National Drug-Related Deaths Index
2004 to 2015 data

Health Research Board

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Overview

This update presents figures from the National Drug-Related Deaths Index (NDRDI) on deaths due to poisoning (overdose) by alcohol and/or other drugs, and deaths among drug users (non-poisoning), in the period 2004–2015.

In the twelve-year period 2004–2015 there were a total of 7,422 drug-related deaths:

- 4,222 (57%) were due to poisoning
- 3,200 (43%) were non-poisoning.

In 2015, there were 695 deaths (poisoning and non-poisoning combined), marginally lower than the number reported in 2014 (n=719):

- Median age for all deaths in 2015 was 41 years and 72% (n=503) of all deaths were male
- There were approximately **20,000 of potential life years lost** because of drug-related deaths in 2015.

Drug-related deaths in 2015 among **Injectors**:

- 8% of all deaths were among injectors
- 52% of injectors died in Dublin City.

Poisoning deaths in 2015
The annual number of poisoning deaths decreased by 4%, from 364 in 2014 to 348 in 2015. Almost two thirds of poisoning deaths involved **polydrugs**, with an average of four different drugs involved. Benzodiazepines were the most common drug group implicated in polydrug deaths.

Prescription drugs were implicated in two out of three poisoning deaths:

- Diazepam (a benzodiazepine) was the most common single prescription drug, implicated in almost one third (101, 29%) of all poisonings
- Methadone was implicated in a quarter of poisonings (86, 25%)
- Pregabalin-related deaths (an anti-epileptic drug which is also prescribed for chronic pain and for some anxiety conditions) increased by 69%, from 26 deaths in 2014 to 44 in 2015.

The number of deaths where the **illicit drug** cocaine was implicated increased by 110% since 2010:

- Cocaine-related deaths have been increasing since 2010 with 44 deaths reported in 2015 compared to 21 in 2010.

Alcohol was implicated in 107 deaths (31% of all poisonings):

- Alcohol alone was responsible for 14% (n=47) of all poisoning deaths in 2015.

Non-poisoning deaths in 2015
The number of non-poisoning deaths deceased by 2%, from 355 in 2014 to 347 in 2015. The main causes of non-poisoning deaths were hanging (83, 24%) and cardiac events (55, 16%):

- Of those who died as a result of hanging, over a half (59%) had a history of mental health problems.

Trends 2004 to 2015

In the twelve year period 2004–2015 a total of 7,422 poisoning deaths and deaths among drug users met the criteria for inclusion in the NDRDI database. The number of deaths increased by 61% during this period, from 431 in 2004 to 695 in 2015.

The figures in this update supersede all previously published figures. The 2015 figure of 695 deaths (Table 1) is likely to be revised upwards when new data becomes available from closed inquest files.

Table 1 Number of deaths, by year, NDRDI 2004 to 2015 (N = 7,422)												
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
All deaths (total)	431	503	554	620	628	656	607	645	660	704	719	695
Poisonings (4,222)	266	301	326	387	386	372	339	377	356	400	364	348
Poisonings male	*175*	*199*	*228*	*270*	*274*	*254*	*251*	*274*	*264*	*273*	*263*	*230*
Poisonings female	*91*	*102*	*98*	*117*	*112*	*118*	*88*	*103*	*92*	*127*	*101*	*118*
Median age	40	39	36	36	38	38	40	39	40	41	39	41
Non-poisonings (3,200)	165	202	228	233	242	284	268	268	304	304	355	347
Non-poisonings male	*153*	*176*	*192*	*177*	*196*	*212*	*207*	*218*	*233*	*236*	*278*	*273*
Non-poisonings female	*12*	*26*	*36*	*56*	*46*	*72*	*61*	*50*	*71*	*68*	*77*	*74*
Median age trauma	27	27	27	28	28	30	32	30	31	34	33	34
Median age medical	38	38	43	42	42	40	44	45	46	47	47	49

Deaths among injectors

People who were injecting at the time of the incident that lead to their death represented 8% of all drug-related deaths in 2015 (Table 2). Of these deaths:

- 93% were male
- 89% were poisoning deaths
- 52% died in Dublin City
- 94% of the poisoning deaths involved opiates.

Of those injectors who died in 2015 of a poisoning death which involved **opiates**:

- 40% were not alone at the time of the incident that led to their death
- 20% injected in a public place
- 27% involved a single opiate type drug.

