

Drug-related deaths and deaths among drug users in Ireland



2008 figures from the National Drug-Related Deaths Index

January 2011

Summary of results

This paper presents new NDRDI figures on drug-related deaths and deaths among drug users in 2008, and updates previously published figures for the years 1998–2007.

Overview

- In the 11-year period 1998–2008 a total of 4,064 drug-related deaths and deaths among drug users met the criteria for inclusion in the NDRDI database. Of these deaths, 2,434 were due to poisoning and 1,630 were due to traumatic or medical causes (non-poisoning) (Table 1).
- In 1998, almost three-quarters (74%) of drug-related deaths recorded in the NDRDI were poisonings. The percentage of such deaths decreased over the reporting period, with 56% of deaths in 2008 due to poisoning and 44% to other causes (non-poisoning).
- The annual number of deaths in 2008 fell slightly to 524, compared to 535 in 2007. The 2008 figure is likely to be revised upwards when new data becomes available (Table 1).

Poisoning deaths in 2008

- The annual number of deaths by poisoning increased from 177 in 1998 to 298 in 2007, and dropped slightly in 2008 to 293 (Table 1).
- Males accounted for the majority of deaths by poisoning in each year since 1998; 72% of the poisoning deaths in 2008 were of males (Figure 1).
- The majority of those who died by poisoning in 2008 were aged between 20 and 44 years. The median age was 35 years, similar to previous years (Figure 2 and Table 2).
- In 2008 the greater proportion (61%) of all deaths by poisoning involved more than one substance (polysubstance cases), compared to 58% in 2007 (Table 3).
- The number of deaths by poisoning where heroin was implicated rose in 2008 to 86, compared to 78 in 2007 (Table 4).
- The number of deaths by poisoning where cocaine was implicated dropped to 58 in 2008, compared to 66 in 2007. Cocaine was implicated in 11% of all deaths by poisoning in the 11-year period (Table 4).
- Prescription and over-the-counter medication was implicated in many of the deaths by poisoning. Benzodiazepines continued to play a major role in polysubstance poisonings, being involved in more deaths by poisoning than any other substance in the reporting period (Table 4).
- In 2008 the number of deaths by poisoning recorded inside Dublin (city and county) just surpassed the number recorded outside Dublin, the first time since 2003 that this has been the case (Figure 3).
- In 2008 the highest number of poisoning deaths were recorded in the North Dublin City and County Regional Drugs Task Force area (Table 5). The number of cases recorded in the Southern RDTF area decreased.

Non-poisoning deaths in 2008

- The annual number of non-poisoning cases in 2008 decreased slightly to 231, compared to 237 in 2007 (Table 1). Since 2006 the number of non-poisoning cases recorded has steadied, after an increase from 64 in 1998 to 232 in 2006.
- Of the 231 non-poisoning cases with a known cause of death, over half (54%, 120) were due to medical causes and the remainder (46%, 101) were due to trauma (Figure 4). These figures may change when new data becomes available.

Deaths due to trauma

- The annual number of deaths due to trauma increased from 41 in 1998 to 114 in 2007, but decreased to 101 in 2008 (Figure 4).
- Sixty-one (61%) of those who died from traumatic causes in 2008 were aged between 20 and 34 years (Figure 6). The median age was 28 years. Almost all (88, 87%) of those who died were male, as in previous years.
- The most common causes of death due to trauma were hanging and drowning (Figure 7).

Deaths due to medical causes

- The annual number of deaths due to medical causes rose fairly steadily over the reporting period, increasing from 11 in 1998 to 120 in 2008, when it exceeded the number of deaths due to trauma (Figure 4).

