on mortality rates.

Data from the Central Treatment List (CTL) were used to identify cases that were in receipt of at least one methadone prescription in primary care over the six-year period between August 2004 and December 2010. The CTL data were linked to the Methadone Treatment Scheme (MTS) dispensing records. These data were further linked to the General Medical Services (GMS), which contains information on all other prescription medication, excluding methadone. Finally, these were linked to the mortality data recorded by the NDRDI. A case was considered 'off treatment' if the individual had not received a new methadone prescription within three days since the end of their last prescription. They were considered 'off treatment' until a new prescription was generated.
The main outcome measure was drug-related mortality, defined as a death due to poisoning as per the NDRDI definition. The second outcome measure was all-cause mortality.

In total, 6,983 cases aged between 16 and 65 years who received methadone were included in the study. Of these cases, the majority were male (69%) and 57% were aged 29 years or younger (Table 1.1.3.1). The majority of cases had received methadone treatment five or more times, with a treatment period lasting a median of 83 days. Three per cent (n=213) of those included in the study died during the study period.

Table 1.1.3.1 Characteristics of people (alive and dead) receiving methadone treatment in Ireland, August 2004 to December 2010

	Total	**Alive**	**Dead**
	n=6983	**n=6770**	**n=213**
	%	**%**	**%**
Male	68.7	65.8	74.2
Age (years)			
16 to 19	7.5	7.7	0.9
20 to 29	50.4	51.0	31.5
30 to 39	31.8	31.6	39.0
40 to 65	10.3	9.7	28.6
Number of treatment episodes			
≤4	46.2	46.0	53.1
≥5	53.8	54.0	46.9
Median length of treatment episode (days)	83	85	60
Median dose last treatment episode			
<60 mg	38.0	38.2	29.6
60 to 120 mg	59.6	59.3	67.6
≥120 mg	2.5	2.5	2.8
Supervised methadone consumption			
≥50% prescriptions supervised	40.4	40.9	26.8
<50% prescriptions supervised	59.6	59.1	73.2
Co-prescribing	71.2	71.0	78.4
Benzodiazepines	22.8	22.6	28.6

	Total n=6983 %	Alive n=6770 %	Dead n=213 %
Antipsychotics	48.0	48.0	47.4
Opioid analgesics	39.5	39.4	41.8

Source: Adapted from Cousins *et al* (2015)

Of the 213 people who died, 98 (46%) were classified as being off methadone treatment. The deaths of over one-third (78, 37%) were classified as being due to poisoning. Opiates (n=72) and benzodiazepines (n=56) were the drugs most frequently reported in the toxicology reports on these cases. The risk of dying from poisoning was highest when a person was 'off treatment' (0.39 deaths per person years) compared to 'on treatment' (0.24 per person years), but this was not statistically significant. For those 'off treatment', mortality rates from poisoning were highest in weeks one to two (0.49 deaths per person years) and in weeks three to four (1.19 deaths per person years). Again, there was no statistical difference between the time periods or from those 'on treatment'

Analysis of all-cause mortality, adjusted for gender, age and comorbidity, showed that people who were 'off treatment' were three times more likely to die than those 'on treatment' (3.6, 95% CI: 2.1 to 6.3) (Table 1.1.3.2). The risk of mortality was highest in the third and fourth week after stopping treatment (9.1, 95% CI: 3.1 to 26.2). However, the risk of mortality 'off treatment' after five weeks or more remained higher than being 'on treatment'. A higher risk of dying was associated with age and increased co-morbidity, as shown by the median co-morbidity score. The authors noted that in the unadjusted analysis, mortality was higher among those whose methadone consumption was not supervised (1.36, 95% CI: 1.00 to 1.84), but this was not found to be statistically significant in the adjusted analysis.

Table 1.1.3.2 All-cause mortality among people receiving methadone treatment in Ireland, August 2004 to December 2010

			Adjusted analysis	
	Number of deaths	**Mortality/100 person-years**	**Mortality rate ratio (95% CI)**	**P value**
Overall 'on treatment'	115	0.51	1.00	<0.001
Overall 'off treatment'	98	1.57	3.64 (2.11 to 6.30)	
Period				
Weeks 1 to 2 'on treatment'	9	0.49	0.88 (0.23 to 3.33)	<0.001
Weeks 3 to 4 'on treatment'	6	0.39	0.71 (0.14 to 3.51)	
Remainder of time on treatment	100	0.52	1.00	
Weeks 1 to 2 'off treatment'	29	3.46	6.36 (2.84 to 14.22)	
Weeks 3 to 4	15	4.38	9.12 (3.17 to 26.28)	
Remainder of time 'off treatment'	54	1.07	2.46 (1.28 to 4.37)	

			Adjusted analysis	
Sex				
Female	55	0.59	1.00	0.2
Male	158	0.81	1.54 (0.81 to 2.90)	
Age (years)				
16 to 19	2	0.16	1.00	0.006
20 to 29	67	0.47	3.18 (1.21 to 49.20)	
30 to 39	83	0.83	5.62 (1.36 to 86.82)	
40 to 65	61	1.87	10.40 (4.66 to 164.52)	
Supervised consumption				
Yes	57	0.60	1.00	0.500
No	156	0.81	1.23 (0.67 to 2.27)	
Median comorbidity score*				
0 to 5	130	0.58	1.00	0.007
6 to 10	52	0.95	1.65 (0.87 to 3.13)	
11 to 15	23	2.65	4.66 (1.88 to 11.50)	
>16	8	5.06	6.06 (1.46 to 25.18)	

Source: Adapted from Cousins *et al* (2015)
* Measured by number of prescriptions for benzodiazepines, antipsychotics, antidepressants and opiates (excluding methadone) received by participant in a calendar year.

One of the potential limitations of the study was the definition of 'off treatment' as not receiving a methadone prescription for three days since the end of the last prescription. This cut-off was based on UK guidelines, which are based on reduction of tolerance. However, a sensitivity analysis extending the cut-off to seven days also showed an increased risk of mortality in those 'off treatment', 3.06 (95% CI: 1.74 to 5.39). Another limitation was that people transferring from primary care to specialist methadone clinics were not included, and so were classified as 'off treatment'. These limitations were compounded by the lack of information on those who were 'off treatment'; for example they may have been in prison, had stopped their opiate use or have been hospitalised.

While acknowledging the strengths of the study, such as the large national cohort of people receiving methadone who were included and the detailed prescription data from primary care, the inability to control for the residual confounders noted above is often a problem in such observational studies. Thus these findings should be viewed as a basis for additional research. In particular, the authors recommended further research in relation to supervised consumption.

The results also have implications for national practice and policy, as it shows that retention in treatment in primary care is associated with a reduced risk of all-cause mortality. The authors also

recommended that when a person leaves methadone treatment in primary care there should be improved post-treatment monitoring and follow-up for the first month, when relapse rates are highest along with the greatest risk of dying.

1.1.4 Additional information on drug-related deaths

Overview of all drug-related deaths (including alcohol) in Ireland, 2013

The annual overview of all drug-related deaths in Ireland for 2013 showed that alcohol continued to be the drug most commonly implicated in poisoning deaths. This overview includes both illicit drugs (covered by Section D and reported through ST5 and 6) and also other substances such as alcohol and prescription medication not reported in ST5 and 6**.** It also includes data on non-poisoning deaths among drug users.[1]

The annual number of all poisoning deaths increased from 361 in 2012 to 387 in 2013 (Table 1.1.4.1) As in previous years, males accounted for the majority of deaths (68% in 2013). The median age was 41 years. Almost two-thirds (60%) of all poisoning deaths involved more than one drug (polydrug use). Also of note:

- Alcohol was involved in 35% of poisoning deaths in 2013, making it the substance most commonly involved in poisoning deaths. Alcohol alone was responsible for 15% of all deaths.
- Methadone was implicated in a quarter of poisonings in 2013. The majority of deaths (94%) in which methadone was implicated were polydrug poisonings.
- Two-fifths (41%) of poisonings in 2013 involved benzodiazepines, almost all (99%) of which involved polydrug use.

Table 1.1.4.1 Number of poisoning and non-poisoning deaths, NDRDI, 2004–2013 (n=6002)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All deaths	432	505	554	622	628	658	609	657	658	679
Poisonings (n=3519)	267	300	325	389	386	374	342	388	361	387
Non-poisonings (n=2483)	165	205	229	233	242	284	267	269	297	292

Source: NDRDI, 2013

[1]This annual overview is published only after drug-related deaths (DRD) data is reported to the EMCDDA. Therefore, the report reproduced here refers to 2013 data which were not published at the time the previous workbook was compiled. The national overview for 2014 has not yet been published, and therefore overview data cannot be included in this workbook.

The number of poisoning deaths in which heroin was implicated increased for the first time since 2009, being a factor in 22% of poisoning deaths in 2013. A more detailed examination of deaths where heroin was implicated is presented in Table 1.1.4.2. Of note:

- Over two-fifths (42%) of people for whom heroin (injecting or smoking) was implicated in their death were not alone at the time they took the drug.
- Half (49%) of those who died from a heroin-related death were known to be injecting at the time of their death.
- Three in five (62%) of deaths in 2013, where heroin was injected, occurred in a private dwelling.
- The main drugs implicated along with heroin were benzodiazepines, other opiates and other prescription medications.

