Drug-related deaths and deaths among drug users in Ireland

Revised 2009 figures from the National Drug-Related Deaths Index

February 2012

Summary of 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 2004–2009. Alcohol-only poisonings have been retrospectively recorded by the NDRDI from 2004 onwards and are included in this update. The figures in this update supersede all previously published figures.

Overview

- In the six-year period 2004–2009 a total of 3,358 deaths by drug poisoning and deaths among drug users met the criteria for inclusion in the NDRDI database. Of these deaths, 2,015 were due to poisoning and 1,343 were due to traumatic or medical causes (non-poisoning) (Table 1).
- In 2004, the majority (267, 62%) of drug-related deaths recorded in the NDRDI were poisonings. The percentage of such deaths decreased over the reporting period, with 57% of deaths in 2009 due to poisoning and 43% to other causes (non-poisoning).
- The annual number of deaths in 2009 increased to 628, compared to 617 in 2008. The 2009 figure is likely to be revised when new data become available (Table 1).

Poisoning deaths in 2009

- The annual number of deaths by poisoning increased from 267 in 2004 to 381 in 2008, and dropped to 357 in 2009 (Table 1).
- Males accounted for the majority of deaths by poisoning in each year since 2004; 68% of the poisoning deaths in 2009 were of males (Figure 1).
  The percentage of women who died by poisoning has remained steady over the six-year period, ranging from 34% in 2004 to 32% in 2009 (Figure 1).
- The majority of those who died were aged between 25 and 44 years. The median age was 38 years (Figure 2 and Table 2).
- Just over half (51%) of all deaths involved more than one substance (Table 3).
- The number of deaths in which heroin was implicated rose to 108 in 2009, compared to 90 in 2008 (Table 5).
- Alcohol was involved in 38% of deaths by poisoning in 2009, more than any other substance (Table 5).
- The number of deaths by poisoning where cocaine was implicated dropped to 52 in 2009, compared to 60 in 2008. Cocaine was implicated in 14% of all deaths by poisoning in the six-year period (Table 5).
- In 2009 the number of deaths by poisoning where methadone was implicated dropped to 66, compared to 81 in 2008 (Table 5).
- Benzodiazepines continued to play a major role in polysubstance poisonings (Table 5).
- In 2009 the highest number of poisoning deaths were recorded in the North Dublin City and County Regional Drugs Task Force area (Table 6).

Non-Poisoning deaths in 2009

- The number of non-poisoning deaths increased by 67% over the reporting period, from 162 deaths in 2004 to 271 in 2009 (Table 1).
- Of the 271 non-poisoning deaths in 2009, over half (53%, 143) were due to medical causes and the remainder (47%, 128) were due to trauma (Figure 4). These figures may change when new data become available.

Deaths due to trauma

- The number of deaths due to trauma increased annually, from 89 in 2004 to 128 in 2009 (Figure 4).
- The majority (81, 63%) of those who died from traumatic causes in 2009 were aged under 35 years (Figure 6). The median age was 30 years. As in previous years, the majority (99, 73%) of those who died due to trauma in 2009 were male.
- The most common causes of death due to trauma in 2009 were hanging (65, 51%) and choking (23, 18%) (Figure 7).

Deaths due to medical causes

- The annual number of deaths due to medical causes rose steadily over the reporting period, increasing from 55 in 2004 to 143 in 2009 (Figure 4).
- The majority (65%) of those who died from medical causes in 2009 were aged between 30 and 49 years (Figure 9). The median age was 40 years. Males accounted for 71% (102) of those who died due to medical causes in 2009.
- The most common medical causes of death in 2009 were cardiac events (29, 20%), respiratory infections (19, 13%) and cancer (16, 11%) (Figure 10).