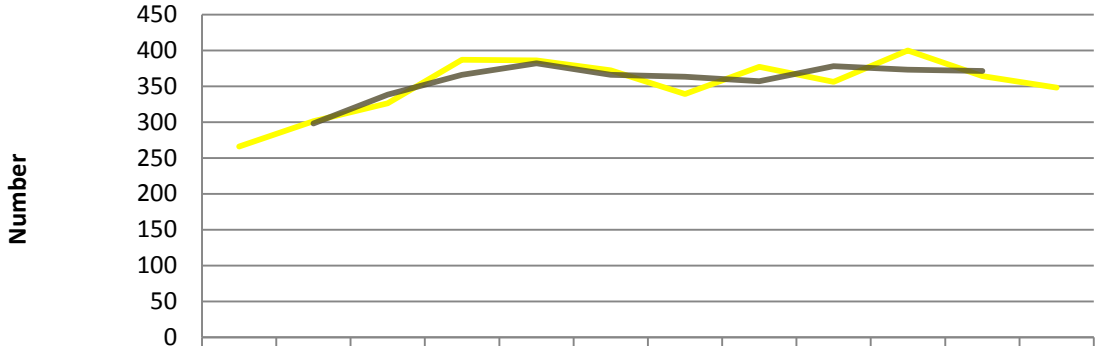
Table 2 Individual deaths among injectors, NDRDI 2004 to 2015 (N = 628)												
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
All NDRDI deaths	431	503	554	620	628	656	607	645	660	704	719	695
Injectors at time of death (% of **all** deaths)	**34 (7.9)**	**49 (9.7)**	**61 (11.0)**	**55 (8.9)**	**67 (10.7)**	**69 (10.5)**	**50 (8.2)**	**47 (7.3)**	**37 (5.6)**	**49 (7.0)**	**56 (7.8)**	**54 (7.8)**
All injector deaths	**34**	**49**	**61**	**55**	**67**	**69**	**50**	**47**	**37**	**49**	**56**	**54**
Male	*31*	*43*	*55*	*40*	*47*	*58*	*45*	*41*	*32*	*42*	*49*	*50*
Female	~	*6*	*6*	*15*	*20*	*11*	*5*	*6*	*5*	*7*	*7*	~
Place of incident*												
Dublin City	*	*	*	*	*	*	*	*	21	28	29	28
Outside of Dublin City	*	*	*	*	*	*	*	*	16	21	27	26
Type of death												
Poisoning	31	42	56	52	54	56	44	42	35	47	52	48
Non-poisoning	~	7	5	~	13	13	6	5	~	~	~	6
All poisoning deaths	**266**	**301**	**326**	**387**	**386**	**372**	**339**	**377**	**356**	**400**	**364**	**348**
Poisoning deaths involving injectors (% of all poisoning deaths)	31 (11.7)	42 (14.9)	56 (17.2)	52 (13.4)	54 (14.0)	56 (15.1)	44 (13.0)	42 (11.1)	35 (9.8)	47 (11.8)	52 (14.3)	48 (13.8)
Poisoning deaths among injectors involving Opiates *of whom:*	**30**	**39**	**50**	**48**	**51**	**54**	**41**	**39**	**32**	**46**	**50**	**45**
deceased was not alone	9	23	24	24	29	32	20	17	17	17	23	18
deceased was in a public place	8	10	17	13	7	12	7	5	5	7	18	9
death was caused by a single opiate drug	19	12	24	15	13	22	20	12	6	15	14	12

~ Less than five deaths. *NDRDI commenced collecting data on place of incident that led to death from 2012 onwards.

Poisoning deaths in 2015

The annual number of poisoning deaths decreased from 364 in 2014 to 348 in 2015 (Table 1). Males have accounted for the majority of deaths in each year since 2004; 66% of all poisoning deaths in 2015 were male. The median age of those who died in 2015 was 41 years, similar to previous years.

As the number of deaths fluctuate year on year, Figure 1 shows the three year moving averages. These are likely to provide a better guide to the long-term trend than the change between any two individual years. After an increase from 2004 to 2008 the average number of deaths has plateaued.