- The majority of those who died from medical causes in 2008 were aged between 30 and 49 years (Figure 9). The median age was 42 years. Three-quarters (352, 76%) of those who died in 2008 were male.
- The most common medical causes of death in 2008 were cardiac events (25, 21%), respiratory infections (16, 13%) and liver disease (12, 10%) (Figure 10). These percentages are similar to those in previous 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 substances

Median: The median is the value at the mid-point in a sequence of numerical values ranged in ascending or descending order. It is defined as the value above or below which half of the values lie. Unlike the mean (average), the median is not influenced by extreme values (or outliers). For example, in the case of five drug users aged 22, 23, 24 and 46 years respectively, the median (middle value) is 24 years, whereas the mean is 27.8 years. While both the median and the mean describe the central value of the data, the median is more useful in this case because the mean is influenced by the one older person in this example.

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 substance(s)

Acronyms

AIDS	Acquired Immune Deficiency Syndrome
CTL	Central Treatment List
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
ESRI	Economic and Social Research Institute
FSN	Family Support Network
GMR	General Mortality Register
HIPE	Hospital In-Patient Enquiry scheme
HIV	Human immunodeficiency virus
ICD	International Classification of Diseases
LDTF	Local drugs task force
LSD	Lysergic acid diethylamide
MDMA	3,4-Methylenedioxymethamphetamine, also known as ecstasy
NDRDI	National Drug-Related Deaths Index
RDTF	Regional drugs task force
RTC	Road traffic collision

In the case of data presented by region, this paper refers to the areas covered by the regional drugs task forces (RDTFs), together with the local drugs task forces (LDTFs) within their boundaries, as follows:

Task force		Area included
ECRDTF	East Coast Regional Drugs Task Force (DTF)	South-east Dublin city and county and East Wicklow, including the two LDTF areas within these boundaries
MRDTF	Midland Regional DTF	Counties Laois, Longford, Offaly and Westmeath
MWRDTF	Mid West Regional DTF	Counties Clare and Limerick, and North Tipperary
NDRDTF	North Dublin City and County Regional DTF	North Dublin city and county, including the five LDTF areas within these boundaries
NERDTF	North Eastern Regional DTF	Counties Cavan, Louth, Meath and Monaghan
NWRDTF	North West Regional DTF	Counties Donegal, Leitrim and Sligo, and north-west Cavan
SERDTF	South East Regional DTF	Counties Carlow, Kilkenny, Waterford and Wexford, and South Tipperary,
SRDTF	Southern Regional DTF	Counties Cork and Kerry, including the Cork LDTF area
SWRDTF	South Western Regional DTF	South-west Dublin, west Wicklow and County Kildare, including the six LDTF areas within these boundaries
WRDTF	Western Region DTF	Counties Galway, Mayo and Roscommon

Introduction

The Irish National Drug-Related Deaths Index (NDRDI) is an epidemiological database which records cases of death by drug and 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 Children and the Department of Justice and Law Reform.

The NDRDI was established in September 2005 to comply with Action 67 of the 2001–2008 National Drugs Strategy.¹ That action 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 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).

In order to ensure a complete and accurate database, the NDRDI records data from several sources: the Coroner Service, the Hospital In-Patient Enquiry scheme (HIPE), the Central Treatment List (CTL), the General Mortality Register (GMR) and the community representative body, Family Support Network (FSN) (still in the pilot phase).

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 individual recorded on the database. Named data were not available from the GMR for the period 1998 to 2005; to avoid duplication and over-estimation of the number of cases, GMR cases with no match are not included in the NDRDI for those years.²⁻⁴ More detailed information on the methodology can be found in the previously published HRB Trends Series papers Nos 4, 8 and 9), available on the HRB website at www.hrb.ie.

Background

Drug use can lead to premature death from a range of different causes.⁵ 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 substances). 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;⁶⁻⁹
- actions taken while under the influence of drugs, such as accidents caused by impaired judgement or exacerbation of risky behaviours;^{5, 6}
- psychiatric illness as a co-morbid condition, which places the individual at a greater risk of suicide.^{5, 10-12}

In line with international practice, deaths that are the result of the drug use of another individual, such as a road traffic accident 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.¹³ While the NDRDI has recorded data on alcohol-related deaths and deaths among those who are alcohol dependent since 2004, these data are not presented in this paper. Alcohol is included in the analysis presented in this paper only when it features as an additional addiction, and/or as part of a polysubstance finding in toxicology.