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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

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)

Task force		Area included
ECRDTF	East Coast Regional Drugs Task Force (DTF)	South-east Dublin city and county and East Wicklow, including the two local drugs task force (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
NDRTF	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

A more in depth glossary, and acronyms can be accessed online at www.drugsandalcohol.ie/glossary

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 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.[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 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), and the General Mortality Register (GMR) 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.[2-4]

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 AIDSrelated 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 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.[13] The NDRDI has retrospectively recorded data from 2004 onwards on alcohol-related deaths and deaths among those who were alcohol dependent. For the first time, poisoning deaths due to alcohol only are included (retrospectively from 2004), therefore data reported in this update 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 2009, 3,358 deaths by drug and alcohol poisoning and deaths among drug users met the criteria for inclusion in the NDRDI. Previously reported figures for the years 2004–2008 have been updated to include new data, including alcohol-only poisonings (which have not previously been reported). Similarly, figures for 2009 will be revised when new data become available.

Table 1 Number of deaths, by year, NDRDI 2004 to 2009 (N=3,358)

	2004	2005	2006	2007	2008	2009
All deaths	429	501	560	623	617	628
Poisoning (n=2015)	267	300	325	385	381	357
Non-poisoning (n=1343)	162	201	235	238	236	271

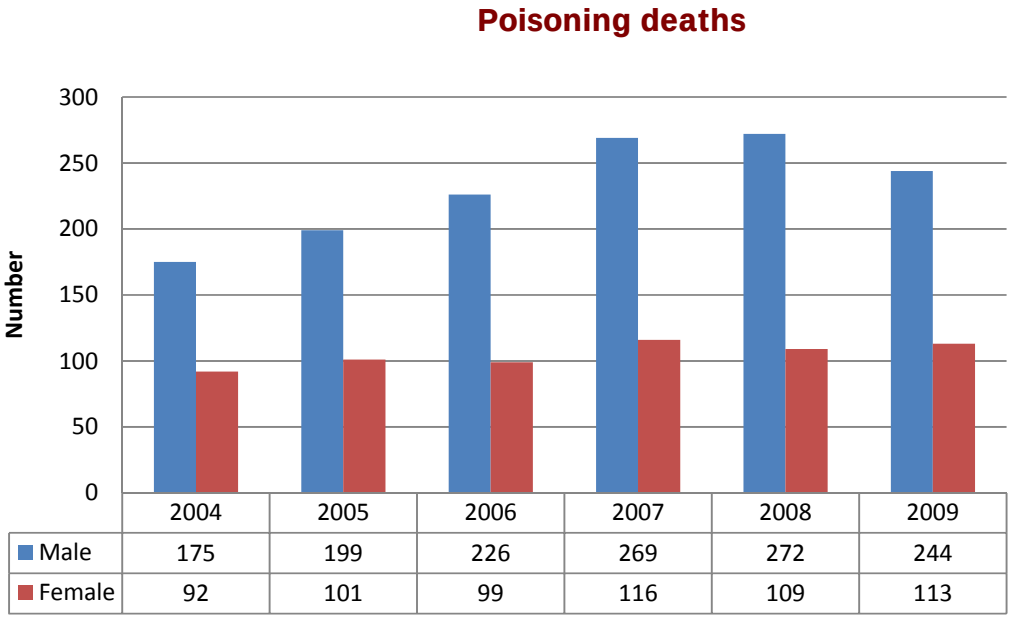


Figure 1 Poisoning deaths, by gender and by year of death, NDRDI 2004 to 2009 (N=2,015)

