

# Drug-related deaths and deaths among drug users in Ireland



2013 figures from the  
National Drug-Related Deaths Index

December 2015

## Summary of 2013 results

This update presents figures from the National Drug-Related Deaths Index (NDRDI) on deaths due to poisoning by alcohol and/or other drugs, and deaths among drug users, in the period 2004–2013. The figures in this update supersede all previously published figures.<sup>a</sup>

### Overview

- In the ten-year period 2004–2013 a total of 6,002 deaths by drug poisoning and deaths among drug users met the criteria for inclusion in the NDRDI database. Of these deaths, 3,519 were due to poisoning and 2,483 were deaths among drug users (non-poisoning) (Table 1).
- The annual number of deaths in 2013 increased to 679, compared to 658 in 2012. The 2013 figure is likely to be revised upwards when new data become available (Table 1).
- Median age for all deaths in 2013 was 41 years and 491 (72%) of all deaths were male.

### Poisoning deaths in 2013

- The annual number of poisoning deaths increased from 361 in 2012 to 387 in 2013 (Table 1).
- Males have accounted for the majority of deaths in each year since 2004; 68% of all poisoning deaths in 2013 were male (Figure 1).
- The median age of those who died in 2013 was 41 years, slightly older to previous years (Table 2).
- Polydrugs accounted 60% of poisoning deaths (Figure 3).
- Alcohol was involved in 35% of poisoning deaths, more than any other specific drug (Table 5). Alcohol alone was responsible for 15% of poisoning deaths.
- Methadone was implicated in a quarter of poisonings (93, 24%).
- There were 86 deaths where heroin was implicated (22% of all poisoning deaths). This is the first time since 2009 that the number of heroin-related deaths has increased (Table 6).
  - Over two fifths (42%) of people who died of deaths where heroin (injecting or smoking) was implicated were not alone at the time they took the drug, therefore there may have been an opportunity to prevent deaths
  - Half (49%) of those who died from a heroin-related death were known to be injecting at the time of their death
  - Three in 5 (62%) of deaths in 2013, where heroin was injected, occurred in a private dwelling.
- The number of deaths where benzodiazepines were implicated increased by 24%, to 160 in 2013 compared to 129 in 2012. Two fifths (41%) of poisonings in 2013 involved benzodiazepines (Table 7).
- Deaths where new psychoactive substances (NPS) were implicated increased to 15 deaths compared to seven deaths in 2012 (Table 3). The majority (80%) of these deaths involved polydrugs.
- Over two fifths (43%) of those who died owing to poisoning had a history of mental health illness.

### Focus on polydrug poisonings

- Almost two thirds (60%) of poisoning deaths in 2013 involved polydrugs (Figure 3).
- Deaths due to polydrugs have increased by 98% over the reporting period, from 118 in 2004 to 234 in 2013 (Figure 3).
  - 57% of deaths where alcohol was implicated involved other drugs (polydrug poisonings), mainly benzodiazepines (Table 5).
  - 94% of deaths where methadone was implicated involved other drugs; mainly benzodiazepines.
  - 72% of deaths where heroin was implicated involved other drugs, mainly benzodiazepines (Table 7).
- The majority (80%) of deaths where NPS were implicated involved polydrugs. The other main drugs involved in these poisoning deaths were cocaine, MDMA and benzodiazepines.

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<sup>a</sup> Please note that previously reported figures for the years 2004–2012 have been updated to include new data. Similarly, figures for 2013 will be revised in the future when new data become available.

## Non-poisoning deaths in 2013

- The number of non-poisoning deaths recorded among drug users decreased slightly to 292, compared to 295 in 2012 (Table 1). These deaths are categorised as being due to either trauma (n = 129) or to medical causes (n = 163).
- Almost two fifths (38%) had a history of mental health illness (Figure 5).
- Males accounted for 77% of all non-poisoning deaths in 2013.

## Main causes of non-poisoning deaths in 2013

- Death due to hanging accounted for 25% (n = 74) of all non-poisoning deaths (Figure 6).
  - More than half (44, 59%) of deaths due to hanging in 2013 had a history of mental health illness.
- The most common medical cause of death in 2013 was deaths due to cardiac events, accounting for almost a fifth (52, 18%) of all non-poisoning deaths (Figure 6).
- A younger cohort died from traumatic causes (median age of 34 years) in comparison to deaths due to medical causes (median age of 47 years).

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## Glossary

**Drug users:** Individuals who have a history of drug dependency or of non-dependent abuse of drugs and/or other drugs

**Non-poisoning deaths:** Deaths in individuals with a history of drug dependency or non-dependent abuse of drugs (ascertained from toxicology results and from Central Treatment List, medical or coronial records) whether or not the use of the drug was directly implicated in the death

**Poisoning deaths:** Deaths which are directly due to the toxic effect of the presence in the body of one or more drugs and/or other drug(s)

**Other prescription drugs:** include non-benzodiazepine sedatives such as Z drugs (esp. Zopiclone), antipsychotics, antiepileptic, anxiety drugs and other prescription drugs.