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 1998 and 2008, 4,064 drug-related deaths and deaths among drug users met the criteria for inclusion in the NDRDI. Previously reported figures for the years 1998–2007 have been updated to include new data. Similarly, figures for 2008 will be revised when new data becomes available. Denominators vary as data were not available for every variable.

Table 1 Number of drug-related deaths, by year of death, NDRDI 1998 to 2008 (N=4,064)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
All deaths	241	270	258	277	338	296	368	454	503	535	524
Poisoning (n=2434)	177	186	179	177	211	185	206	251	271	298	293
Non-poisoning (n=1630)	64	84	79	100	127	111	162	203	232	237	231

Poisoning deaths

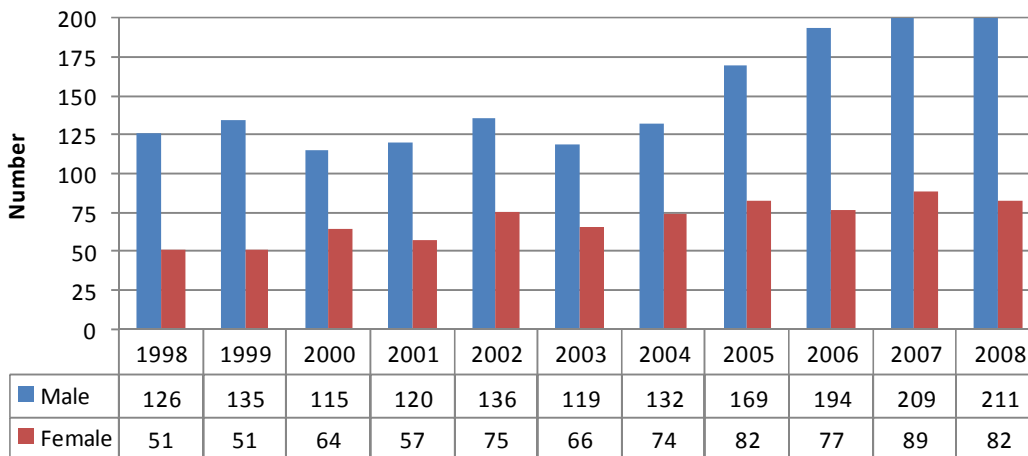


Figure 1 Poisoning deaths, by gender and by year, NDRDI 1998 to 2008 (N=2,434)

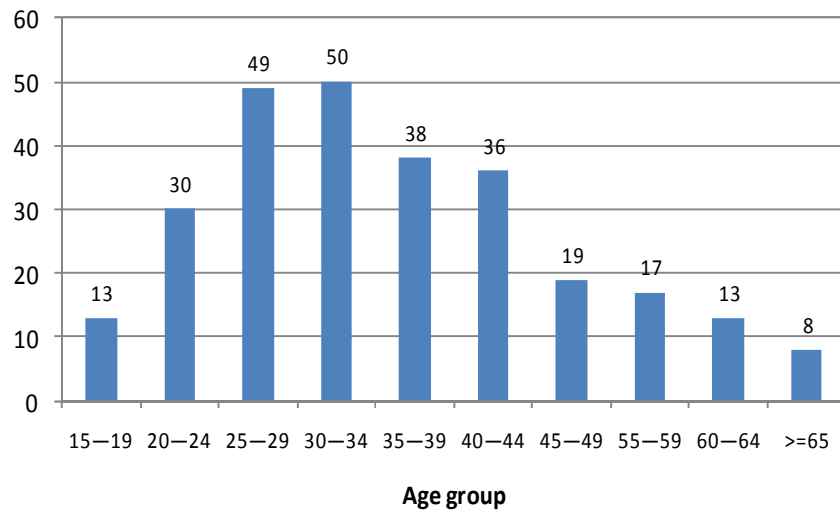


Figure 2 Poisoning deaths, by age group, NDRDI (2008 only) (N=293)