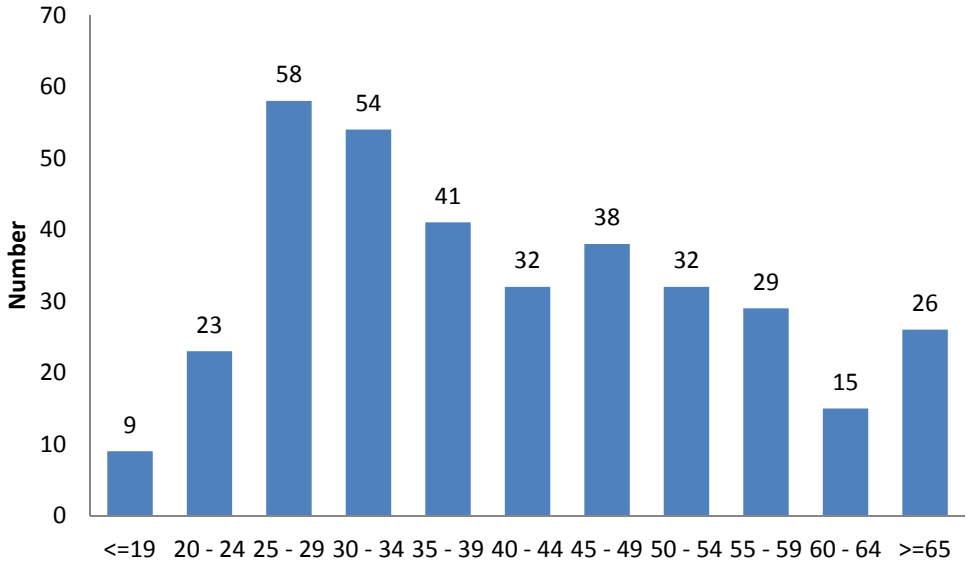


Figure 2 Poisoning deaths, by age group, NDRDI 2009 only (N=357)

Table 2 Poisoning deaths, by median age and by gender, NDRDI 2004 to 2009 (N=2,015)

	2004	2005	2006	2007	2008	2009
Median age in years	40	39	36	36	38	38
Age range*	20-68	18-66	20-64	19-67	21-65	22-67
Median age - Male	36	36	35	34	36	37
Median age - Female	47	46	43	44	45	47

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

Table 3 Single and polysubstance poisoning deaths, NDRDI 2004 to 2009 (N=2,015)

	2004	2005	2006	2007	2008	2009
Total poisonings	*267*	*300*	*325*	*385*	*381*	*357*
Single substance (n=1091)	152 (56.9)	167 (55.7)	190 (58.5)	211 (54.8)	195 (51.2)	176 (49.3)
Polysubstance (n=924)	115 (43.1)	133 (44.3)	135 (41.5)	174 (45.2)	186 (48.8)	181 (50.7)

Table 4 Combinations of drugs involved in poisoning deaths, NDRDI 2004 to 2009 (N=2,015)

	2004	2005	2006	2007	2008	2009	Total
Single substance							
Alcohol alone	61	51	54	85	81	58	390
Opiates alone	33	34	53	54	53	54	281
Other specified single substance ***not*** including cocaine, ***or*** a stimulant ***or*** a hallucinogen	23	35	31	23	35	38	185
Other specified single substance ***including*** cocaine, ***or*** a stimulant ***or*** a hallucinogen	13	23	36	43	16	17	148
Analgesic (including an analgesic with an opiate compound)	22	24	16	6	10	9	87
Polysubstances							
Polysubstances (including opiates such as heroin, methadone)	41	64	79	89	120	117	510
Polysubstances (excluding opiates)	35	29	26	58	47	34	229
Polysubstances (including analgesics containing an opiate compound)	28	31	15	15	10	13	112
Psychoactive medication only with alcohol	11	9	15	12	9	17	73

Table 5 All drugs involved in poisoning deaths, NDRDI 2004 to 2009 (N=2,015)

	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**% of total**
All deaths *	267	300	325	385	381	357	100
Heroin	29	47	67	79	90	108	20.8
Methadone	40	43	61	54	81	66	17.1
Other opiates†	62	69	55	54	47	50	16.7
Cocaine	19	36	52	66	60	52	14.1
MDMA	13	10	6	19	7	~	2.7
Alcohol	125	116	111	170	152	137	40.2
Benzodiazepines	77	79	116	123	120	132	32.1
Antidepressants	52	53	43	48	81	65	17.0
Other prescription medication§	44	37	39	61	60	59	14.9
Non-opiate analgesic	13	23	12	19	17	16	5.0
Other ‡	9	22	21	25	30	47	7.6

*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 or substance.
† Includes morphine, codeine, unspecified opiate-type drug, other opiate analgesic.
§ Includes non-benzodiazepine sedatives, anti-psychotics, cardiac and all other types over-the-counter medication.
‡ includes solvents, insecticides, herbicides, other amphetamines, hallucinogens, cannabis, head shop drugs and other chemicals.
~ Less than five cases.

