European Monitoring Centre for Drugs and Drug Addiction

Prevalence, Consequences and Data Management Unit

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Compilation of National Abstracts

Recent developments concerning the Key Indicator in the Member States, Candidate Countries and Norway

Submitted by

National Experts on the Key Indicator / National Focal Points

Recent developments concerning the DRD Key Indicator in Austria

1. Brief overall situation on DRD

In 2011, a total of 177 fatal overdoses were verified in the context of autopsies. An additional 24 deaths – for which no autopsies were performed, are likely to result from drug overdoses (narcotic drug poisoning given as the cause of death in the confirmation-of-death certificate after external post-mortem examination). A total number of 201 deaths directly related to overdoses is therefore assumed for 2011.It is reasonable to assume that, after a noticeable rise between 2003 and 2006, the number of fatal poisonings has not gone down again in recent years.

2. Recent trends

No new trends

3. Recent specific analysis / studies on drug-related mortality

The final report of the study on drug-related deaths, which was conducted in Vienna, has now become available. The study confirms the conclusions concerning risk factors drawn from the annual statistics on drug-related deaths (e.g. poly-drug use, physical comorbidity) as well as the fact that the majority of drug-related deaths occur in private homes. However, the inclusion of BADO data has also revealed new aspects. For instance, according to BADO (which documents client data only as of the third contact with addiction services), no more than one out of four people who died between 2005 and 2007 as a direct consequence of drug use had been registered as receiving addiction-related services in Vienna at least once. Less than one third had previously been in an outpatient substitution programme. The authors also identified release from prison as a risk factor. 74 of the total of 198 people who had died of drug poisoning had been imprisoned at least once, and 23 of them died within one month after being released from prison.

If the total number of clients registered in the BADO system is compared to the number of persons in the BADO system who died due to fatal poisoning, only small structural differences are apparent. According to the authors, the following risk profile seems to be relevant: severe drug addiction over many years, injecting drug use, mental disorders, symptoms of virus infections, no family ties (living alone), low level of education, no job, no stable housing situation, and high risk of suicide.

With regard to age structure, the study concludes that clients under 25 account for above-average percentages of deaths caused by mono-poisoning with morphines, and that women are over-represented in the younger age group.

4. Emerging problems: new substances, characteristics of victims

One case of death was causally connected with the exclusive use of 4-MEC (4-methylmethcathinone), which comes under the NPSG in Austria. In three cases, opioids were detected as well. In one person, blood tests revealed GHB (γ-hydroxybutanoic acid) as well as GLB (γ-butyrolactone), a psychotropic substance listed in the NSPG, in a lethal concentration. In another person, use of GHB combined with opioids led to fatal poisoning. One person died after taking a combination of PMMA (para-methoxymetamphetamine) and MDPBP (3',4'-methylenedioxy-alpha-pyrrolidinobutyrophenone; a cathinone derivative of the amphetamine group). In one case, the narcotic drug 4-MMC (4-methylmethcathinone or mephedrone) combined with opioids was detected. In another case of fatal poisoning, brucine was found in addition to morphine.

Recent developments concerning the DRD Key Indicator in Belgium

1. Brief overall situation on DRD

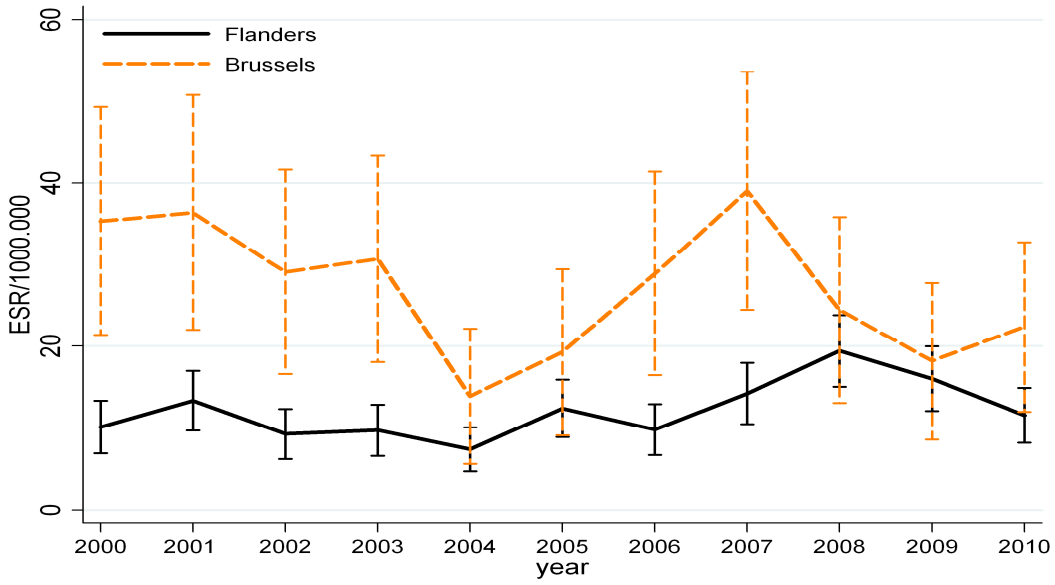
In Belgium, national data on drug-induced deaths are available from the General Mortality Register (GMR). Since 1991, the FPS Economy – Directorate-general Statistics and Economic Information, centralizes the data from the death certificates coded by the Flemish and French Communities according to the International Classification of Diseases, Injuries and Causes of Death (ICD). The 9th edition (ICD-9) was used until 1997. From 1998 onwards, the 10th edition (ICD-10) was used. The mortality information is registered on the basis of residency (de jure information) as opposed to the region were the death occurred (de facto information).