Table 2 Poisoning deaths, by median age and by gender, NDRDI 1998 to 2008 (N=2,434)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Median age in years	35	33	35	35	34	36	39	35	34	35	35
Age range*	19-69	17-67	17-68	20-64	17-62	18-67	20-70	17-64	20-62	18-63	20-61
Median age - Male	32	30	33	34	33	32	32	32	33	34	34
Median age - Female	42	41	39	37	39	39	47	43	40	37	43

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

Table 3 Single-drug and polysubstance poisoning deaths, NDRDI 1998 to 2008 (N=2,434)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Poisonings	n (%)										
Single-drug (n=1090)	76 (42.9)	90 (48.4)	78 (43.6)	88 (49.7)	92 (43.6)	84 (45.4)	91 (44.2)	117 (46.6)	136 (50.2)	124 (41.6)	114 (38.9)
Polysubstance (n=1344)	101 (57.1)	96 (51.6)	101 (56.4)	89 (50.3)	119 (56.4)	101 (54.6)	115 (55.8)	134 (53.4)	135 (49.8)	174 (58.4)	179 (61.1)

Table 4 Drugs involved in poisoning deaths, NDRDI 1998 to 2008 (N=2,434)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	% of total
All deaths*	177	186	179	177	211	185	206	251	271	298	293	100
Heroin	29	48	37	48	46	29	29	48	67	78	86	32.3
Methadone	43	37	40	28	40	34	40	43	61	54	78	29.3
Other opiate†	38	34	45	54	47	47	62	70	55	53	45	22.5
Cocaine	5	5	5	8	14	10	19	36	52	66	58	11.4
MDMA	4	8	8	6	10	11	13	10	6	18	7	2.6
Benzodiazepine	78	72	73	54	72	62	77	80	116	123	117	38.0
Alcohol‡	35	43	38	38	57	49	64	65	57	85	70	26.7
Antidepressant	33	34	42	42	47	47	54	54	43	47	77	21.4
Other prescription drug§	38	37	35	18	33	37	42	37	39	62	59	22.2
Non-opiate analgesic	12	17	11	16	16	11	13	23	12	18	17	6.4
Other¶	5	6	5	3	9	3	5	5	10	16	15	8.6

* Numbers and percentages in columns do not add up to totals shown in this row because individual deaths may be attributable to more than one drug or substance.

† Includes unspecified opiates and analgesics containing an opiate compound.

‡ Alcohol is recorded only when it contributes to a polysubstance death.

§ Includes non-benzodiazepine sedatives, anti-psychotics, cardiac and all other types of medication, including over-the-counter medication.

¶ Includes solvents, insecticides, herbicides, barbiturates, other amphetamines, hallucinogens, cannabis and other chemicals.