Table 6 Poisoning deaths, by regional drugs task force area, NDRDI 2004 to 2009 (N=2,015)

	2004	2005	2006	2007	2008	2009	Total
North Dublin City and County	45	62	71	66	76	68	388
South Western	54	49	65	67	74	58	367
Southern	33	34	40	59	43	43	252
South East	26	23	22	40	39	31	181
East Coast	25	36	28	26	25	21	161
North Eastern	18	20	25	28	29	20	140
Western	17	19	18	33	22	22	131
Mid West	15	18	13	18	19	37	120
Midlands	12	15	17	16	20	23	103
North West	14	13	10	8	12	16	73
Other/unknown	8	11	16	24	22	18	99

Non-poisoning deaths 2004 to 2009

A total of 1,343 non-poisoning deaths were recorded among drug users in the period 2004–2009. These deaths were due to traumatic or medical causes, and do not include deaths among alcohol dependent people who were not drug users.

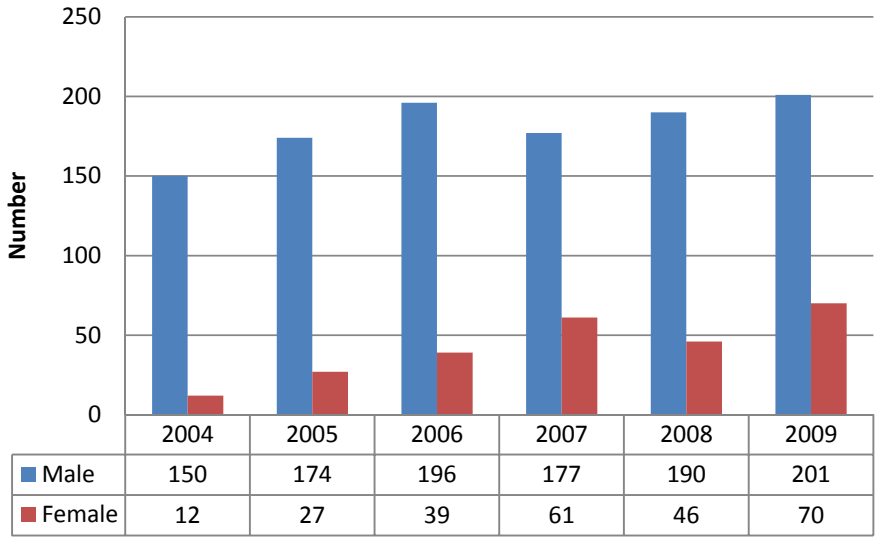
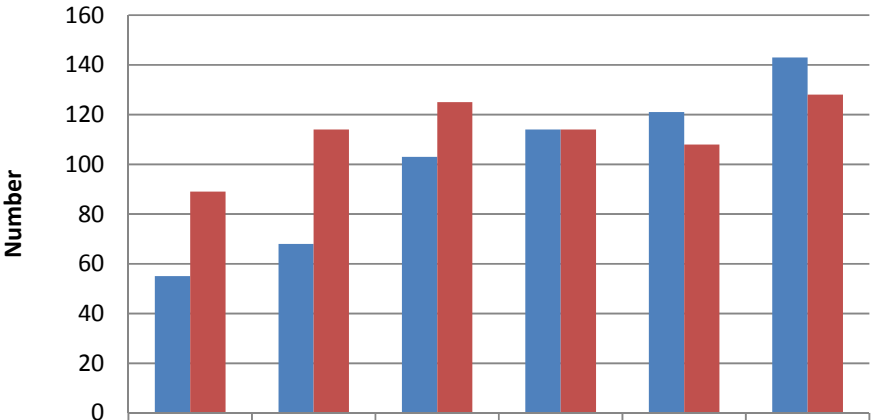