## Introduction

The Irish National Drug-Related Deaths Index (NDRDI) is an epidemiological database which records cases of death by drug and/or alcohol poisoning, and deaths among drug users and those who are alcohol dependent. The NDRDI is maintained by the Health Research Board (HRB). It is jointly funded by the Department of Health and the Department of Justice and Equality.

The NDRDI was established in September 2005 to comply with Action 67 of the 2001–2008 National Drugs Strategy.<sup>1</sup> Prior to that, drug-related deaths and deaths among drug users had not been systematically documented in Ireland. Families of drug users in Dublin, through the National Family Support Network (which supports the development of family support groups and networks in Ireland in dealing with the problem of drug misuse; [www.fsn.ie](http://www.fsn.ie)) had advocated for some years for the development of a mechanism to accurately measure the extent of premature death among drug users. In response to this, Action 67 called for the development of a system for recording drug-related deaths and deaths among drug users to enable the State and its agencies to respond in a timely manner, with accurate data. The objectives of the NDRDI also include identifying and prioritising areas for intervention and prevention, and measuring the effects of such interventions. The remit of the NDRDI was further expanded in January 2006 to include alcohol-related deaths and deaths of people who were alcohol dependent.

The number of drug-related deaths and deaths among drug users is one of the key indicators used to measure the consequences of problem drug use in Europe. The NDRDI enables accurate reporting of these key data to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA).

The NDRDI records data from four sources: the Coroner Service, the Hospital In-Patient Enquiry scheme (HIPE), the Central Treatment List (CTL), the General Mortality Register (GMR) via the Central Statistics Office (CSO) in order to ensure that the database is complete and accurate. Cases from the different data sources are cross-matched on a selection of variables, including name, gender, county of residence, date of birth, and date of death. This allows the NDRDI to eliminate duplicates and to maximise the amount of information available on each case recorded on the database. Named data were not available from the GMR for the years 2004 and 2005; to avoid duplication and over-estimation of the number of cases, GMR cases with no match in the other three data sources were not included in the NDRDI for those two years. More detailed information on the methodology can be found in the previously published HRB Trends Series papers.<sup>2-4</sup>

## Background

Drug use can lead to premature death from a range of different causes.<sup>5</sup> Many deaths are caused by poisoning (both intentional and unintentional), where the death is directly attributable to the consumption of drugs (alone or in combination with other drugs). For the purposes of this paper, this type of directly drug-related death is referred to as a **poisoning**.

Deaths among drug users (whether the user is dependent or non-dependent) may be indirectly attributed to their drug use. For the purpose of this paper, this type of indirectly drug-related death is referred to as a **non-poisoning**. Causes of death in such cases include:

- infection with HIV as a result of sharing drug paraphernalia, and subsequent development of an AIDS-related illness;
- the harmful effects of drug use (both short and long term) on the health of the drug user, such as the cardio-toxic effect of cocaine or drug-related liver disease;<sup>6-9</sup>
- actions taken while under the influence of drugs, such as accidents caused by impaired judgement or exacerbation of risky behaviours;<sup>5,6</sup>
- psychiatric illness as a co-morbid condition, which places the individual at a greater risk of suicide.<sup>5,10-12</sup>

In line with international practice, deaths that are the result of the drug use of another individual, such as a road traffic collision or an assault, are not recorded by the NDRDI.

Alcohol consumption has been reported as the third most detrimental risk factor for ill health and premature death in Europe.<sup>13</sup> The NDRDI has retrospectively recorded data from 2004 onwards on alcohol-related deaths and deaths among those who were alcohol dependent. Poisoning deaths due to alcohol-only (collected retrospectively from 2004) have been included in the web-updates of 2009 data onwards, therefore data reported since then differ to previous NDRDI reports on poisoning deaths. This update however does not include data on non-poisoning deaths in individuals who had a history of alcohol dependency *only*.

Most cases of drug misuse or dependence involve illicit drugs; however, licit drugs also may be misused and may lead to dependency. Deaths in which licit drugs are implicated are included in the NDRDI. A documented history of drug dependence or drug use is not available in all cases, leading to an under recording of the total number of non-poisoning deaths in the drug-using population. Calculation of mortality figures for both poisonings and non-poisonings provides an estimate of the total burden of mortality related to drug use in Ireland.