The latest national data currently available are from 2008. However, substantial progress has been made and more recent national data are expected to be available soon. Recent subnational data are readily available for the Flemish and Brussels Capital region and can be obtained from their respective administrations. Recent data for the Walloon region are expected to be available by the beginning of next year. Within the Flemish and Brussels Capital region, 46 and 18 drug-induced deaths (Selection B) were observed in 2010, respectively.

2. Recent trends

The standardised (European Standard Population) drug-induced mortality rates per 1000.000 inhabitants are shown below, indicating that the mortality rates are generally higher in the Brussels capital region compared to the Flemish region. These differences can be explained by differences in urbanization degree, with the Brussels capital region being the more urbanized. For the Flemish region, a recent increasing trend was observed for the period 2006-2008, but was not sustained.

Figure: Standardized drug-induced mortality rates (15-64yrs) and 95% confidence intervals by year and region, Flemish and Brussels capital region, 2000-2010.



Sources: Flanders: Vlaams Agentschap Zorg en Gezondheid; Brussels: Observatoire de la Santé et du Social de Bruxelles-Capitale

3. Recent specific analysis / studies on drug-related mortality

No study on drug-related mortality was recently carried out in Belgium. The development of cohort study on drug-related mortality is prioritized by the Belgian Focal Point.

4. Emerging problems: new substances, characteristics of victims

A recent trend regarding drug-related deaths in Belgium was the appearance of 4-methylamphetamine in speed mixtures sold on the recreational amphetamines consumer market. This contaminated speed (containing both 4-methylamphetamine and amphetamine), has led to the death of six people during the period August 2011 – May 2012. All deceased persons were recreational drug users. The severe impact of 4-methylamphetamine on public health in Belgium has lead to an official risk assessment by the Belgian federal government. Comparison with lab test results in the Netherlands, we estimate that around 10% of the speed sold in Belgium in 2011/2012 was contaminated with 4-methylamphetamine.

This has resulted in a warning about potentially lethal contaminated speed to the general public using the press, and a more specific warning about the specific toxicity of the observed 4-methylamphetamine/amphetamine mixtures to the professional network (coroners, emergency departments, prevention services, etc...).This assessment also led to the scheduling of 4-methylamphetamine as a controlled compound later in 2012.

One common clinical feature observed in the deaths related to the use of 4-methylamphetamine, was extreme hyperthermia. We hypothesize that the specific combination of amphetamine and 4-methylamphetamine resulted in users potentially consuming more of the mixture, resulting in toxicity symptoms (mostly hyperthermia and cardiac events), and, ultimately, death.

Of note is that the casualties described here were not habitual drug users (“junkies”), but rather used the contaminated speed in a recreational setting. Hence the broad warning that was sent out, since many people (especially in the party scene) were at risk for exposure to 4-methylamphetamine.