Table 1.1.4.2 Individual deaths involving heroin and other drugs implicated, NDRDI, 2004–2013 (n=718)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All NDRDI poisonings	267	300	325	389	386	374	342	388	361	387
Individual deaths where heroin was implicated (% of all poisonings)	29 (10.9)	47 (15.7)	67 (20.6)	80 (20.6)	91 (23.6)	115 (30.7)	73 (21.3)	66 (17.0)	64 (17.7)	86 (22.2)
All individual deaths involving heroin	29	47	67	80	91	115	73	66	64	86
Not alone (%)	12 (41.4)	28 (59.6)	41 (61.2)	43 (53.8)	57 (62.6)	77 (67.0)	42 (57.5)	34 (51.5)	38 (59.4)	36 (41.9)
Polydrugs involved (%)	11 (37.9)	30 (63.8)	40 (59.7)	56 (70.0)	66 (72.5)	75 (65.2)	43 (58.9)	53 (80.3)	55 (85.9)	62 (72.1)
Injecting at time of death (%)	22 (75.9)	30 (63.8)	44 (65.7)	41 (51.3)	43 (47.3)	51 (44.3)	39 (53.4)	35 (53.0)	28 (43.8)	42 (48.8)
Of whom died in private dwelling	10	15	20	19	28	32	26	30	17	26
Main drugs implicated with heroin										
Benzodiazepines	9	17	27	34	40	48	29	66	59	70
Other opiates	5	11	14	16	20	30	11	27	25	32
Other prescription meds	~	~	~	5	11	10	8	5	17	19
Alcohol	~	12	12	27	24	24	18	16	15	18

Source: NDRDI, 2013

The number of deaths involving antidepressants and other prescription drugs has increased. Citalopram is the most common antidepressant implicated in these deaths, being implicated in over one-fifth (22, 22.4%) of individual deaths involving antidepressants in 2013. Deaths where NPS were implicated increased to 15, compared with seven deaths in 2012. The majority (80%) of these deaths involved polydrugs, mainly cocaine, MDMA and benzodiazepines.

The report had a particular focus on polydrug poisonings, as almost two-thirds (60%) of poisoning deaths in 2013 involved polydrugs. Deaths due to polydrug use have increased by 98% over the reporting period, from 118 in 2004 to 234 in 2013. Also of note:

- 57% of deaths where alcohol was implicated involved other drugs (polydrug poisonings), mainly benzodiazepines.
- 94% of deaths where methadone was implicated involved other drugs, mainly benzodiazepines.
- 72% of deaths where heroin was implicated involved other drugs, mainly benzodiazepines.

Over two-fifths (43%) of those who died of a poisoning death in 2013 had a history of mental health illness.

Non-poisoning deaths in 2013

The number of non-poisoning deaths recorded among drug users decreased slightly, from 295 in 2012 to 292 in 2013. In 2013, males accounted for 77% of all non-poisoning deaths. Almost two-fifths (38%) of those who died of non-poisoning had a history of mental illness.

Deaths due to hanging continue to be the main cause of non-poisoning deaths, accounting for 25% of all non-poisoning deaths in 2013. Almost two-thirds (59%) of deaths due to hanging were among people who had a history of mental health illness. The most common medical causes of death were cardiac events, accounting for 18% of all non-poisoning deaths in 2013. The data show that a younger cohort died from traumatic causes (median age 34 years) as opposed to medical causes (median age 47 years).

Risk factors for death among methadone maintenance treatment (MMT) patients

A case control study was undertaken in the largest methadone clinic in Dublin to explore what risk factors might contribute to increased mortality among methadone maintenance treatment (MMT) patients (Truszkowska*, et al.* 2015). The authors were specifically interested in the hypothesis that methadone dosage and problem use of non-opiate drugs might be associated with an increased risk of mortality. They were also interested in whether there were different risk factors among cases who died from poisoning and cases who died from other causes.

The authors used a matched case-control study. They examined treatment exit records from the National Drug Treatment Centre (NDTC) in Dublin for seven years from February 2005 to February 2012. They identified all patients whose treatment outcome was recorded as death. Cause of death for these cases was determined using information from the NDRDI. Controls for the study were MMT patients who had not died, and matching was done by age, gender and treating team.

The authors conducted two separate statistical analyses. Univariable associations between risk of death and age, gender, methadone dose, non-attendance at treatment for at least one week prior to death, drug use in the month preceding death, history of imprisonment, HIV status, and medical complications were examined. For the controls, an index date, equal to the date of death, was created, and this was used to analyse the same set of death-related variables. A second analysis was conducted using binary logistic regression with alive/dead as the outcome variable.

Over the seven years of the study the average number of MMT patients at the NDTC was 500, and 80 deaths were recorded over the same period. No statistical difference in methadone dosage was found between cases and controls, and neither was there a significant difference in recent usage of heroin, benzodiazepines or cocaine. Cases were more likely to have a history of imprisonment ($p<0.001$); not attended the NDTC for at least one week prior to death ($p<0.001$); HIV ($p=0.01$); non-HIV/HCV medical problems ($p<0.001$); and more frequent medical/psychiatric reviews ($p=0.03$).

The logistic regression model reinforced these results, with the significant variables found to be history of imprisonment, non-attendance at the NDTC one week prior to death and a non-HIV/HCV medical condition. HIV status was not found to be significantly associated with risk of death using this model.

The authors attempted to delineate between poisoning deaths and other types of deaths, to determine if there were different risk factors for deaths in these cases. Poisoning deaths included all drug overdoses (intentional or accidental). Other causes of death included trauma (murder, road traffic accident, etc.) and medical causes (infection, organ failure, etc.). Cause of death was possible to determine in 77 out of 80 cases; no suicides were recorded, although the authors noted that this might possibly have been under-reported due to some coroners recording suicides as 'accident/misadventure'.

Records showed that 33 out of the 80 patients had died of poisoning. The only significant statistical difference between this cohort and cases who did not die of poisoning was a slightly younger average age (34.2 versus 41.3, $p<0.001$). Comparing the poisoning cases with their controls, similar significant associations were found (HIV positive, not attending the NDTC for at least one week prior to death, history of imprisonment, non-HIV/HCV medical problems). The poisoning deaths cohort was also found to have been more likely to have a history of homelessness ($p=0.03$).

The authors noted that other studies had shown that increased risk of mortality was associated with low or very high doses of methadone. No such association was witnessed in this study. Similarly, previous research had shown an increased risk of mortality among MMT patients with problem cocaine use, but this study showed no significant associations between ongoing problem drug use and risk of mortality.

Three significant associations were identified, however, in relation to imprisonment, medical issues and attendance at the NDTC for MMT. The authors theorised that being imprisoned could be linked to prisoners being one of the most disadvantaged groups in society. It was noted that previous research has shown an elevated risk of mortality among ex-prisoners.

The current study showed that there were significantly more HIV patients among the case group than among the control group. The research also demonstrated a link between non-HIV/HCV medical illness and mortality, as one would expect. Interestingly, among the cases who died of poisoning, medical issues were significantly more common in this cohort than in the control group. The authors suggested that this might be linked to increased susceptibility to the respiratory depressant effect of opioids among the medically unwell. It was concluded that prevention, and early detection and treatment, might help reduce mortality.

It was also observed that a significant minority of cases had been disengaged from treatment at the time of death. The authors recommended educating MMT patients on the increased risk of overdose if they ceased treatment, and that clinics should follow up on patients, even if they have only been absent for a short period of time. It was suggested that a proactive approach could help reduce the increased risk of mortality faced by those who disengage from treatment.

1.2 Drug related acute emergencies

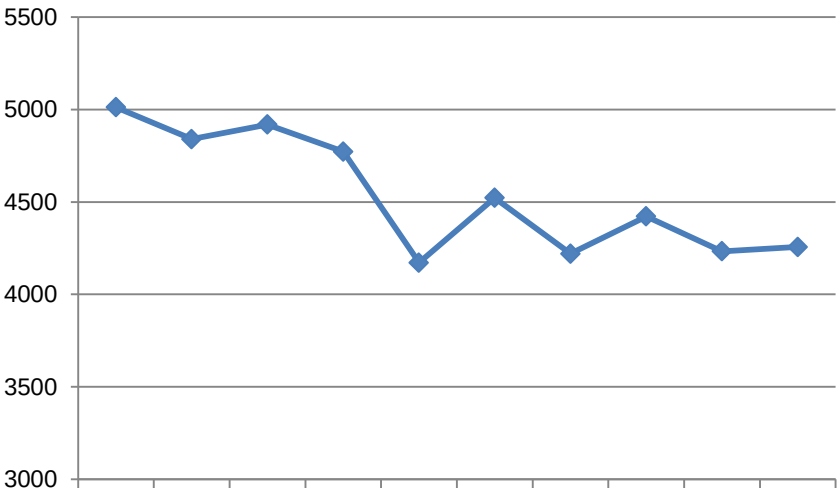
1.2.1 Drug-related acute emergencies

Monitoring of drug-related acute emergencies in the Irish context refers to all admissions for non-fatal overdoses to acute general hospitals in Ireland. A description of the main monitoring systems and sources of data are included at the end of this workbook.

1.2.2 Toxicology of drug-related acute emergencies

Drug-related emergencies – non-fatal overdoses

Data extracted from the HIPE scheme were analysed to determine trends in non-fatal overdoses in patients discharged from Irish hospitals in 2014. There were 4,303 overdose cases in that year; of these cases, 47 died in hospital. Only the 4,256 discharged cases are included in this analysis. The number of overdose cases increased marginally from 4,233 in 2013. However, trends over time indicate a decrease in overdose cases admitted to Irish hospitals, falling from 5,012 in 2005 to 4,256 in 2014, a reduction of 756 cases (Figure 1.2.1.1).