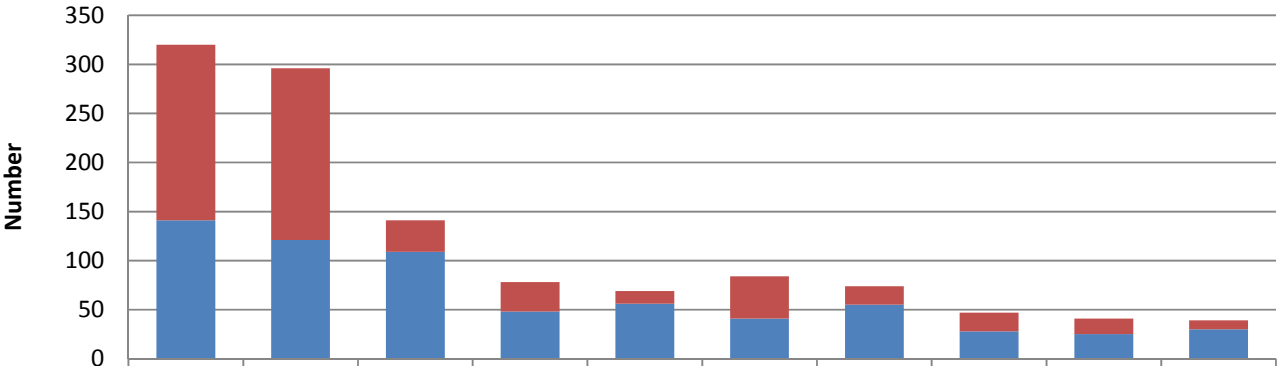
Figure 3 Non-poisoning deaths, by gender and by year of death, NDRDI 2004 to 2009 (N=1,343)

The cause of death was known for 1,282 (95.5%) of these non-poisoning deaths (Figure 4). The regional drugs task force area of residence was known for 1,189 of the deaths (Figure 5).



	2004	2005	2006	2007	2008	2009
Medical	55	68	103	114	121	143
Trauma	89	114	125	114	108	128

Figure 4 Non-poisoning deaths among drug users, NDRDI 2004 to 2009 (N=1,282)



	NDRDTF	SWRDTF	SRDTF	NERDTF	MWRDTF	ECRDTF	SERDTF	WRDTF	NWRDTF	MRDTF
Medical	179	175	32	30	13	43	19	19	16	9
Trauma	141	121	109	48	56	41	55	28	25	30

Figure 5 Non-poisoning deaths among drug users, by regional drugs task force area, NDRDI 2004 to 2009 (N=1,189)