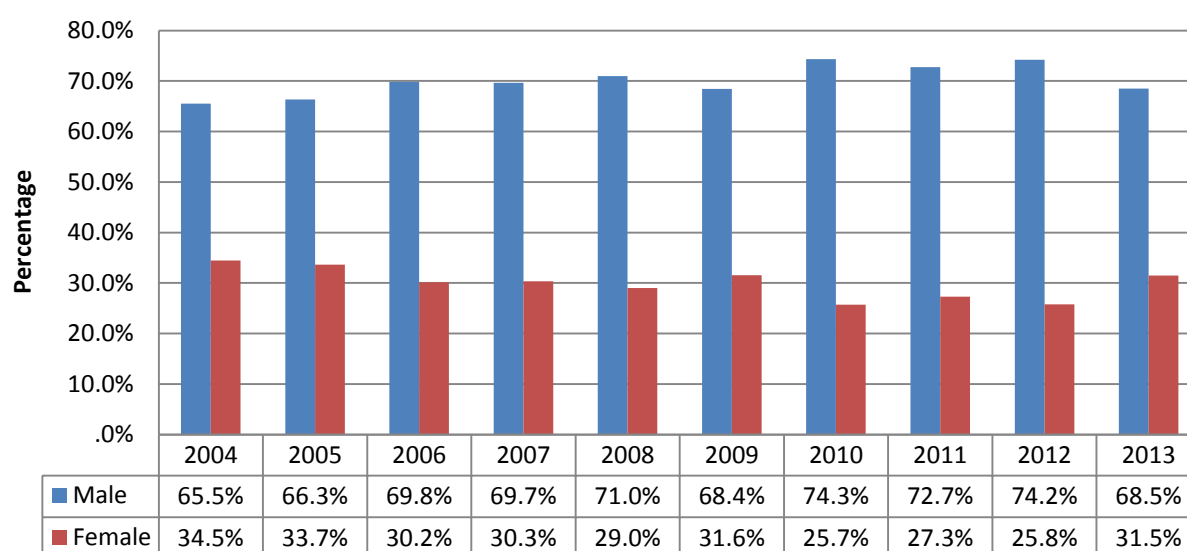
## Results

Between 2004 and 2013, 6,002 deaths by drug and alcohol poisoning and deaths among drug users met the criteria for inclusion in the NDRDI. **Please note** that previously reported figures for the years 2004–2012 have been updated to include new data. Similarly, figures for 2013 will be revised in the future when new data become available. The NDRDI submits an annual report to the EMCDDA on a subset of the data on poisoning deaths which differ to the data in this report. For further details see the national report; [http://www.drugsandalcohol.ie/php/annual\\_report.php](http://www.drugsandalcohol.ie/php/annual_report.php)

**Table 1 Number of deaths, by year, NDRDI 2004 to 2013 (N=6,002)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All deaths	432	505	554	622	628	658	609	657	658	679
Poisonings (3,519)	267	300	325	389	386	374	342	388	361	387
Non-poisonings (2,483)	165	205	229	233	242	284	267	269	297	292