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Poisoning (4,222)	266	301	326	387	386	372	339	377	356	400	364	348
Poisoning 3 year moving average		298	338	366	382	366	363	357	378	373	371	

Figure 1 Poisoning deaths, three year moving averages, NDRDI 2004 to 2015 (N = 4,222)

Opiates were the main drug group implicated in poisoning deaths in Ireland in 2015 (Table 3):

- Methadone was implicated in a quarter (86, 25%) of poisonings (Table 4)
- Number of deaths where heroin was implicated decreased from 94 in 2014 to 82 in 2015
- Fentanyl was implicated in 7 poisoning deaths.

Prescription drugs were implicated in 67% (n=232) of all poisoning deaths in 2015. Table 3 shows the most common drug groups while Table 4 shows the most common individual drugs implicated in poisoning deaths:

- Benzodiazepines were the most common **prescription** drug group implicated
- Diazepam (a benzodiazepine) was the most common single prescription drug, implicated in 101 (29%) of all poisoning deaths
- Pregabalin-related deaths increased by 69% from 26 in 2014 to 44 in 2015.

Overall, the number of deaths where **illicit** drugs were implicated decreased in 2015 (Tables 3 and 4):

- Cocaine-related deaths continue to increase year on year since 2010, from 21 in 2010 to 44 in 2015
- MDMA-related deaths decreased from 15 deaths in 2014 to 8 deaths in 2015
- Individual deaths where new psychoactive substances (NPS) were implicated decreased from 14 in 2014 to 7 in 2015.

Alcohol was the single most common drug implicated over the reporting period and was implicated in 31% of all poisoning deaths in 2015 (Table 3 and 4):

- The number of deaths involving alcohol has decreased from 117 in 2014 to 107 in 2015
- Alcohol alone was responsible for 14% of all poisoning deaths in 2015.

Table 3 Multi-response: Poisoning deaths categorised by drug group, NDRDI 2004 to 2015 (N = 4,222)												
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
All poisoning deaths*	266	301	326	387	386	372	339	377	356	400	364	348
Opiates†	131	159	183	191	219	236	190	260	223	253	260	252
Benzodiazepines	77	79	116	123	123	136	129	251	174	238	235	211
Alcohol	125	116	113	172	155	143	151	142	129	143	117	107
Antidepressants	54	53	43	48	87	67	67	99	89	122	123	99
Other prescription meds§	43	42	41	63	62	60	77	90	103	144	192	195
Stimulants (excluding NPS)ǂ	32	46	62	84	68	56	22	35	38	46	56	52
Non-opiate analgesics	13	23	11	19	18	16	15	21	23	30	33	25
New Psychoactive substances	0	0	0	0	0	5	6	8	8	30	25	7
Others/Unknown‡	7	23	20	23	31	42	31	30	28	36	25	20

*This is a multi-response table taking account of up to six drugs. Therefore numbers in columns may not add up to totals shown, as individual cases may have more than one drug implicated in their death.

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

§ Includes non-benzodiazepine sedatives (e.g. zopiclone), anti-psychotics, cardiac and all other types of prescription medication.

ǂ Includes cocaine and MDMA.

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

Table 4 Multi-response: Poisoning deaths categorised by individual drug, NDRDI 2004 to 2015 (N = 4,222)												
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
All poisoning deaths*	266	301	326	387	386	372	339	377	356	400	364	348
Alcohol	125	116	113	172	155	143	151	142	129	143	117	107
Diazepam	31	41	64	62	65	81	68	133	92	113	118	101
Methadone	40	43	60	57	80	70	60	116	87	94	103	86
Heroin	29	47	68	80	91	114	72	64	64	87	94	82
Zopiclone	5	~	7	6	10	12	18	22	23	52	73	62
Cocaine	19	36	54	65	61	53	21	24	26	32	41	44
Pregabalin	0	0	0	0	0	~	~	~	~	14	26	44
Flurazepam	18	13	23	21	20	25	27	50	29	42	36	33
Citalopram	14	13	8	13	20	20	20	32	16	23	21	20
Quetiapine	0	0	0	~	~	~	~	13	10	12	18	17
MDMA	13	10	8	19	7	~	~	11	12	14	15	8
Fentanyl	0	0	0	0	0	0	0	~	~	~	~	7

*This is a multi-response table taking account of up to six drugs. Therefore numbers in columns may not add up to totals shown, as individual cases may have more than one drug implicated in their death.