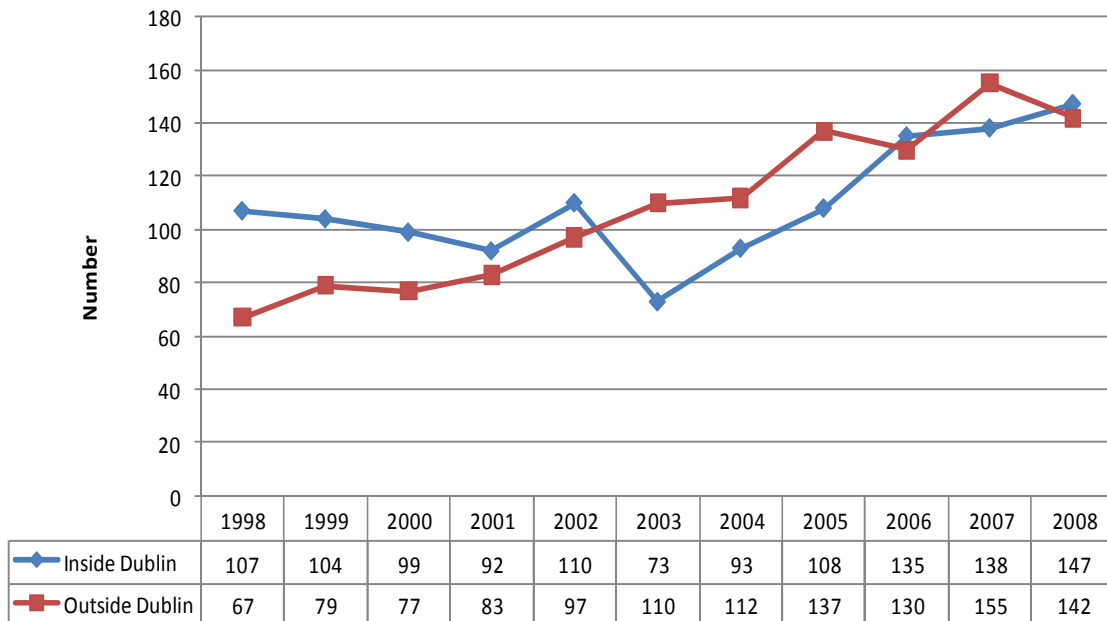


Figure 3 Poisoning deaths, by place of residence, NDRDI 1998 to 2008 (N=2,395)

Table 5 Poisoning deaths, by task force area, NDRDI 1998 to 2008 (N=2,434)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
NDRDTF	41	48	48	37	49	38	36	50	68	63	68
SWRDTF	51	50	44	51	54	30	43	45	60	54	63
SERDTF	9	8	10	12	10	21	20	18	15	28	34
SRDTF	14	22	21	20	29	31	24	28	34	46	28
ECRDTF	13	15	14	12	20	10	23	33	19	22	18
NERDTF	9	11	8	9	17	10	12	13	18	14	18
MWRDTF	6	9	9	7	10	16	14	17	12	16	16
WRDTF	13	10	9	12	~	10	9	13	10	17	13
MRDTF	~	6	7	9	5	8	10	13	16	13	9
NWRDTF	6	~	~	~	9	5	9	10	7	~	7
Other/unknown	13	~	5	~	~	6	6	11	12	22	19

~ Less than five cases

Non-poisoning deaths from traumatic and medical causes

Between 1998 and 2008, 1,630 non-poisoning deaths were recorded among drug users. The cause of death was known in 1,468 (90%) of these cases.

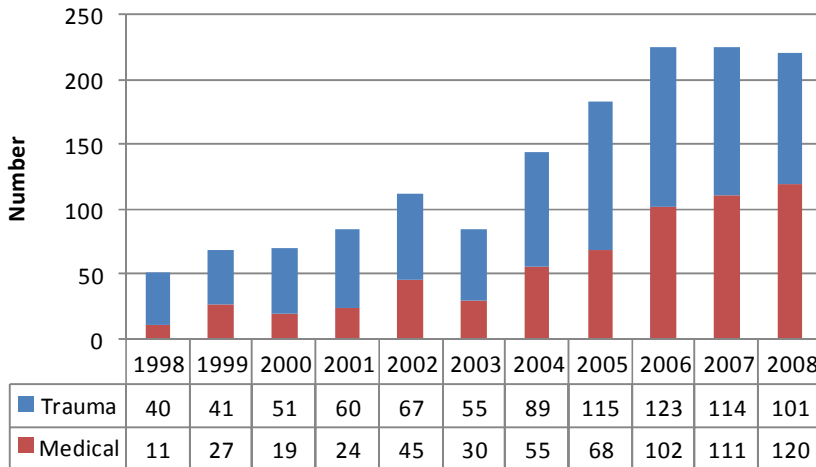


Figure 4 Non-poisoning deaths among drug users, NDRDI 1998 to 2008 (N=1,468)