### Poisoning deaths

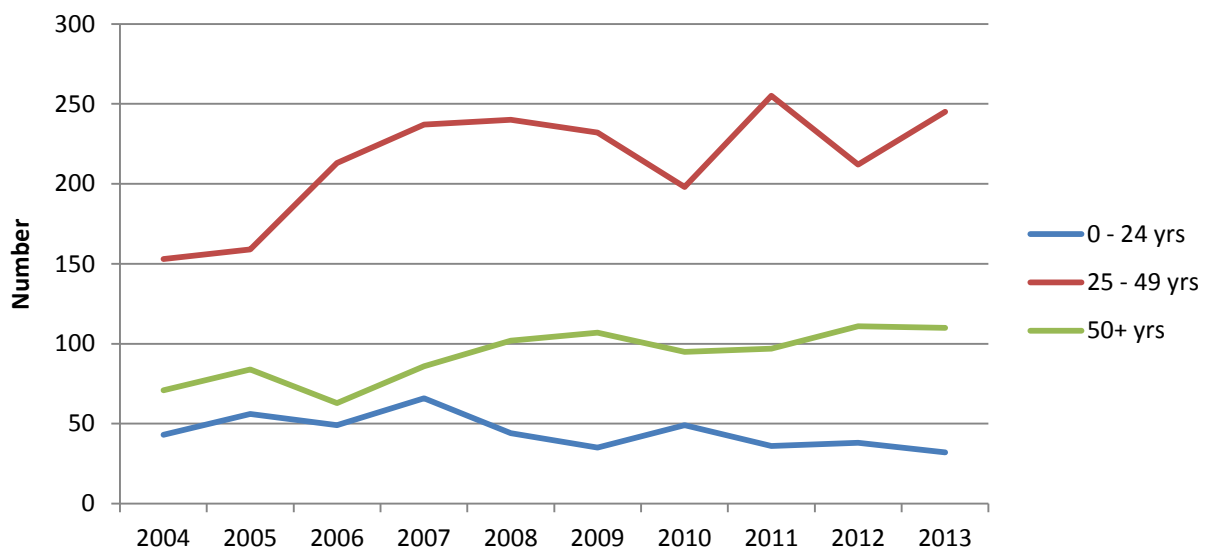


**Figure 1 Percentage poisoning deaths, by gender and by year of death, NDRDI 2004 to 2013 (N=3,519)**

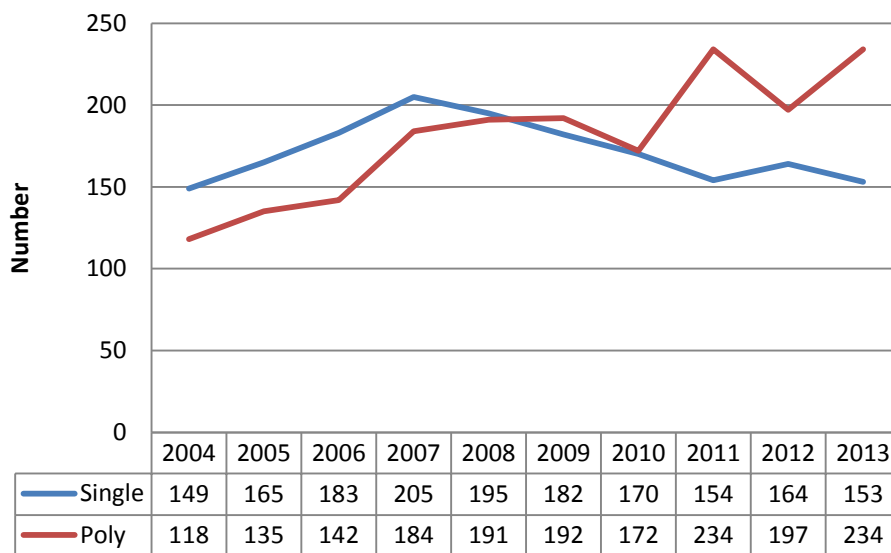
**Table 2 Poisoning deaths, by median age and by gender, NDRDI 2004 to 2013 (N=3,519)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Median age in years	40	39	36	36	38	38	40	39	40	41
Age range*	20-68	18-65	20-64	19-67	21-65	22-67	21-67	22-65	22-67	23-67
Median age-male	36	36	35	34	36	36	37	38	38	38
Median age-female	47	46	43	42	46	47	49	45	48	46

\*Age range presented is the 5th to the 95th percentile (90% of cases are included within this range)



**Figure 2 Poisoning deaths, by age band, by year NDRDI 2004 to 2013 (N=3,519)**



**Figure 3 Single and polydrug poisoning deaths, NDRDI 2004 to 2013 (N=3,519)**

**Table 3 Multi response drug groups, NDRDI 2004 to 2013 (N=3,519)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	% Total
<b>All poisoning deaths</b>	267	300	325	389	386	374	342	388	361	387	100
Opiates <sup>†</sup>	131	159	182	189	218	236	191	265	227	249	58.2
Benzodiazepines	77	79	116	124	123	134	132	254	175	234	41.1
Alcohol	125	116	112	174	155	143	154	147	130	137	39.6
Antidepressants	54	53	43	48	87	67	67	100	90	120	20.7
Other prescription medications <sup>§</sup>	43	41	41	63	62	60	77	94	103	139	20.5
Stimulants (excluding NPS) <sup>¶</sup>	32	46	62	85	68	56	22	35	38	43	13.8
Non-opiate analgesics	13	23	11	19	18	16	15	21	23	30	5.4
New Psychoactive Substances (NPS)	~	~	~	~	~	5	6	8	8	28	1.6
<i>(Individual NPS deaths)</i>	<i>(~)</i>	<i>(~)</i>	<i>(~)</i>	<i>(~)</i>	<i>(~)</i>	<i>(5)</i>	<i>(6)</i>	<i>(5)</i>	<i>(7)</i>	<i>(15)</i>	<i>(1.1)</i>
Others/Unknown <sup>‡</sup>	8	23	21	24	31	44	31	31	29	34	7.8

\*This is a multi-response table taking account of illicit use of up to six drugs. Therefore numbers and percentages in columns may not add up to totals shown as individual cases may use more than one drug.

† Includes heroin, methadone, morphine, codeine, unspecified opiate-type drug, other opiate analgesic.

§ Includes non-benzodiazepine sedatives, anti-psychotics, Z drugs, barbiturates, cardiac and all other types of prescription medication.

¶ Includes cocaine and MDMA.

‡ includes solvents, insecticides, herbicides, other amphetamines, hallucinogens, cannabis, and other chemicals.

~ Less than five cases.

Of the 203 individual deaths in 2013 in which opiates were implicated, 93 deaths (46%) were not alone at the time of the incident. Forty six deaths had two types of opiates implicated. This accounts for the total count of 249 for all opiates in the multi-response table (Table 3).

In 2009, once laboratory standards became available, new psychoactive substances (NPS) began to appear in drug-related deaths. The number of deaths increased from five deaths involving NPS in 2009 to 15 deaths involving NPS in 2013 (Table 3). The majority of these deaths involved polydrugs. The other main drugs involved in these poisoning deaths were cocaine, MDMA and benzodiazepines.