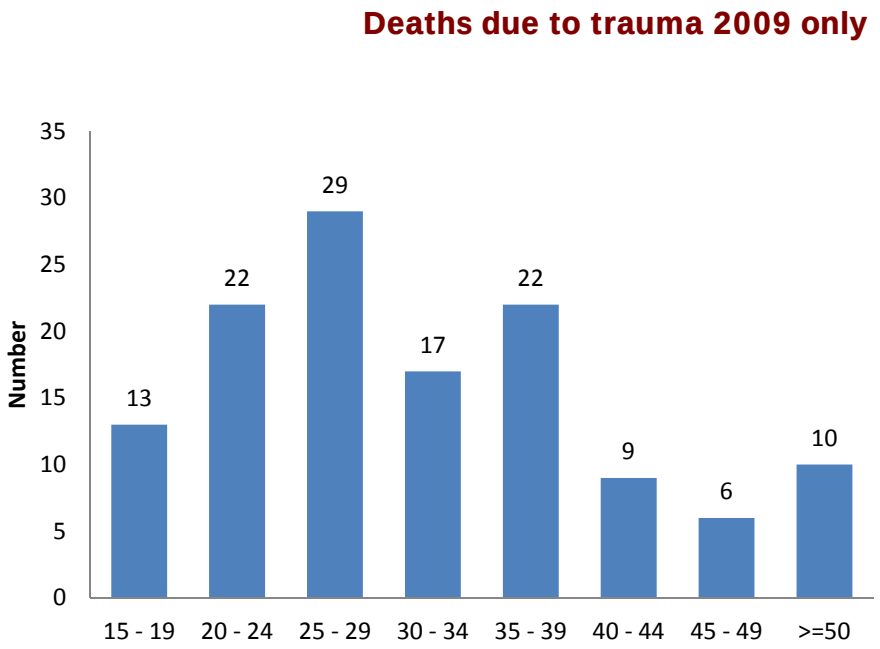


Figure 6 Deaths among drug users due to trauma, by age group, NDRDI 2009 only (N=128)

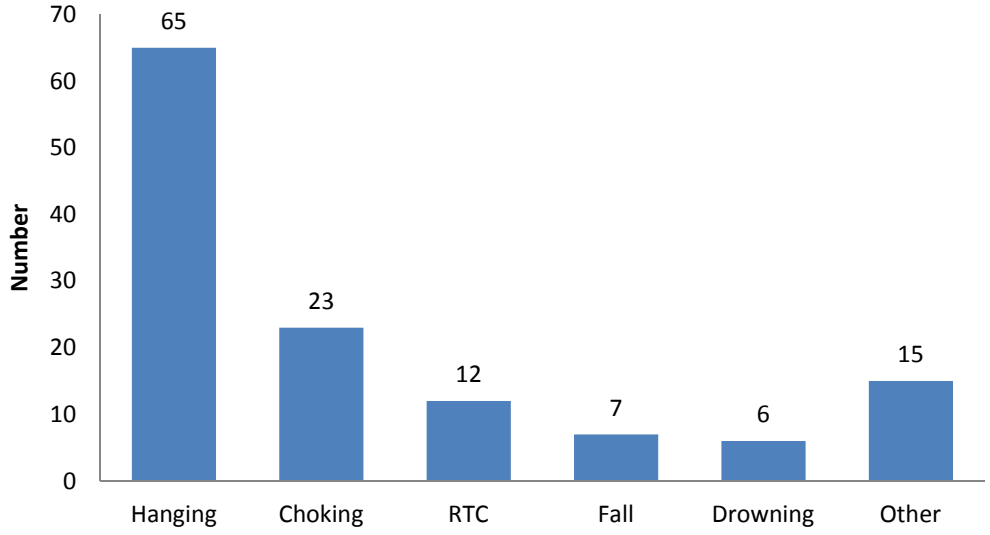


Figure 7 Deaths among drug users due to trauma, by type of death, NDRDI 2009 only (N=128)