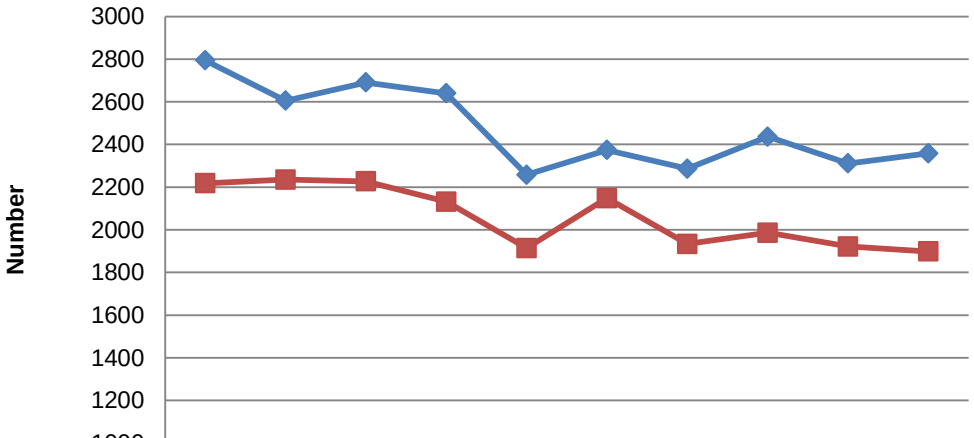


	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Overdoses	5012	4840	4918	4772	4172	4522	4220	4422	4233	4256

Figure 1.2.1.1 Overdose cases admitted to Irish hospitals, 2005–2014 (n=45,367)
Source: HIPE unpublished data, 2016

Gender

Between 2005 and 2014 there were more overdose cases among women than men, with women accounting for 2,358 (55%) of all non-fatal overdose cases in 2014 (Figure 1.2.1.2).



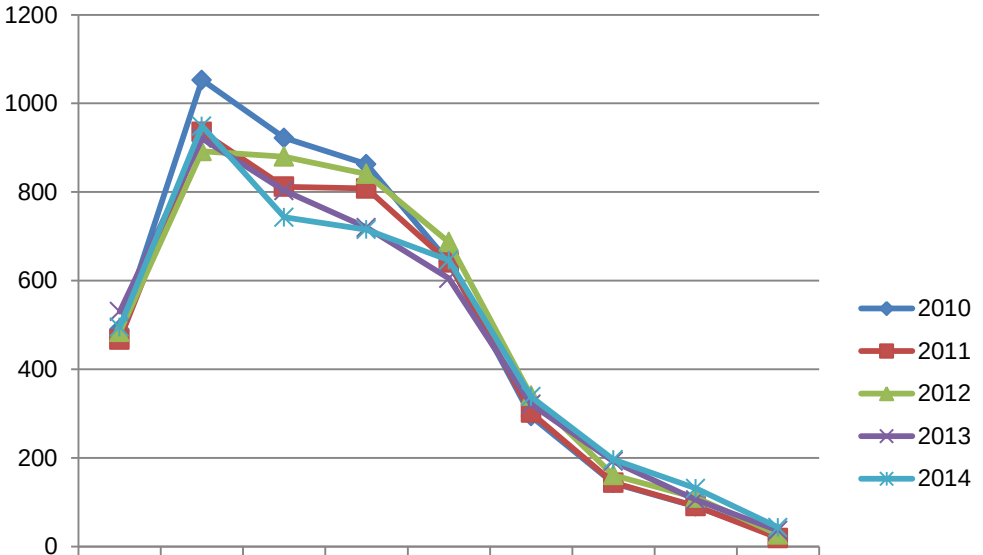
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Female	2794	2605	2691	2640	2258	2374	2286	2436	2311	2,358
Male	2218	2235	2227	2132	1914	2148	1934	1986	1922	1,898

Figure 1.2.2.2 Overdose cases admitted to Irish hospitals, by gender, 2005–2013 (N=41,111)
Source: HIPE unpublished data, 2015

Age group

Between 2013 and 2014, there was an increase in the number of non-fatal overdose cases among those aged 15 to 24, and in all age groups from 45 to 85+ years. In all other age groups, the number of non-fatal overdose cases decreased during this period. The incidence of overdose cases peaked

in the 15-24 age group, and thereafter decreased with age (Figure 1.2.1.3). Trends over time show that in 2005, 40% of cases were aged less than 25 years compared to 34% in 2014.



	0-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75-84 years	85+ years
2010	490	1053	922	863	642	294	143	90	25
2011	467	936	812	808	641	302	144	91	19
2012	484	892	880	841	687	340	161	110	27
2013	530	921	803	720	605	321	192	105	36
2014	495	949	743	715	646	338	196	131	43

Figure 1.2.1.3 Overdose cases admitted to Irish hospitals, by age group, 2010–2014
Source: HIPE unpublished data, 2016

Table 1.2.2.1 Categories of drugs involved in overdose cases admitted to Irish hospitals, 2014 (n=4256)*

Drug category	Number	%
Non-opioid analgesics	1430	33.6
Benzodiazepines	846	19.9
Psychotropic agents	1071	25.2
Anti-epileptic/sedative/anti-Parkinson agents	2021	47.5
Narcotics and hallucinogens	662	15.6
Alcohol	353	8.3
Systemic and haematological agents	182	4.3
Cardiovascular agents	176	4.1
Autonomic nervous system	127	3.0
Anaesthetics	13	0.3
Hormones	121	2.8
Systemic antibiotics	73	1.7
Gastrointestinal agents	82	1.9
Other chemicals and noxious substance	305	7.2
Diuretics	53	1.2
Muscle and respiratory agents	37	0.9
Topical agents	32	0.8
Anti-infectives/anti-parasitics	17	0.4
Other gases and vapours	49	1.2
Other and unspecified drugs	937	22.0

Source: HIPE unpublished data, 2016
The sum of positive findings is greater than the total number of cases because some cases involved more than one drug or substance.

Overdoses involving narcotics or hallucinogens

Narcotic or hallucinogenic drugs were involved in 16% (662) of overdose cases in 2014. Figure 1.2.2.1 shows the number of positive findings of narcotics or hallucinogens among the 662 cases. Opiates were used in 76% (524) of the cases, cocaine in 15% (103) and cannabis in 8% (57) of cases.

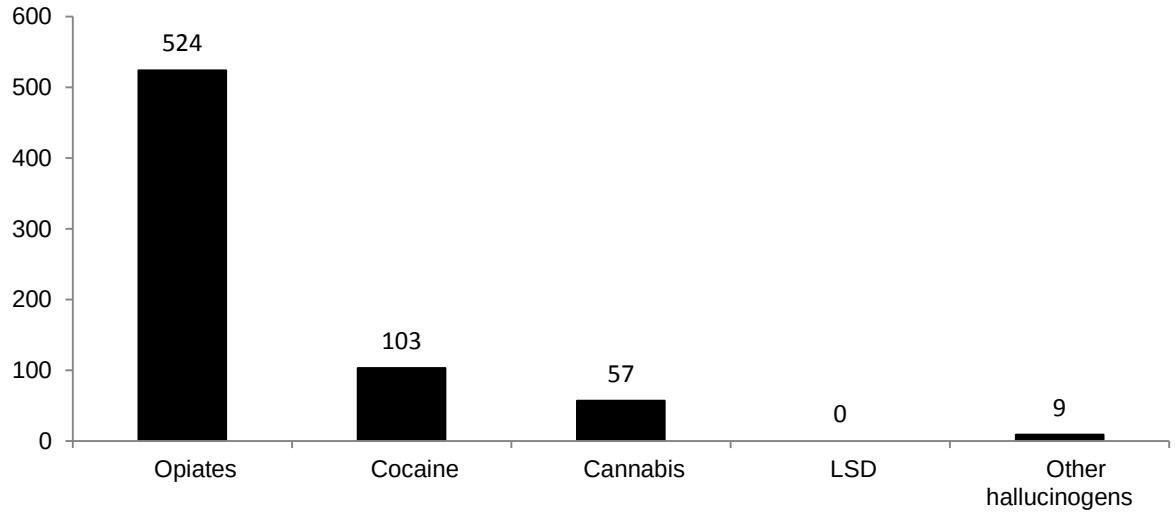


Figure 1.2.2.1 Narcotics and hallucinogens involved in overdose cases admitted to Irish hospitals, 2014 (n=662)*
Source: HIPE unpublished data, 2016
* The sum of positive findings is greater than the total number of cases because some cases involved more than one drug from this category.

Overdoses classified by intent

In 64% (2,682) of cases, the overdose was classified as intentional (Figure 1.2.2.2). For 30 cases, classification of intent was not clear. These cases were not included in the analysis.