**Table 4 Main specific drugs involved in poisoning deaths, NDRDI 2004 to 2013 (N=3,519)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	% Total
All deaths*	267	300	325	389	386	374	342	388	361	387	100
Alcohol	125	116	112	174	155	143	154	147	130	137	39.6
Heroin	29	47	67	80	91	115	73	66	64	86	20.4
Methadone	40	43	60	57	80	69	60	119	89	93	20.2
Diazepam	31	41	64	62	65	80	68	135	92	111	21.3
Flurazepam	18	13	23	21	20	24	28	50	29	40	6.4
Cocaine	19	36	54	66	61	53	21	24	26	31	11.1
MDMA	13	10	8	19	7	~	~	11	12	12	2.7
Citalopram	14	13	8	13	20	20	20	33	16	22	5.1
Zopiclone	5	~	7	6	10	12	18	22	23	51	4.4

\*This is a multi-response table taking account of illicit use of up to six drugs. Therefore numbers and percentages in columns may not add up to totals shown as individual cases may use more than one drug.

~ Less than five cases.

Ninety four percent of deaths where methadone was implicated involved other drugs (87/93, 94%), mainly benzodiazepines.

**Table 5 Individual deaths involving alcohol and other drugs implicated, NDRDI 2004 to 2013 (N=1,393)**

	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 alcohol was implicated (% of all poisonings)	125 (46.8)	116 (38.7)	112 (34.5)	174 (44.7)	155 (40.2)	143 (38.2)	154 (45.0)	147 (37.9)	130 (36.0)	137 (35.4)
All individual deaths involving alcohol	125	116	112	174	155	143	154	147	130	137
Single (%)	61 (48.8)	51 (44.0)	56 (50.0)	85 (48.9)	81 (52.3)	61 (42.7)	79 (51.3)	65 (44.2)	76 (58.5)	59 (43.1)
Poly drugs involved (%)	64 (51.2)	65 (56.0)	56 (50.0)	89 (51.1)	74 (47.7)	82 (57.3)	75 (48.7)	82 (55.8)	54 (41.5)	78 (56.9)
<b>Main drugs implicated with alcohol*</b>										
Benzodiazepines	32	37	41	54	51	55	54	83	46	65
Opiates	31	47	28	47	42	54	47	56	39	38
Antidepressants	19	14	12	15	25	16	16	19	18	36
Other prescription meds	15	5	9	13	13	13	16	23	16	29

\*This is multi-response analysis taking account of illicit use of up to six drugs. Therefore numbers and percentages in columns may not add up to totals shown as individual cases may use more than one drug.



**Table 6 Individual deaths involving heroin and other drugs implicated, NDRDI 2004 to 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)
Poly drugs 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	30	44	41	43	51	39	35	28	42
<i>Of whom died in private dwelling</i>	10	15	20	19	28	32	26	30	17	26
<b>Main drugs implicated with heroin*</b>										
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

\*This is multi-response analysis taking account of illicit use of up to six drugs. Therefore numbers and percentages in columns may not add up to totals shown as individual cases may use more than one drug.

~ Less than five cases.

Of the 160 individual deaths in 2013 in which benzodiazepines were implicated, 61 deaths involved two or more types of benzodiazepine (Table 7). However, the total count for all benzodiazepines in the multi-response table is equal to 234 (Table 4).

**Table 7 Total number of deaths where any benzodiazepine and other drugs implicated, NDRDI 2004 to 2013 (N=1,100)**

	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 BZD implicated (% of all poisonings)	64 (24)	65 (21.7)	91 (28)	97 (24.9)	103 (26.7)	113 (30.2)	105 (30.7)	173 (44.6)	129 (35.7)	160 (41.3)
All individual deaths involving benzodiazepines (BZD)	64	65	91	97	103	113	105	173	129	160
Poly drugs involved	61	64	88	95	103	112	105	170	127	158
<i>More than one BZD implicated</i>	13	11	21	22	18	21	25	70	41	61
<b>Main drugs implicated with BZDs*</b>										
Opiates:	48	56	76	67	89	103	87	175	139	159
<i>methadone</i>	21	18	33	27	36	41	34	85	61	70
<i>heroin</i>	6	15	21	27	33	40	23	44	44	47
Alcohol	28	25	29	40	38	30	36	69	54	83
Antidepressants	27	17	22	18	38	30	35	60	45	76

\*This is multi-response analysis taking account of illicit use of up to six drugs. Therefore numbers and percentages in columns may not add up to totals shown as individual cases may use more than one drug.