~ Less than five deaths.

Polydrug poisonings

Almost two thirds of poisoning deaths in 2015 involved **polydrugs**. The percentage of deaths due to polydrug poisonings rose from 44% (n=118) in 2004 to 64% (n=222) in 2015 (Figure 2). Polydrug use is a significant risk factor for fatal overdose (Table 5):

- 91% of deaths where methadone was implicated involved other drugs, mainly benzodiazepines
- 71% of deaths where heroin was implicated involved other drugs, mainly benzodiazepines
- Almost all deaths (93%) where cocaine was implicated involved other drugs
- 56% of deaths where alcohol was implicated involved other drugs, mainly benzodiazepines.

The number of drugs involved has also risen over the period. In 2015, on average four drugs were involved in polydrug poisoning deaths compared to an average of two in 2004.

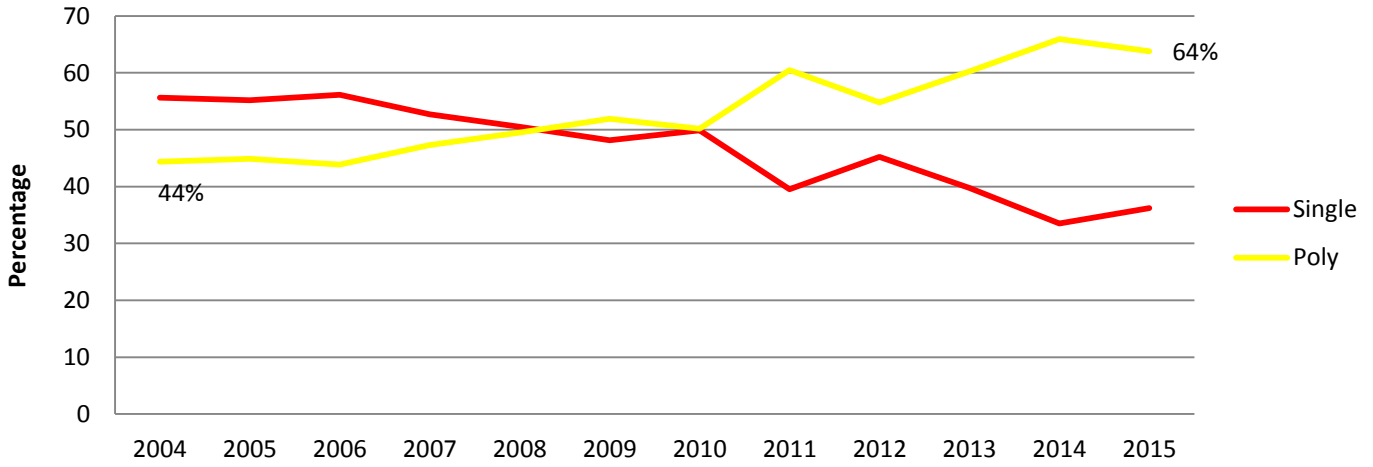


Figure 2 Evolution of polydrug poisonings, NDRDI 2004 to 2015 (N = 4,222)

Table 5 Multi-response: combinations of drugs that were implicated along with methadone, heroin, cocaine and alcohol, NDRDI 2015

	Methadone	Heroin	Cocaine	Alcohol
Polydrug poisoning deaths	N = 86	N= 66	N = 41	N = 60
Methadone		17	14	14
Diazepam	51	37	22	29
Heroin	17		20	17
Alcohol	14	17	12	
Flurazepam	18	11	5	7
Cocaine	14	20		12
MDMA	~	~	~	~
Combined drug groups*				
Other prescription medication(s) §	64	31	17	26
Antidepressants	23	11	13	15
Other Benzodiazepines	31	21	11	24
Other Opiate(s)	10	7	~	9
Non-opiate analgesics	7	7	~	~
New psychoactive substance(s)	~	6	~	0

*This is a multi-response table taking account of up to six drugs. Therefore numbers in columns may not add up to totals shown, as individual cases may have more than one drug implicated in their death.
§ Includes non-benzodiazepine sedatives, anti-psychotics, Z drugs, barbiturates, cardiac and all other types of prescription medication.
~ Less than five deaths.