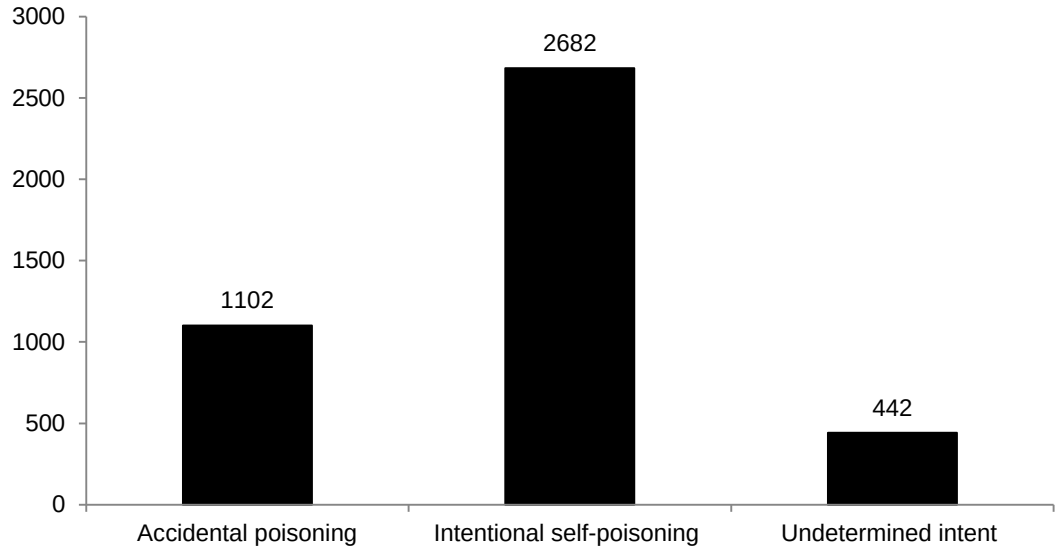


Figure 1.2.2.2 Overdose cases admitted to Irish hospitals, classified by intent, 2014 (n=4226)
Source: HIPE unpublished data, 2016

Table 1.2.2.2 presents the positive findings per category of drugs and other substances involved in cases of intentional self-poisoning (n=2,682) in 2014. Non-opioid analgesics were involved in 42% (1,116) of cases, benzodiazepines in 23% (624) and psychotropic agents in 30% (809).

Table 1.2.2.2 Categories of drugs involved in intentional self-poisoning cases admitted to Irish hospitals, 2014 (n=2682)*

Drug category	Count	%
Non-opioid analgesics	1116	41.6
Benzodiazepines	624	23.3
Psychotropic agents	809	30.2
Anti-epileptic/sedative/anti-Parkinson agents	1481	55.2
Narcotics and hallucinogens	366	13.6
Alcohol	263	9.8
Systemic and haematological agents	82	3.1
Cardiovascular agents	106	4.0
Autonomic nervous system	89	3.3
Anaesthetics	6	0.2
Hormones	66	2.5
Systemic antibiotics	51	1.9
Gastrointestinal agents	66	2.5
Other chemicals and noxious substance	104	3.9
Diuretics	30	1.1
Muscle and respiratory agents	17	0.6
Topical agents	8	0.3
Anti-infectives/anti-parasitics	11	0.4
Other gases and vapours	~	
Other and unspecified drugs	518	19.3

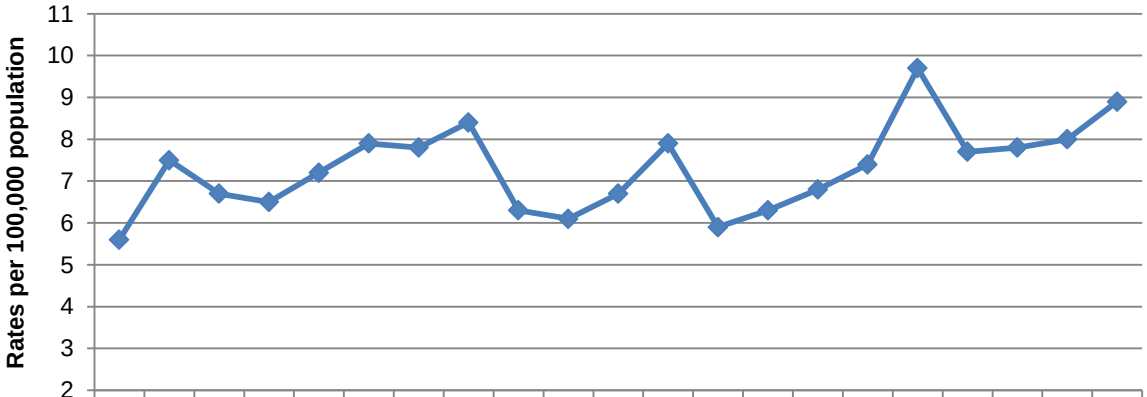
Source: HIPE unpublished data, 2016
* The sum of positive findings is greater than the total number of cases because some cases involved more than one drug or substance.
~ denotes five or fewer discharges reported to HIPE.

1.2.3 Additional information on drug-related acute emergencies

Drug admissions to psychiatric facilities

Activities of Irish psychiatric units and hospitals 2014, the annual report published by the Mental Health Information Systems Unit of the HRB in 2015, shows that the total number of admissions to inpatient care has decreased slightly since 2013. This represents a 16% decline in overall psychiatric admissions in the 10 years between 2005 and 2014 (Daly, Antoinette and Walsh 2015).

In 2014, 911 cases with a drug disorder (ICD-10 code F11-19, F55) were admitted to psychiatric facilities. Of these cases, 407 (45%) were treated for the first time. This represents a rate of 8.9 per 100,000 of the population in Ireland (Figure 1.2.3.1). This is similar to the number of admissions in 2013 when there were 890 cases, of which 365 were treated for the first time. The report does not present data on drug use and psychiatric co-morbidity, therefore it is not possible to determine whether or not these admissions were appropriate.



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Rates	5.6	7.5	6.7	6.5	7.2	7.9	7.8	8.4	6.3	6.1	6.7	7.9	5.9	6.3	6.8	7.4	9.7	7.7	7.8	8	8.9

Figure 1.2.3.1 Rates of psychiatric first admission of cases with a diagnosis of a drug disorder per 100,000 of the population in Ireland, 1994 to 2014
Source: (Daly, A and Walsh 2014)

Other notable statistics on admissions for a drug disorder in 2014 include:

- The majority of admissions were to psychiatric units in general hospitals (278, 68%), followed by admissions to psychiatric hospitals (77, 18%) and to private hospitals (52, 13%).
- Just over one-half of cases hospitalised for a drug disorder stayed under one week (51%), while 99% were discharged within three months. It should be noted that admissions and discharges represent episodes or events and not persons.
- Almost 13% (n=51) of first time admissions were involuntary.
- The rate of first time admissions was higher for men (12.8 per 100,000) than for women (5.1 per 100,000).

1.3 Drug related infectious diseases

1.3.1 Main drug-related infectious diseases among drug users – HIV, HBV, HCV

HIV notifications, 2015
Figure 1.3.1.1 presents the number of new cases of HIV among PWID reported in Ireland, by year of diagnosis.

According to unpublished data compiled by the HPSC, at the end of 2015, 491 people were newly diagnosed with HIV in Ireland. This marks an increase of 30% since 2014 when 377 subjects were diagnosed. However, it should be noted that there was a change in the surveillance case definition for Health Service Executive (HSE) East, and all new diagnoses were notified on the basis of a single sample being confirmed positive by the National Virus Reference Library. Notification of HIV cases from all other HSE areas within Ireland were made following confirmatory testing with a second sample.

In 2015, 9% (45) of newly diagnosed HIV cases were PWID. This is the highest number of HIV cases among PWID recorded since 2008. Of the 45 cases, 12 were women (compared with 13 female cases in 2014), giving a male to female ratio of 2.8. The number of newly diagnosed cases among PWID in men has increased from 14 in 2014 to 33 in 2015. Forty per cent (18) of newly diagnosed cases of HIV among PWID in 2015 were in the 35-39 year age group, with 64% (29) aged 35-49 years.

The increased number of recent HIV infection among PWID is being investigated and may be partly explained by the changes in reporting procedures in HSE East. In addition, there was an outbreak in

Dublin among PWID in 2014/15. A detailed review of the region of origin, mode of transmission, duration of drug use and co-infection is also being conducted.

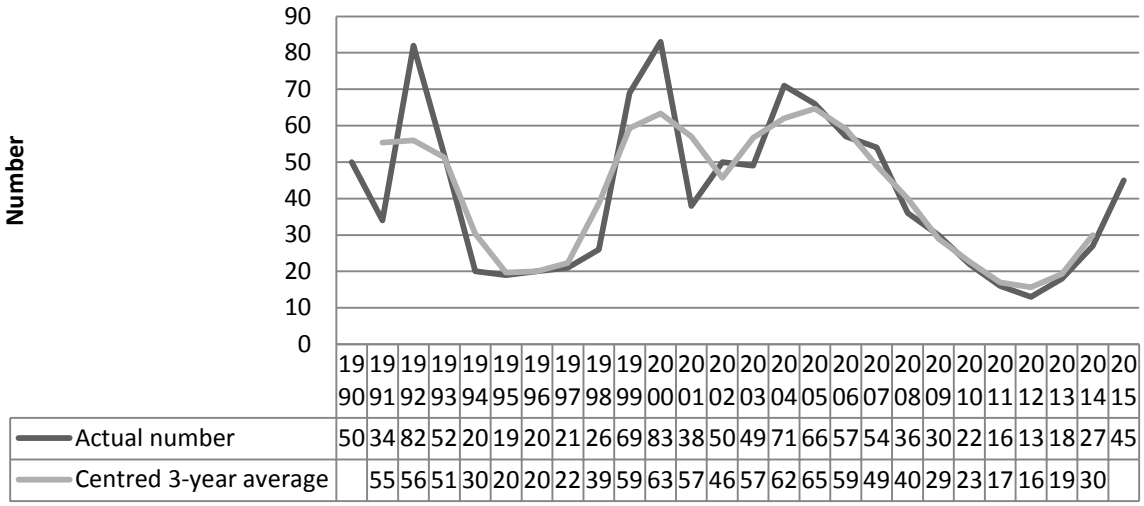


Figure 1.3.1.1 Number and rolling average number of new cases of HIV among PWID, by year of diagnosis, reported in Ireland, 1990–2015
Source: Unpublished data reported to Department of Health by National Disease Surveillance Centre and HPSC, 2016

HBV notifications, 2015

There were 550 notifications of HBV in the general population in 2015 compared with 446 in 2014, a 23% increase (Table 1.3.1.1). This increase is likely to be associated with the level of immigration into Ireland. Of the cases notified, almost 50% (270) were male. The number of acute cases remained low at 26, showing an annual decrease since 2012 when there were 37 acute cases. Among acute cases of HBV in 2015, none were injecting drug users.