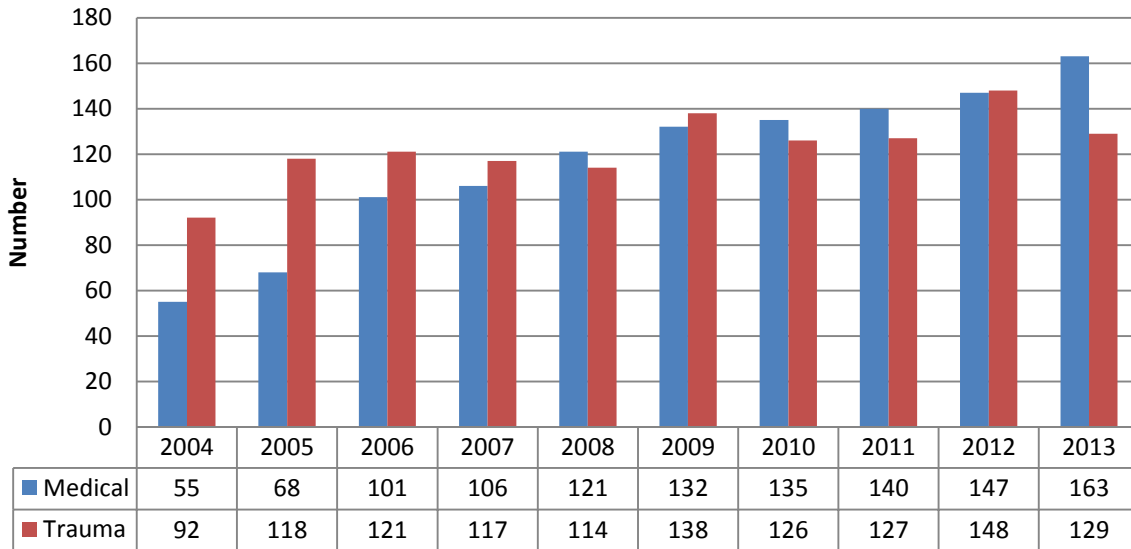
**Table 8 Poisoning deaths, by drugs and alcohol task force area where deceased resided, NDRDI 2004 to 2013 (N=3,519)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
North Eastern RDATEF	18	20	23	28	29	22	23	44	30	45
Mid West RDATEF	15	18	13	18	19	37	30	25	19	32
South East RDATEF	26	23	22	40	40	33	37	34	44	30
Midlands RDATEF	12	15	17	17	21	26	19	26	15	26
Western RDATEF	17	19	17	33	23	23	21	19	17	25
Cork LDATEF	14	12	20	27	13	19	14	10	26	23
North Dublin City and County RDATEF	10	14	12	15	12	20	20	20	13	22
North West RDATEF	14	13	10	8	13	17	7	11	21	21
North Inner City LDATEF	14	18	13	14	24	19	21	30	20	19
Finglas-Cabra LDATEF	~	9	6	6	12	10	7	6	10	18
Southern RDATEF	19	22	22	31	31	24	19	37	27	17
South Western RDATEF	11	14	17	19	23	19	24	25	18	15
Dun Laoghaire-Rathdown LDATEF	16	13	16	17	14	13	19	6	11	13
Clondalkin LDATEF	9	10	6	~	9	6	6	5	6	13
Dublin North East LDATEF	9	10	25	19	16	10	7	10	15	12
Tallaght LDATEF	7	7	9	5	8	15	11	9	14	9
Dublin South Inner City LDATEF	7	8	19	21	13	13	11	20	13	8
Ballymun LDATEF	8	6	10	5	7	10	5	6	~	6
Dublin 12 LDATEF	11	6	~	9	11	~	~	~	~	6
Blanchardstown LDATEF	~	5	5	~	5	~	~	6	~	5
Canal Communities LDATEF	~	~	~	~	~	~	~	~	~	5
Bray LDATEF	~	~	~	~	~	~	~	~	5	5
Ballyfermot LDATEF	5	~	7	6	7	~	~	~	~	~
East Coast RDATEF	6	19	11	10	11	~	12	8	~	~
Other/unknown	8	11	19	30	19	18	13	18	16	9

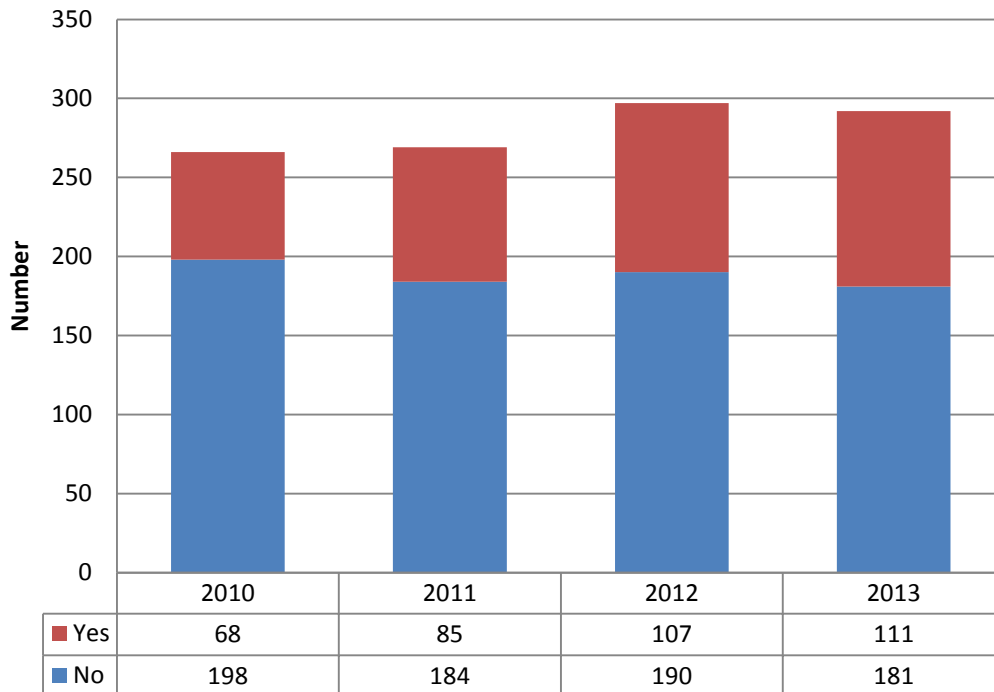
~ Less than five cases.