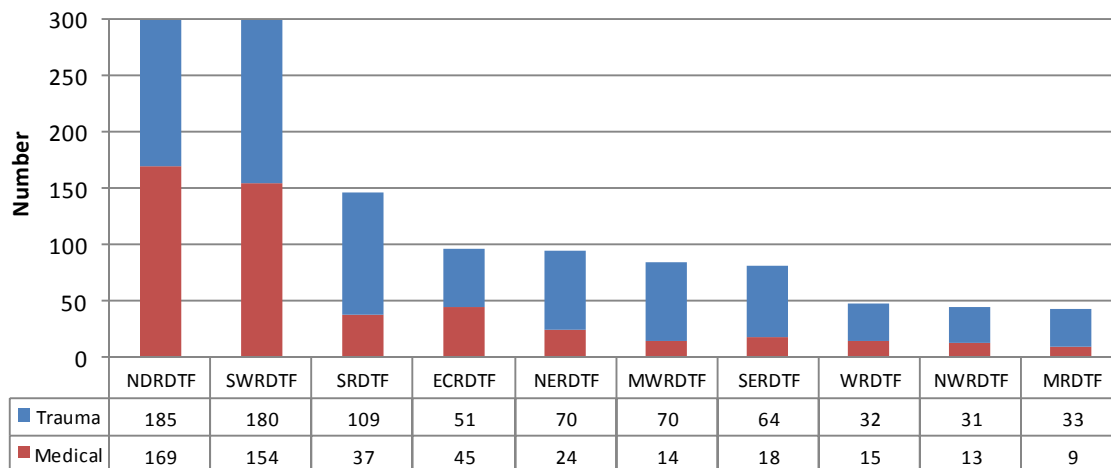


Figure 5 Non-poisoning deaths among drug users, by regional drugs task force area, NDRDI 1998 to 2008 (N=1,304)

Deaths due to trauma

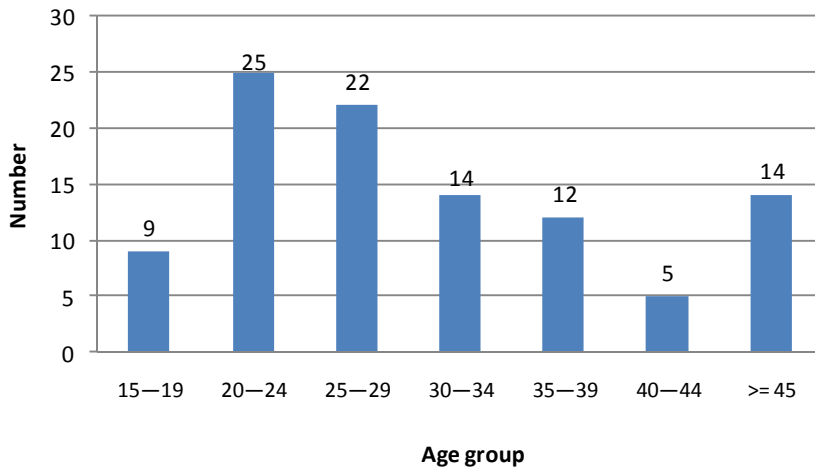


Figure 6 Deaths among drug users due to trauma, by age group, NDRDI (2008 only) (N=101)

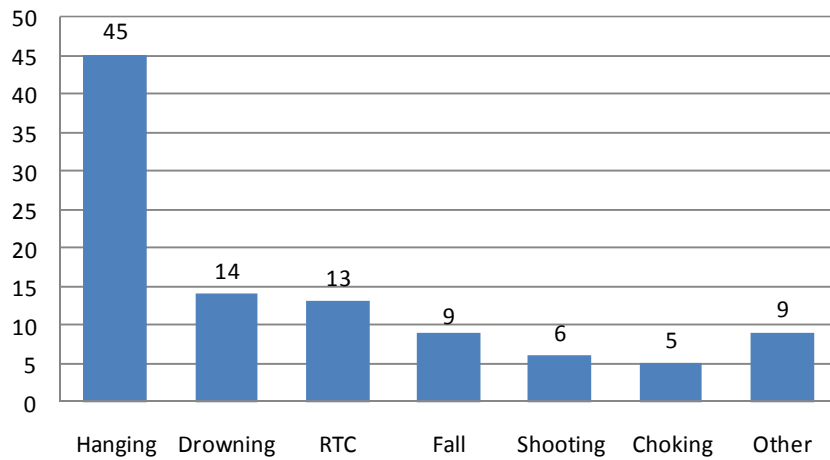


Figure 7 Deaths due to trauma, by type of death, NDRDI (2008 only) (N=101)