Table 1.3.1.1 Acute and chronic HBV cases reported to the HPSC, by risk factor status, 2014 and 2015

	2014			2015		
HBV status	**Acute**	**Chronic**	**Unknown**	**Acute**	**Chronic**	**Unknown**
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Total number of cases	30	399	17	26	436	88
% of cases by status	(6.7)	(89.4)	(3.8)	(4.7)	(79.3)	(16)
Cases with reported risk factor data	29	250	4	23	214	10
% of cases with risk factor data	(97)	(62.6)	(23.5)	(88.5)	(49.1)	(11.4)
Of which:						
Injecting drug users	0 (0)	4 (1.6)	0 (0)	0 (0)	2 (0.9)	0 (0)
Cases without reported risk factor data	1	149	13	3	222	78
% of cases without risk factor data	(3)	(37.3)	(76.4)	(11.5)	(50.9)	(88.6)
Total		**446**			**550**	

Source: Unpublished data reported to Department of Health by National Disease Surveillance Centre and HPSC, 2016

HCV notifications, 2015

There were 678 HCV notifications in the general population in 2015 (Table 1.3.1.2), a decrease of 5% on 2014 when there were 710 notifications. The notification rate for 2015 was 14.8 per 100,000 of the population. There has been a downward trend in HCV notifications since peak numbers (1,541) were recorded in 2007. The median age at notification has increased steadily since HCV notifications began, from 31 years in 2004 to 39 years in 2015.

Decreasing HCV notifications and increasing median age are indicative of a reduced incidence of HCV in the population. Demographic data in 2015 remained similar to previous years, with males accounting for 67% (457) of cases. Eighty-one per cent (549) of all notifications were aged between 25 and 54 years.

Table 1.3.1.2 HCV cases and notification rates per 100,000 of the population, 2004–2015

Year	n	Notification rate
2004	1119	26.4
2005	1403	33.1
2006	1210	28.6
2007	1541	36.5
2008	1511	35.8
2009	1240	29.3
2010	1236	29.2
2011	1257	29.6
2012	1036	24.4
2013	847	18.5
2014	710	15.5
2015	678	14.8

Source: HPSC unpublished data, 2016

Risk factor data were available for 43% (294) of the HCV cases reported in 2015 (Table 1.3.1.3). For 58% (169) of this group, injecting was the predominant risk factor. Among these 169 cases, 75% (127) were men. The median age was 35 years, and 59% (100) lived in Dublin or the adjoining counties of Kildare and Wicklow (Table 1.3.1.4).

Table 1.3.1.3 HCV cases reported to the HPSC, by risk factor status, 2011–2015

Risk factor status	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)
Total number of cases	1257	1036	847	710	678
Cases *with* reported risk factor data	753 (59.9)	651 (62.8)	540 (63.8)	409 (57.6)	294 (43.4)
Of which:					
Injecting drug users	616 (81.8)	484 (74.3)	372 (68.9)	277 (67.7)	169 (57.5)
Recipient blood/blood products	19 (2.5)	26 (4)	16 (3)	16 (3.9)	17 (5.8)
Other risk factors	106 (14.1)	127 (19.5)	135 (25)	101 (24.6)	99 (33.7)
No known risk factor identified	12 (1.1)	12 (1.8)	17 (3)	15 (3.6)	9 (3.1)
Cases *without* reported risk factor data	504 (40.1)	385 (37.1)	307 (36.2)	301 (42.3)	384 (56.6)

Source: HPSC unpublished data, 2016

Table 1.3.1.4 HCV cases who reported injecting drug use as a risk factor, by age, gender and place of residence, 2011–2015

	2011 n (%)	2012 n (%)	2013 n (%)	2014 n (%)	2015 n (%)
Total number of known injector cases	616	484	372	277	169
Gender					
Male	419 (68)	348 (72)	272 (73)	211 (76.1)	127 (75.1)
Female	196 (31.8)	136 (28)	99 (26.6)	66 (23.8)	42 (24.9)
Gender not known	1	0	1	0	0
Age					
Mean age	35.4	36.9	37.6	37	37
Median age	34	36	37	36	35
Under 25 years	45 (7.3)	23 (4.8)	10 (2.7)	19 (6.8)	12 (7.1)
25–34 years	269 (43.7)	178 (36.8)	137 (36.8)	105 (37.9)	68 (40.2)
Over 34 years	300 (48.7)	282 (58.2)	225 (60.5)	153 (55.2)	89 (52.7)
Age not known	2 (0.3)	1 (0.2)	0 (0)	0 (0)	0 (0)
Place of residence					
Dublin, Kildare or Wicklow	538 (87.3)	399 (82.4)	297 (79.8)	199 (71.8)	100 (59.2)
Elsewhere in Ireland	78 (12.7)	85 (17.6)	75 (20.2)	78 (28.1)	69 (40.8)

Source: HPSC unpublished data, 2016

1.3.2 Additional information on drug-related infectious diseases

HIV infection among homeless people who inject drugs

A paper published in September 2015 outlines research conducted in response to an increase in recently acquired HIV infection among a population of homeless PWID in Dublin (Giese*, et al.* 2015). The report defines recently acquired HIV infection as those in which the person who tests positive is p24 antigen, or has had an HIV negative test within the previous 12 months, or suffers an acute HIV sero-conversion illness.

Clinicians in the drug treatment services were concerned that the increase might be linked to injection of a synthetic cathinone, α-Pyrrolidinopentiophenone (α-PVP), with the street name ‘Snow Blow’, which was being used by homeless drug users. In response, an epidemiological investigation and case-control study were instigated.

Between 2014 and 2015, 38 confirmed or probable cases of recently acquired HIV were reported (see Figure 1.3.6.1). Of these, 16 were female, the median age was 35 years (range 24–51) and 29 were registered homeless. Twenty reported having sex with a person who injected drugs or with an HIV-positive partner. Of the 20 for whom injecting information was available, 18 reported that they had recently injected α-PVP.

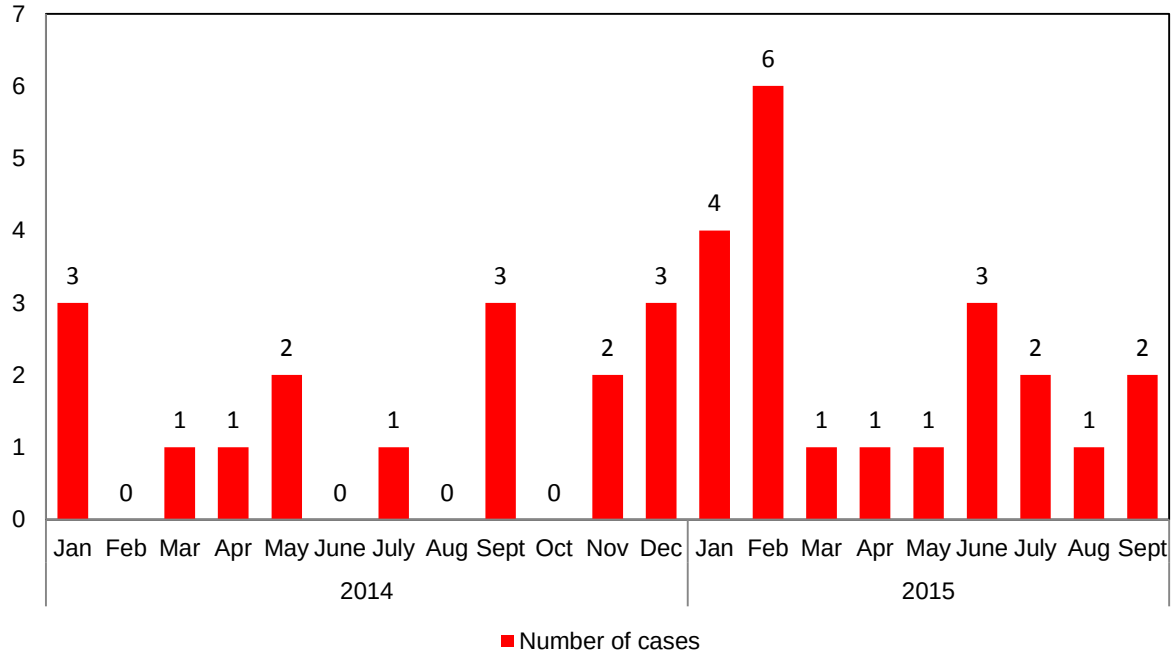


Figure 1.3.6.1 Recent HIV infections with epidemiological link to PWID in Dublin, by month of first diagnosis, January 2014 to September 2015 (n=38)
Source: Giese C et al., 2015

For the case-control study, 15 of the reported cases were recruited. A random sample of 39 HIV-negative, homeless, chaotic drug users were recruited from the NDTC as a control group. There was no difference between cases and controls in age, duration of injection or living circumstances.