## Non-poisoning deaths

Of the 2,483 non-poisoning deaths in the period 2004–2013, the category of death was known for 2,398 (97%), of which 1,230 were due to traumatic causes and 1,168 were due to medical causes. These figures do not include deaths among alcohol-dependent people who were not drug users.



**Figure 4 Non-poisoning deaths among drug users, NDRDI 2004 to 2013 (N=2,398)**



**Figure 5 Non-Poisoning deaths among drug users, by history of mental health illness, NDRDI 2010 to 2013 (N=1,124)**

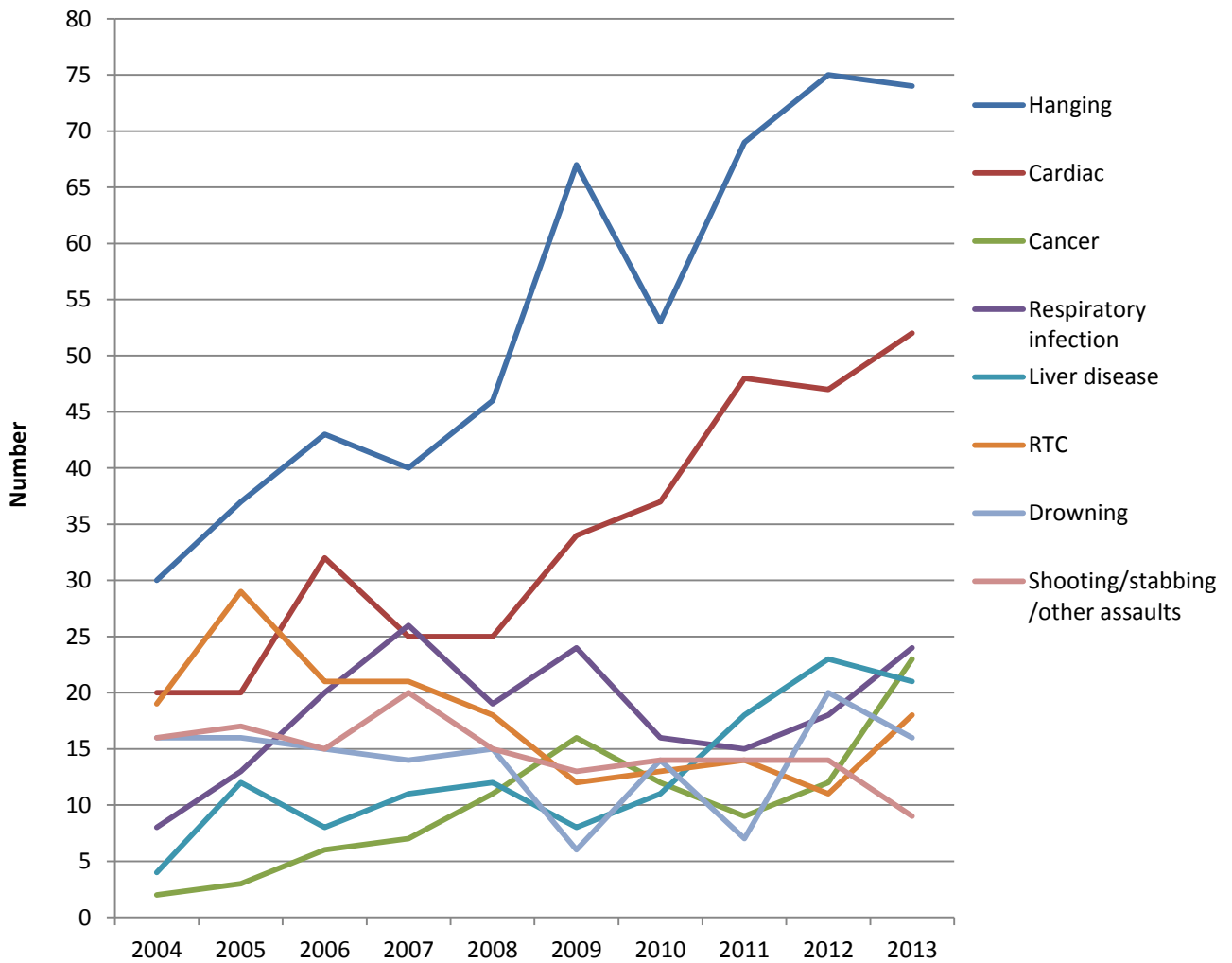


Figure 6 Non-Poisoning deaths among drug users, by main type of death, NDRDI 2004 to 2013 (N=1,748)