Recent developments concerning the DRD Key Indicator in Bulgaria

1. Brief overall situation on DRD

In Bulgaria GMR is National Statistical Institute (NSI).
The mortality rate of DRD according the NSI is 0,34 per 100 000 of the general population for 2011 in Bulgaria. The males are 88,0% of the all deaths caused by drug use in 2011. The mortality rates for males and females are 0,30 per 100 000 and 0,04 per 100 000 respectively.
The largest number of drug related deaths is in the 25-29 age group, such as the late years tendency is. 88,0% of all drug related deaths are in the 20-39 age group.
The average age of the deceased by drug use is 31,5 and it is a bit lower for males 30,6 compared to this one for females – 38.3. On the other side the median mortality age is considerably lower – 23 years for all dead.
The percentage of deceased due to Accidental poisoning by narcotics and psychodysleptics [hallucinogens], (X42 of ICD 10) is largest (60%) and only one of them is female. The next contributory causes for DRD are classified in the class "Outside Causes for Morbidity and Death" of ICD 10: 20% of the cases are caused by "Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs" (X41); 8% of the cases are caused by "Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens]**"** (X61); and 8% of cases – by "Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], undetermined intent" (Y12).
Two more sources of information have been used as an alternative source of DRD data for 2011 – (1) the Forensic Medicine and Deontology Centers (FMDC) in Sofia (Aleksandrovska Hospital), Varna (University of Medicine), Plovdiv (University of Medicine), Ruse and Blagoevgrad;. and (2) the Ministry of Interior (MI). The FMDCs have provided data for deaths when autopsy has been done and any drug use has been detected. The data has been classified by gender, age, type and quantity of the detected substances as well as organs where they were detected. Date of death, the cause and the place of deaths have been indicated too. 33 deaths caused by drug poisoning during 2011 are reported by the FMDCs. The most are in Sofia (60,6%) but the least are in Varna (3,03%). The most of died are aged 31-35 (33,3%), followed by these ones at age of 26-30 (27,3%).
The Ministry of Interior has provided annual DRD data about all the country for 2011 summarized by the administrative regions. Data is classified by gender and by age (in 3 groups – under 18; 18 – 30; above 30). However the data does not include the death causes.
Summarized data for drug related deaths will be available in the Annual Report 2011 of NFP and respective Standard Tables.

2. Recent trends

The mortality rate of DRD for 2011 in Bulgaria according NSI is lightly reduced by comparison with this one for 2010.
The ratio "deceased males/females" keeps being in males favour.
The average age of deceased in 2011 is slightly increased compared to 2010. There are no considerable changes in the structure of drug related deaths by causes.

3. Recent specific analysis / studies on drug-related mortality

Results of mortality data analysis based on a retrospective national mortality study of the treatment demand cohort for 10-year period are available. Mortality Rate and Standardized Mortality Ratio estimates are calculated and presented in the Standard Table 18 through the National Annual Report 2010.

4. Emerging problems: new substances, characteristics of victims

There is no appropriate information about this topic

Recent developments concerning the DRD Key Indicator in Croatia

1. Brief overall situation on DRD

The mode of data collection has not changed. There is a fully functional system of data collection which makes it possible to retroactively collect the data missing in a DC, when vital for determining and coding the underlying cause of death. The system is based on a network of public health institutes which supports the collection of data missing from the DC on the county level. The results of toxicological analyses conducted in the labs of the institutes of forensic medicine and the MI may be used to determine the underlying cause of death. Responsible for determining and coding the underlying cause of death, based on the data from the DC, is the CNIPH, which applies the rules and methodology recommended by the WHO in ICD 10th Revision, Volume 2 (used since 1995). In line with the recommendations of the WHO, Eurostat and EMCDDA, we have been applying ICD-10 updates in coding of narcotic drug poisoning in registered addicts since 2006. *In 2011 we started with implementation of new death certificate.*

In Croatia there are two sources of data on the number of drug-related deaths (DRD). The first one being the General Mortality Registry (GMR) based on DCs, and the second one the Treated Drug Addicts Registry, which among other thing monitors causes of death among drug addicts. Successful cooperation between these two registries has made it possible to upgrade data quality.

This report has used data from the GMR, applying the “Selection B” protocol for drafting standard ST5 and ST6 tables.

2. Recent trends on the numbers and characteristics of DRD

In 2011, 59 persons died as a direct result of drug abuse (DRD), which are 14 less deaths than the previous year. 45 deceased persons were men (76%) and 14 women (24%). Average age of the deceased was 35.8, for men 35.8 and 35.7 for women. As opposed to previous year, a decrease in the number of DRDs was registered, as well as an increase in the mean age of deceased. According to the results of toxicology reports for 2011, opiates are still the predominant type of drug (92%), women’s 100%.

3. Recent specific analysis / studies on drug-related mortality

No new study in 2011.

4. Emerging problem: new substances, characteristics of victims

In 2011 four deaths due to cocaine were registered (same as in 2008 and 2009). Three deaths were related to overdoses and one to suicide.