The study found that when compared with control subjects, the cases were more likely to have reported injecting methamphetamine and α-PVP, and used amphetamines, other head shop drugs or benzodiazepines. Cases were also more likely to have reused needles or syringes, and to have had sex with partners who inject drugs.

Multivariate logistic regression was used to determine which of these features were associated with HIV infection. The factor with the strongest association with HIV infection was injecting α-PVP. However, reusing needles and syringes and having sex with a partner who injects drugs were all independently associated (see Table 1.3.6.1).

Table 1.3.6.1 Factors positively associated with recent HIV infection in multiple regression analysis

Factors positively associated with recent HIV infection	Adjusted odds ratio	95% confidence interval	P value
Injecting α-PVP	49	3.6-669	0.003
Reusing needles/syringes	13	1.01-177	0.049
Having sex with PWID	36	1.6-782	0.022
Being female	3.5	0.27-44	0.34

Source: Giese C et al., 2015

In response to the increased incidence of HIV, the authors reported that the following control measures were immediately implemented:

- Provision of antiretroviral therapy to PWID diagnosed with HIV, where possible, and contact tracing to detect any additional cases among sexual or drug-sharing partners.
- Review of clients attending drug services, to identify those most at risk, and offering urgent HIV testing.

- Pilot point-of-care testing for PWID clients attending Safetynet homelessness services (Safetynet is a networking organisation for nurses, doctors and voluntary agencies providing primary health care to homeless people in Dublin, Cork and Galway).
- Enhanced surveillance to identify new HIV cases as early as possible, including mode of transmission.
- Awareness-raising among clients, clinicians, networks of PWID and other stakeholders.
- Provision of greater access to needle exchange and other preventive activities within the drugs, homeless hostel services and prisons (the need for additional measures, including extended opening hours for needle exchanges, is being evaluated).
- Development and distribution of communications material, aimed at raising awareness of the risk of HIV posed by unsafe injecting and unsafe sex (available on the website of the HPSC).
- Active case finding including recent infection testing of possible cases, and phylogenetic analysis of cases.

Pregnant women with blood-borne infections, 2014

The DOVE clinic in the Rotunda Maternity Hospital, Dublin was established to meet the specific needs of pregnant women who have, or are at risk of, blood-borne or sexually-transmitted bacterial or viral infections. Figures from the clinic for 2014 were published in the hospital's annual report (The Rotunda Hospital 2015).

In 2014, a total of 178 women were booked into the DOVE clinic for ante-natal care. Of these:

- 24% (43) were positive for HBV surface antigen (down from 59 in 2013);
- 29% (51) were positive for HCV antibody (down from 59 in 2013);
- 14% (25) were positive for HIV (up from 24 in 2013);
- 13% (24) were positive for treponemal serology (an increase from 20 in 2013); and
- 29% (52) were known to be on prescribed methadone programmes (up from 48 in 2013).

Deliveries to mothers attending the Dove Clinic are outlined in Table 1.3.6.2. A total of 70 deliveries were to mothers attending the drug liaison midwife (DLM), 40 were HBV positive, 44 were HCV positive, 18 HIV positive and 22 tested positive for syphilis. Fourteen babies were admitted to the neonatal unit with neonatal abstinence syndrome (NAS).

Table 1.3.6.2 Deliveries to mothers attending the DOVE Clinic who were positive for HIV, HCV, HBV or syphilis or who were attending the DLM, 2014

Status	HIV(+ve)	HCV(+ve)	HBV(+ve)	Syphilis (+ve)	DLM
Total mothers delivered	18	44	40	22	70
Total mothers delivered <500g (incl miscarriage)	0	1	1	2	2
Total mothers delivered >500g	18	43	39	20	68
Live infants	18	44*	41*	20	69*
Miscarriage	0	1	1	0	2
Stillbirth	0	0	0	0	0
Infants <37 weeks gestation	1	6	3	0	12
Caesarean section	8	17	15	8	24

Status	HIV(+ve)	HCV(+ve)	HBV(+ve)	Syphilis (+ve)	DLM
NICU admission for NAS					14
Maternal median age	34	33	31	32	-
Newly diagnosed at ANS	4	4	5	10	-

Source: Rotunda Hospital Annual Report, 2015
NICU = Neonatal intensive care unit
NAS = Neonatal abstinence syndrome
ANS = Ante-natal screening
DLM = Drug liaison midwife
* One set of twins

In 2015 the Coombe Women and Infants University Hospital published its annual report for 2014 and reported that 278 women had attended the Addiction and Communicable/Infectious Diseases Service for ante-natal care and post-natal follow-up (Coombe Women and Infants University Hospital 2015). Of those attending ante-natal care:

- 36 were positive for HBV, of whom 10 were newly diagnosed;
- 52 were positive for HCV, of whom 8 were newly diagnosed;
- 24 were positive for HIV, of whom none were newly diagnosed; and
- four were co-infected with HCV, but none were co-infected with either HBV or syphilis.

In terms of addiction, 64 women were linked with the DLM. Of these 64 women, 41 delivered 41 live babies. Of the 41 babies, 20 were admitted to special care. Of these 20 babies, 15 required pharmacological treatment for NAS. The report states that heroin continues to be the primary substance used, but cocaine and benzodiazepine use was also evident.

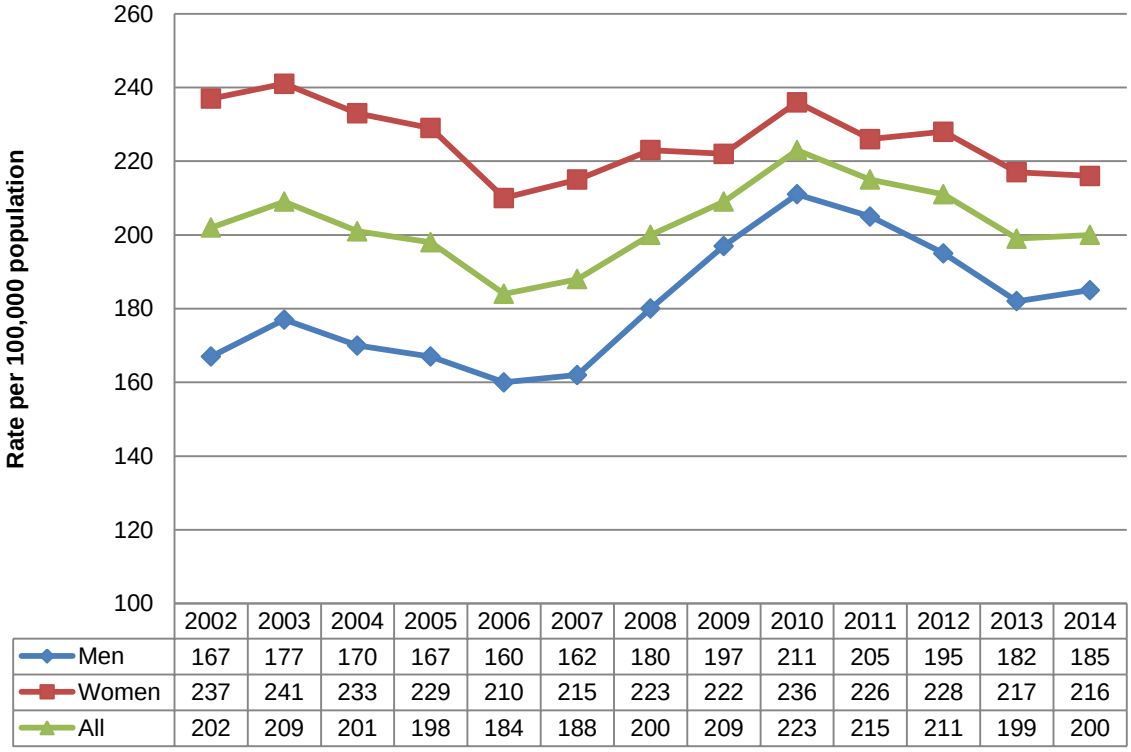
1.4 Other drug-related health harms

1.4.1 Other drug-related health harms

National Registry of Deliberate Self-Harm Annual Report, 2014
The 13th annual report from the National Registry of Deliberate Self-Harm was published in September 2015 (Griffin*, et al.* 2015). The report contains information relating to every recorded presentation of deliberate self-harm to acute hospital emergency departments in Ireland in 2014, and complete national coverage of cases treated. All individuals who were alive on admission to hospital following deliberate self-harm were included, along with the methods of deliberate self-harm that were used. Accidental overdoses of medication, street drugs or alcohol were not included.

In 2014, there were 11,126 recorded presentations of deliberate self-harm, involving 8,708 individuals. This implies that more than one in five (2,418, 22%) of the presentations were repeat episodes. There was virtually no change in the rate of presentations between 2013 and 2014, following a 6% decrease between 2012 and 2013. The rate in 2014 remained 6% higher than the pre-recession rate of 188/100,000 in 2007 (Figure 1.4.1.1).