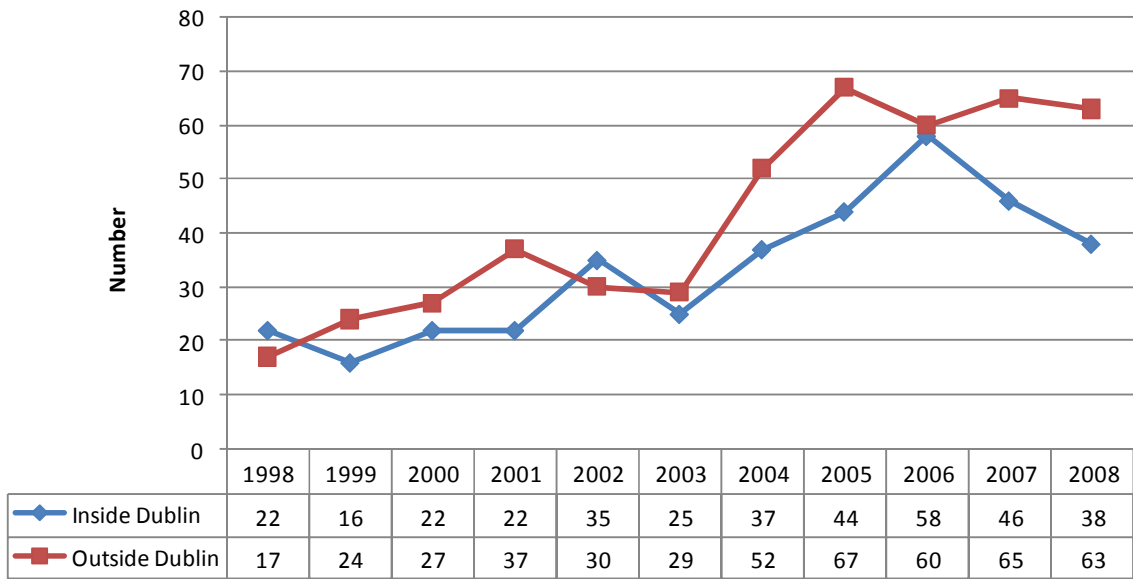


Figure 8 Deaths among drug users due to trauma, by place of residence, NDRDI 1998 to 2008 (N=836)

Deaths due to medical causes

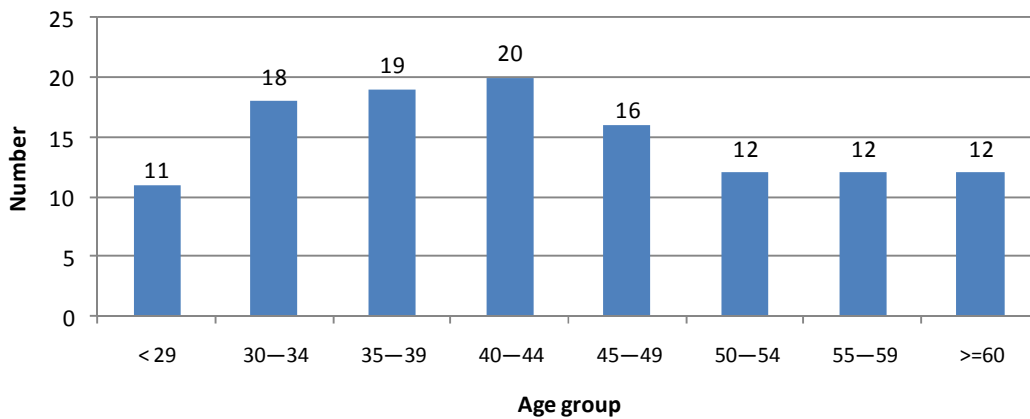


Figure 9 Deaths among drug users due to medical causes, by age group, NDRDI (2008 only) (N=120)