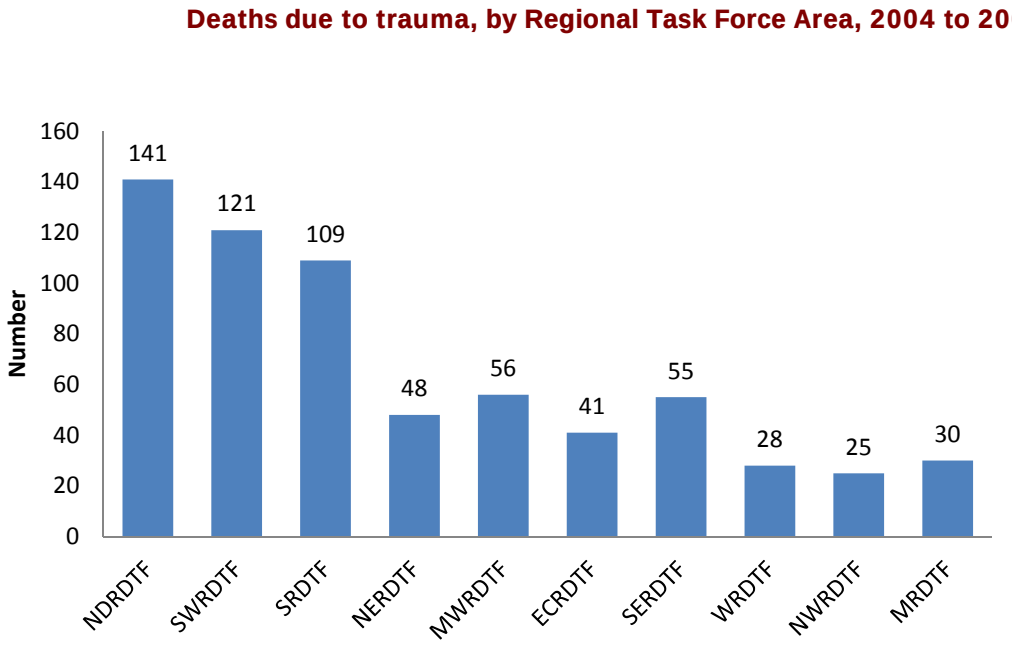


Figure 8 Deaths among drug users due to trauma, by regional drugs task force area, NDRDI 2004 to 2009 (N=654)

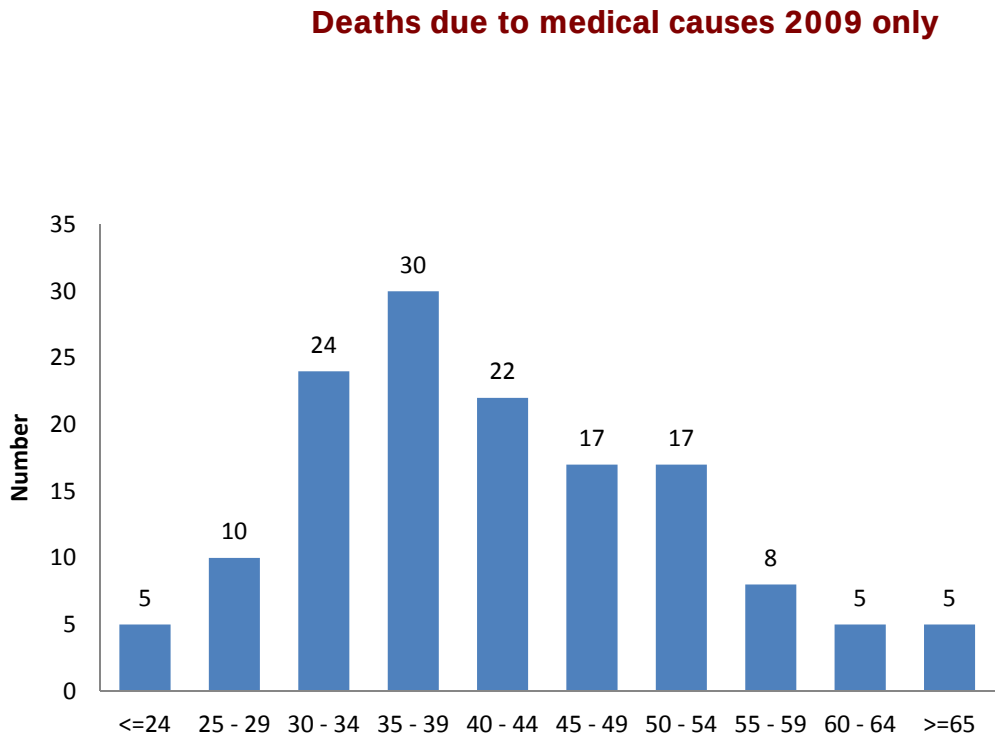


Figure 9 Deaths among drug users due to medical causes, by age group, NDRDI 2009 only (N=143)