The only age group in which there was significant change in the rate of deliberate self-harm between 2013 and 2014 were boys aged 10 to 14 years, among whom the rate increased by 44%, from 34 to 49 per 100,000 of the population.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Men	167	177	170	167	160	162	180	197	211	205	195	182	185
Women	237	241	233	229	210	215	223	222	236	226	228	217	216
All	202	209	201	198	184	188	200	209	223	215	211	199	200

Figure 1.4.1.1 Person-based rate of deliberate self-harm from 2002 to 2014 by gender
Source: Griffin E, Arensman E, Dillon CB, Corcoran P, Williamson E and Perry IJ (2015) National Self-Harm Registry Ireland Annual Report 2014, Cork: National Suicide Research Foundation
'All' in the legend refers to the rate for both men and women per 100,000 of the population

Forty-six per cent of self-harm presentations in 2014 were men, and just over half (54%) were aged under 30 years. People living in hostels for the homeless or of no fixed abode accounted for 5% (n=514) of self-harm presentations. Presentations peaked in the hours around midnight and were highest on Sundays and Mondays, with 31% of episodes occurring on these two days. There was evidence of alcohol consumption in 3,860 (35%) of presentations and this was more common among men (37%) than among women (33%).

Drug overdose was the most common form of deliberate self-harm reported in 2014, occurring in 7,314 (66%) episodes. This represented a small decrease (-2%) on 2013. Overdose rates were higher among women (72%) than among men (58%). In 70% of cases, the total number of tablets taken was known, with an average of 28 tablets taken in these episodes.

A minor tranquilliser (most commonly benzodiazepines) was involved in 37% of all drug overdoses; 28% of overdoses involved paracetamol-containing medicines; 21% involved antidepressants or mood stabilisers (most commonly selective serotonin reuptake inhibitors [SSRIs]); 10% involved a major tranquilliser and 26% involved other prescribed drugs.

There was an 11% increase in the number of presentations involving street drugs, which rose from 420 in 2013 to 465 in 2014 (following annual decreases from 2010 to 2013). The 2014 level was similar to the level recorded in 2008.

The next steps, or referral outcomes, for the deliberate overdose cases were 51% discharged home, 28% admitted to an acute general hospital, 6% admitted to psychiatric inpatient care with a small proportion (1%) refused admission to hospital. Fourteen per cent discharged themselves before receiving referral advice.

The report provided information on what was being or could be done to reduce the number of self-harm cases. Particularly encouraging were the facts that over 30 self-harm specialist nurses had taken up positions in various hospitals in 2014 and that increased numbers of patients were receiving mental health assessments.

While the total number of presentations involving drug overdose rose, there was a significant reduction in overdoses involving minor tranquillisers. The report related this to proactive monitoring of prescribing patterns in primary care services since 2012. The authors recommended that reducing access to minor tranquillisers should be an ongoing priority.
The authors reported that, as in previous years, alcohol continued to be one of the factors associated with the higher rate of self-harm presentations on Sundays, Mondays and public holidays, and in the hours around midnight. These findings underlined the need for on-going efforts to:

- enhance health service capacity at specific times and increase awareness of the negative effects of alcohol misuse and abuse such as increased depressive feelings and reduced self-control;
- intensify national strategies to increase awareness of the risks involved in the use and misuse of alcohol, starting at pre-adolescent age, and intensify national strategies to reduce access to alcohol and drugs;
- educate self-harm patients and their families about the importance of reduced use of and access to alcohol; and
- arrange active consultation and collaboration between the mental health services and addiction treatment services in the best interest of patients who present with dual diagnosis (psychiatric disorder and alcohol/drug abuse).

The authors noted that there was variation in the next care recommended to deliberate self-harm patients, and in the proportion of patients who left hospital before receiving a recommendation. While overall, nearly three-quarters of all patients were discharged with a referral, differences were seen in referral pathways across HSE hospital groups. The authors recommended that the national guidelines for the assessment and management of patients presenting to Irish emergency departments following self-harm be implemented nationally as a matter of priority.

The report highlighted the ongoing work by the National Suicide Research Foundation to link data on deliberate self-harm with suicide mortality data. This linking has shown that individuals who self-harm are over 42 times more likely to die by suicide than the general population. Further linkage is recommended in order to enhance insight into predictors of suicide risk.

1.5 Harm reduction interventions

1.5.1 Drug policy and main harm reduction objectives

The current National Drugs Strategy aims to reduce harm arising from substance misuse and to reduce the prevalence of blood-borne viruses among PWID through the expansion of needle exchange provision to include community pharmacy-based programmes. (For further details on the National Drugs Strategy, see Section 1.1 of the Policy workbook).

1.5.2 Organisation of Harm reduction services

There are three models of needle exchange programmes in use in Ireland:

1. Static – 24 sites mainly in Dublin city.
2. Outreach – 14 sites mainly in counties Dublin, Kildare, Laois, Offaly, Waterford and Wicklow.
3. Pharmacy – 115 sites in regions outside Dublin, Kildare and Wicklow.

1.5.3 Harm reduction services

Pharmacy needle exchange in Ireland

In October 2011 the HSE rolled out the national pharmacy needle exchange programme, which is a partnership initiative between the Elton John AIDS Foundation, the Irish Pharmacy Union and the HSE. The programme targets counties outside of Dublin. Once pharmacies have signed a service

level agreement with the HSE, their contact details are passed on to the relevant HSE services so that they can promote access to sterile injecting equipment at the participating pharmacies and accept referrals for investigation and treatment.

At the end of 2011, there were 42 pharmacies providing needle exchange and this had increased to 115 by the end of 2014. There are pharmacies providing needle exchange in each regional drugs task force area (Table 1.5.3.1) apart from those covering counties Dublin, Kildare and Wicklow, which are served by a mix of static and outreach needle exchange programmes. The data presented were collected from participating pharmacies by the HSE.

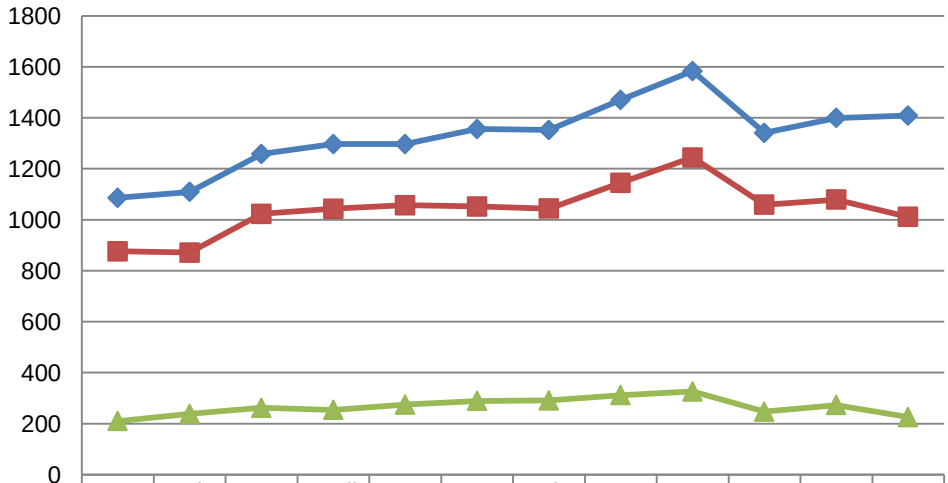
Table 1.5.3.1 Number of pharmacies providing needle exchange at the end of 2011, 2012, 2013 and 2014 by regional drugs task force area

Regional drugs task force area	2011	2012	2013	2014
Midland (Longford, Laois, Offaly, Westmeath)	5	13	15	16
North Eastern (Meath, Louth, Cavan, Monaghan)	3	9	16	21
North West (Sligo Leitrim, West Cavan, Donegal)	3	4	7	6
Southern (Cork and Kerry)	8	10	16	21
South East (Carlow, Kilkenny, Waterford, Wexford, South Tipperary)	13	21	22	24
Western (Galway, Mayo, Roscommon)	5	2	10	13
Mid West (Clare, Limerick, North Tipperary)	5	8	13	14
Total	**42**	**67**	**99**	**115**

Source: Unpublished data from the HSE, 2016

An average of 1,330 individuals attended pharmacy-based needle exchanges each month in 2014 (compared to a monthly average of 933 in 2013). The number of individual drug users availing of sterile injecting equipment increased from 1,086 in January to 1,409 in December (Figure 1.5.3.1). The majority (78%) of individual attenders were male, and had an average age of 30 years; the average age of female attendees was 28 years.

The expansion of needle exchange services forms a part of Action 34 in the current National Drugs Strategy, and the increase in numbers reflects the expansion of the service availability.



	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Unique individuals	1086	1109	1258	1297	1297	1356	1352	1470	1583	1341	1399	1409
Unique males	876	871	1023	1043	1057	1052	1044	1145	1244	1059	1079	1011
Unique females	210	238	262	254	275	289	291	312	326	247	273	226

Figure 1.5.3.1 Number of individuals attending needle exchange, by gender, 2014
Source: Unpublished data from the HSE, 2016

Merchants Quay Ireland Review, 2014

Merchants Quay Ireland (MQI) is a national voluntary agency providing services for homeless people and for drug users. Its needle exchange health promotion unit provides drug users with information about risks associated with drug use and the means to minimise such risks. It also provides drug users with a pathway into treatment and the possibility of living life without drugs. In September 2015 MQI published its annual review for 2014 (Merchants Quay Ireland 2015).