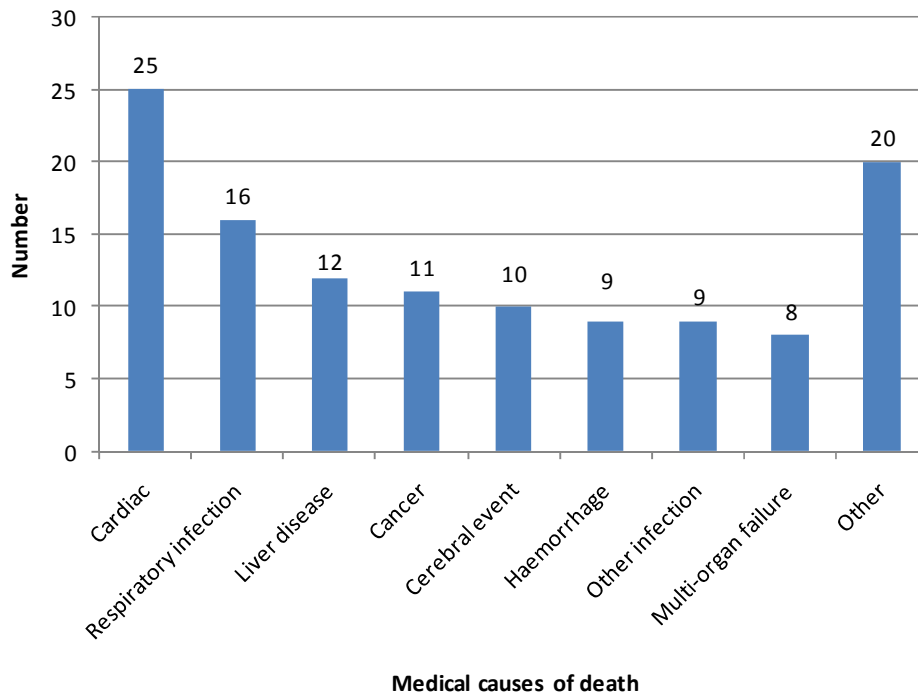


Figure 10 Deaths among drug users due to medical causes, by type, NDRDI (2008 only) (N=120)

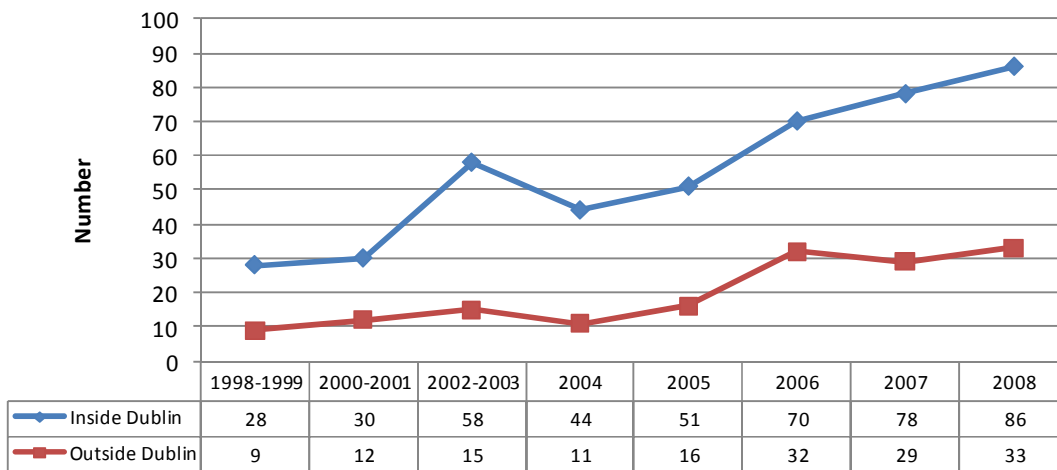


Figure 11 Deaths among drug users due to medical causes, by place of residence, NDRDI 1998 to 2008 (N=602)

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