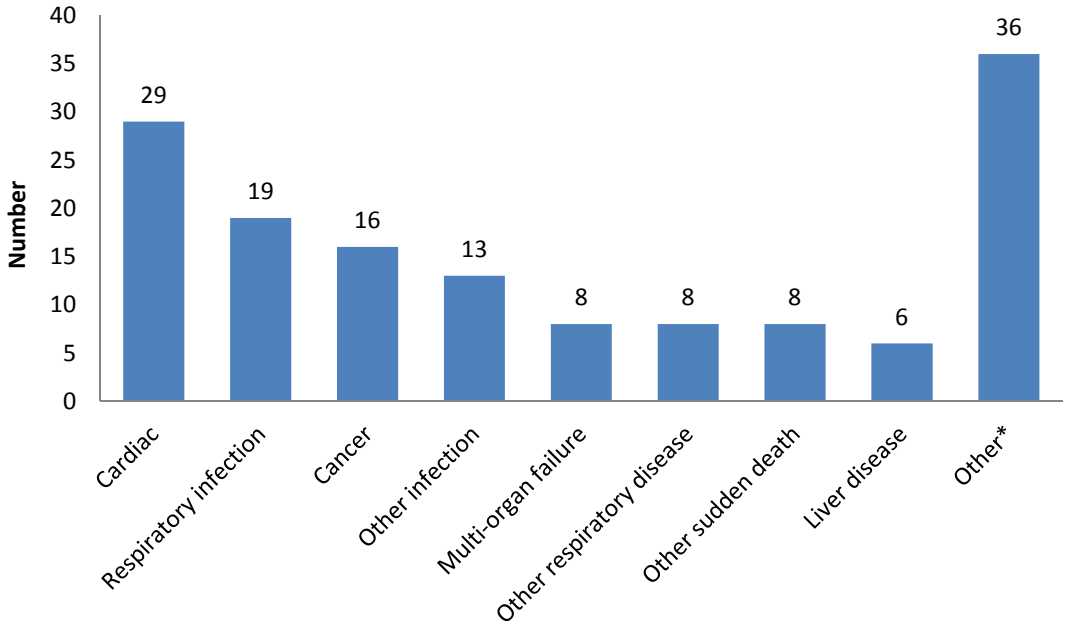


Figure 10 Deaths among drug users due to medical causes, by type, NDRDI 2009 only (N=143)
*Other includes cerebral, epilepsy, haemorrhage, alcoholic liver disease AIDS/HIV and burns.

Deaths due to medical causes, by Regional Task Force Area, 2004 to 2009

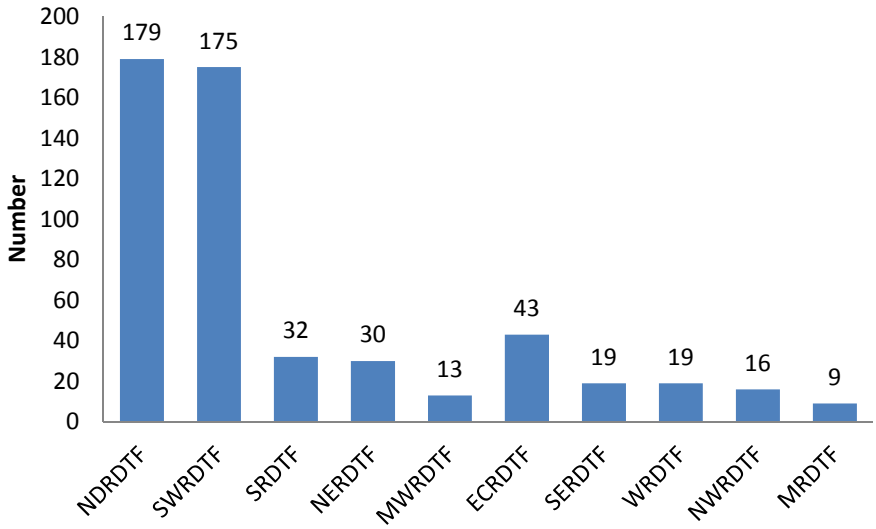


Figure 12 Deaths among drug users due to medical causes, by regional drugs task force area, NDRDI 2004 to 2009 (N=535)

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