In 2014, there were 26,400 visits to MQI's Drug Services and 24,266 needle exchanges, which represented a 6% increase on 2013 figures. In total, 3,179 individuals used the service, and of these, 527 were new clients. A total of 1,786 safer injecting workshops were undertaken with injecting drug users.

MQI, in association with the Midland Regional Drugs Task Force and the HSE, administer the Midlands Family Support and Community Harm Reduction Service, providing outreach and working with families of those actively using drugs in this task force region. The harm reduction service worked with 255 clients during 2014, providing 2,454 harm reduction interventions. An average of 217 needle exchanges were provided each month and the service worked closely with the local pharmacy-based needle exchange programme.

2. Trends

2.1 Short term trends in drug-related harms and harm reduction services

a) Trends in drug-induced deaths among adults

The number of drug-induced deaths has fluctuated over the past five years (2010 to 2014), from 174 deaths in 2010 to a peak of 227 deaths in 2011, decreasing slightly to 214 in 2014 (Table 2.1.1).

Table 2.1.1 Trends in poisoning deaths (Filter D) in Ireland, NDRDI, 2010–2014

2010	2011	2012	2013	2014
174	227	185	223	214

Source: NDRDI, 2014

The majority of those who died over the period were male, with a very gradual increase in mean age from 34.5 years in 2009 to 35.5 years in 2014 (also see Section 1.1.1 to Section 1.1.4 above and ST6). Over a 10 year period an increase in mean age is apparent, from 31.7 years in 2004 to 36.3 in 2013.

Given the prevalence of problem opiate use in Ireland, the high risk of mortality associated with opiate use, and in particular injecting opiate use (See Drugs and Treatment workbooks and TDI), it is not surprising that opiates continue to be associated with most poisoning deaths over the period. There was also an increase in heroin seizures reported between 2013 and 2014 which may correlate with the increased number of heroin-related deaths recorded in 2014 (also see Drug Market and Crime workbook, Section 2.1).

Despite the overall number of deaths in 2014 reducing slightly, the number of deaths involving methadone, heroin, cocaine and MDMA have risen. One of the reasons for this could be due the increase in polydrug deaths, which increased from 61% in 2005 to 84.6% in 2014 (T2.1.2). Polydrug use can increase the risk of fatal overdose. In addition, the number of drugs involved in each individual poisoning death has increased over the period, from an average of two drugs involved in 2005 to an average of four drugs involved in 2014 (Table 2.1.2). However, no in depth studies have been conducted to look at trends during this time period.

Table 2.1.2 Trends in polydrug poisoning deaths (Filter D) in Ireland, NDRDI, 2005–2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% Polydrug poisoning deaths	61.0	54.5	56.7	67.0	66.8	70.1	76.7	78.4	76.7	84.6
Mean no. drugs implicated	2.1	2.0	2.0	2.4	2.4	2.6	3.0	3.0	3.2	3.7
Median no. drugs implicated	2	2	2	2	2	2	3	3	3	4

Source: NDRDI, 2014
NDRDI can record up to six drugs implicated in a death.

b) Trends in prevalence and notifications of infectious diseases

i. HIV – as shown in Figure 1.3.1.1, there has been an increase in notifications of recently acquired HIV since 2014. It is possible that this increase may be partly explained by differences in reporting procedures. In addition, there was an HIV outbreak in Dublin among PWID in 2014/15.
ii. HBV – as outlined in Section T1.3.1, there has been a 23% increase in HBV notifications since 2014. This increase is thought to be related to the level of immigration into Ireland. In addition, among the 550 HBV cases notified in 2015, only 2 were injecting drug users (See Table 1.3.1.1).
iii. HCV – as shown in Table 1.3.1.2, there has been a 5% decrease in the number of HCV notifications since 2014. This decrease is indicative of the downward trend in HCV notifications observed since peak numbers were recorded in 2007. The median age at notification has increased steadily since notifications began in 2004, indicating a reduced incidence of HCV in the population.

c) Trends in drug-related acute emergencies

The number of overdose cases admitted to Irish hospitals increased marginally from 4,233 cases in 2013 to 4,256. However, trends over time indicate a decrease in overdose cases admitted to hospitals (Figure 1.2.1.1). See Section 1.2 above for information on drug-related acute emergencies.

d) Number of syringes distributed to injecting drug users

Pharmacy-based needle exchanges completed 38,979 transactions in 2014, distributing 236,700 sets of injecting equipment. A total of 15,747 packs containing 10 sets of injecting equipment and 26,410 packs containing three sets of injecting equipment were distributed. The number of transactions increased, from 2,562 in January 2014 to 3,551 in December, and the number of packs distributed followed a similar trend. Each individual user received an average of 15 sets of injecting equipment per calendar month in 2014. Thirty-one per cent of the injecting equipment provided by pharmacies was returned for disposal. Full details of the pharmacy-based needle exchange programme are provided in Section 1.5.3 above.

3. Sources and references

3.1 Sources

Established in 2005, the **National Drug-Related Death Index (NDRDI)**, which is maintained by the HRB, is an epidemiological database which records cases of death by drugs poisoning, and deaths among drug users in Ireland, extending back to 1998. The NDRDI also records data on alcohol-related poisoning deaths, deaths among those who are alcohol dependent, extending back to 2004.

The **Health Protection Surveillance Centre (HPSC)** is Ireland's specialist agency for the surveillance of communicable diseases. Part of the Health Service Executive (HSE), and originally known as the National Disease Surveillance Centre, the HPSC endeavours to protect and improve the health of the Irish population by collating, interpreting and disseminating data to provide the best

possible information on infectious disease. The HPSC has recorded new cases among injecting drug users of HIV since 1982, hepatitis B (HBV) since 2004, and hepatitis C (HCV) since 2006.

The **HIPE (Hospital In-Patient Enquiry)** is a computer-based health information system, managed by the Economic and Social Research Institute (ESRI) in association with the Department of Health and the HSE. It collects demographic, medical and administrative data on all admissions, discharges and deaths from acute general hospitals in Ireland. It was started on a pilot basis in 1969 and then expanded and developed as a national database of coded discharge summaries from the 1970s onwards. Each HIPE discharge record represents one episode of care; each discharge of a patient, whether from the same or a different hospital, or with the same or a different diagnosis, gives rise to a separate HIPE record. The scheme, therefore, facilitates analyses of hospital activity rather than of the incidence of disease. HIPE does not record information on individuals who attend accident and emergency units but are not admitted as inpatients.

The **National Psychiatric In-Patient Reporting System (NPIRS)**, administered by the Health Research Board (HRB), is a national psychiatric database that provides detailed information on all admissions to and discharges from 56 inpatient psychiatric services in Ireland. It records data on cases receiving inpatient treatment for problem drug and alcohol use. NPIRS does not collect data on the prevalence of psychiatric comorbidity in Ireland. The HRB publishes an annual report on the data collected in NPIRS, entitled *Activities of Irish psychiatric units and hospitals*.

The **National Self-Harm Registry Ireland** is a national system of population monitoring for the occurrence of deliberate self-harm, established at the request of the Department of Health and Children by the National Suicide Research Foundation. Since 2006/07 the Registry has achieved complete national coverage of hospital-treated deliberate self-harm. The Registry defines deliberate self-harm as 'an act with non-fatal outcome in which an individual deliberately initiates a non-habitual behaviour, that without intervention from others will cause self-harm, or deliberately ingests a substance in excess of the prescribed or generally recognised therapeutic dosage, and which is aimed at realising changes that the person desires via the actual or expected physical consequences'. All methods of deliberate self-harm are recorded in the Registry, including drug overdoses and alcohol overdoses, where it is clear that the self-harm was intentionally inflicted. All individuals who are alive on admission to hospital following a deliberate act of self-harm are included. Not considered deliberate self-harm are accidental overdoses, e.g. an individual who takes additional medication in the case of illness, without any intention to self-harm; alcohol overdoses alone, where the intention was not to self-harm; accidental overdoses of street drugs (drugs used for recreational purposes), without the intention to self-harm; and individuals who are dead on arrival at hospital as a result of suicide.

Annual reports for maternity hospitals and for voluntary agencies such as Merchants Quay Ireland.

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European Monitoring Centre for Drugs and Drug Addiction

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) is a decentralised EU agency based in Lisbon. The EMCDDA provides the EU and its Member States with information on the nature, extent, consequences and responses to illicit drug use. It supplies the evidence base to support policy formation on drugs and addiction in both the European Union and Member States.

There are 30 National Focal Points that act as monitoring centres for the EMCDDA. These focal points gather and analyse country data according to common data-collection standards and tools and supply these data to the EMCDDA. The results of this national monitoring process are supplied to the Centre for analysis, from which it produces the annual *European drug report* and other outputs.

The Irish Focal Point to the EMCDDA is based in the Health Research Board. The focal point writes and submits a series of textual reports, data on the five epidemiological indicators and supply indicators in the form of standard tables and structured questionnaires on response-related issues such as prevention and social reintegration. The focal point is also responsible for implementing Council Decision 2005/387/JHA on the information exchange, risk assessment and control of new psychoactive substances.

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Irish Prison Service
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