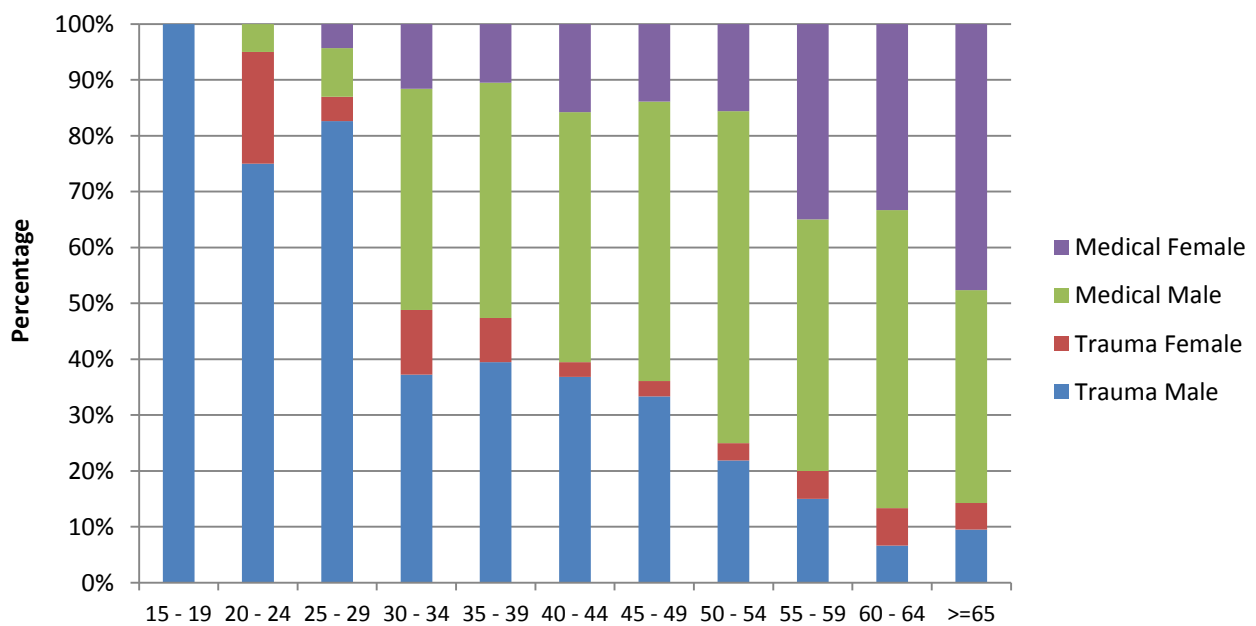


Figure 7 Non-Poisoning deaths among drug users, by age group, by gender, NDRDI 2013 only (N=292)

**Table 9 Non-Poisoning deaths by drugs and alcohol task force area where deceased resided, NDRDI 2004 to 2013 (N=2,483)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Dun Laoghaire-Rathdown LDATF	5	12	11	6	8	9	11	6	13	27
Tallaght LDATF	~	7	6	~	6	13	7	15	6	20
Dublin South Inner City LDATF	13	13	10	14	17	19	18	18	24	19
North Inner City LDATF	18	17	24	21	20	22	26	18	14	18
Cork LDATF	6	9	10	11	7	25	18	10	16	18
North Dublin City and County RDATF	7	~	7	7	8	12	8	13	14	18
South Western RDATF	10	~	11	12	5	8	8	22	19	17
Southern RDATF	6	10	13	16	15	11	25	20	16	15
Western RDATF	6	6	10	5	6	15	8	~	11	15
South East RDATF	8	12	12	12	20	14	14	17	28	15
Dublin North East LDATF	7	11	10	8	13	7	10	10	15	14
Mid West RDATF	11	11	5	15	16	14	12	17	13	14
Midlands RDATF	~	~	10	~	9	10	16	11	9	13
North Eastern RDATF	11	16	11	14	13	16	16	21	25	12
North West RDATF	~	9	5	8	10	6	~	6	5	10
Finglas-Cabra LDATF	5	10	13	18	15	19	14	6	12	9
Clondalkin LDATF	~	9	8	~	7	7	~	9	12	8
Canal Communities LDATF	~	~	~	~	~	5	~	~	8	7
Dublin 12 LDATF	6	11	6	7	10	5	6	11	8	6
Blanchardstown LDATF	7	~	~	~	~	~	~	~	5	~
Ballyfermot LDATF	8	~	5	12	5	12	10	5	7	~
Bray LDATF	~	5	~	~	~	~	~	~	~	~
East Coast RDATF	~	~	9	5	~	5	7	~	6	~
Ballymun LDATF	~	~	~	5	~	6	~	6	~	~
Other/unknown	10	14	22	20	20	17	14	11	8	~

~ Less than five cases.

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