Non-poisoning deaths in 2015

Non-poisoning deaths are deaths among people with a history of drug dependency or non-dependent abuse of drugs whether or not the use of the drug had a direct impact on the cause of death. Similar numbers of poisoning and non-poisoning deaths were reported in 2015.

The number of non-poisoning deaths decreased by 2%, from 355 in 2014 to 347 in 2015 (Table 1). These deaths are categorised as being due to either trauma (n = 156) or to medical causes (n = 191).

The **main causes** of non-poisoning deaths were hanging [trauma] (83, 24%) and cardiac events [medical] (55, 16%) (Figure 3).

A younger cohort died from traumatic causes (median age of 34 years) in comparison to deaths due to medical causes (median age of 49 years) (Table 1). The median age for deaths due to medical causes has increased from 38 years in 2004 to 49 years in 2015, which could indicate an ageing cohort of drug users in Ireland.

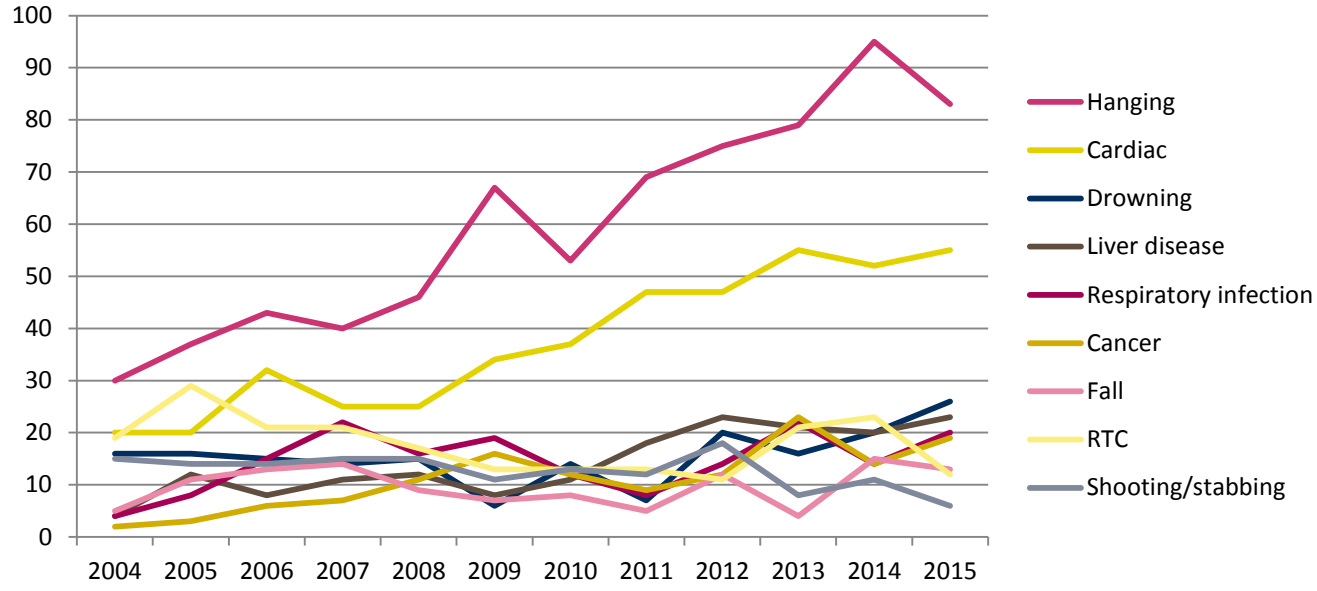


Figure 3 Non-poisoning deaths: main causes, NDRDI 2004 to 2015, (N = 3,200)

Traumatic deaths as a result of hanging in 2015

Deaths due to **hanging** accounted for 24% of all non-poisoning deaths in 2015:

- The majority were male (82%)
- 3 in 5 (59%) had a history of mental health problems
- Cannabis and cocaine were the most common drugs used by those who died as a result of hanging.

References

This document may be cited as: Health Research Board (2017) National Drug-Related Deaths Index 2004 to 2015 data. Available at: http://www.drugsandalcohol.ie/28086 and at www.hrb.ie/publications.

More detailed information on the methodology can be found in previously published HRB Trends Series papers - http://www.hrb.ie/publications/hrb-publication/publications//492/

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