Recent developments concerning the DRD Key Indicator in Cyprus

1. Brief overall situation on DRD

According to the EMCDDA "Selection D" standard definition, 129 drug related deaths in total (79 acute & 50 indirect deaths) were recorded in the Special Registry from the beginning of 2004 until the end of 2011. During the reporting year, 19 drug related deaths were recorded, 8 of which were directly attributed to drug poisoning.

2. Recent trends

When focusing attention on direct DRDs rather than indirect deaths, the overall figure indicates that the number has remained relatively stable over the last eight years.

Concerning the demographic characteristics of the deceased, between 2006 and 2009 there was a steady increase in mean age (direct deaths) from 28.3 to 33.4 years; this increase was attributed to the fact that the number of older drug users has been on the rise, and it was expected that the mean age of the deceased would keep increasing over the years - however in 2010, mean age dropped from 33.3 to 32.4 years, and *it fell again to 31.4 years in 2011*; although this change does not appear significant to the overall trend, it may be a tendency which needs further monitoring.
Due to data limitations, no safe conclusions can be drawn as to particular trends. In addition, *in previous years (2004-2009), all except one of the direct deaths involved men; whereas in 2010 two direct deaths involved women (one involved a suicide, with a suicide note), and in 2011 no women were among the deceased.*

Analysis regarding the nationality of the deceased previously showed that between 2006 and 2009 the large majority were Cypriot nationals (n=36), corresponding to 55.4% of all the deceased. EU nationals accounted for 26.1%, and nationals of other countries to 18.5%. It may be worth noting that in 2010 only 4 out of twelve deceased were Cypriot nationals, 5 were EU nationals and 3 were nationals of other countries; *in 2011, 11 out of 19 deceased were Cypriot nationals, and again 5 were EU nationals and 3 were nationals of other countries*; this change does not appear significant to the overall trend, especially as the treatment population is fairly well reflected in the figures. However, the high incidence of EU and foreign nationals among DRDs does need to be noted.

Most of the direct deaths are attributed to heroin overdose.

3. Recent specific analysis / studies on drug-related mortality

Discussion continues among the members of the DRD indicator working group on the possibility of carrying out a mortality study. The possibility of data linkage between TDI data and DRDs is being investigated, and it is worth also noting that possibly by the beginning of 2013, a pilot programme of the integrated computerised monitoring system for treatment centres will be in place, beginning with certain state-operated services. The eventual implementation of this system will make a mortality study much more feasible.

4. Emerging problems: new substances, characteristics of victims

No new trends noted.

Recent developments concerning the DRD Key Indicator in the Czech Republic

Recent developments concerning the DRD Key Indicator in the Denmark

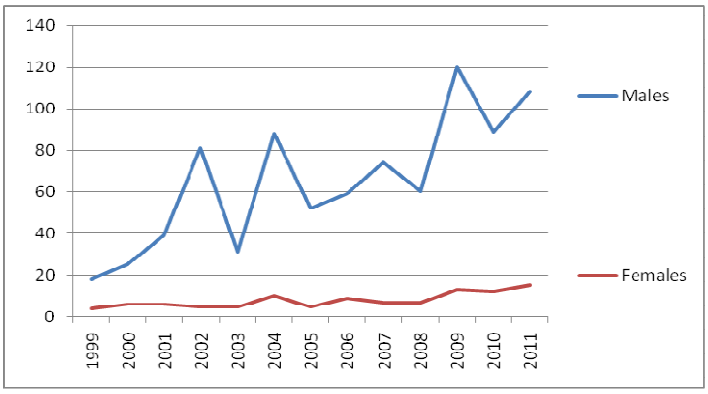
Recent developments concerning the DRD Key Indicator in Estonia

1. Brief overall situation on DRD

In 2011 the number of drug-related deaths grew to 123 (108 in males, 15 in females) or 93.1 per million population. Vast majority are concentrated in the capital city Tallinn and surrounding areas (N=72) and North-East of Estonia (N=41).

2. Recent trends

Evolution of drug-related mortality (based on Standard table 6) is shown on the chart below.



Due to improved collaboration between Estonian Forensic Science Institute and National Institute for Health Development the number of cases with uncertain toxicology (substance codes T40.6 and T40.9) has decreased in 2010, vast majority of cases are due to fentanyles classified to T40.4.

Table 1. Drug-related death in Estonia (Selection B) by sex and ICD-10 codes
(M=males, F=females, T=total)

		2009			2010			2011		
Cause of	**Substance**	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
F11.2		1	0	1						
X41	T43.6				7	1	8	4		4
X42	T40.0	1	0	1						
	T40.1							2		2
	T40.2	2	0	2	1	1	2	1	1	2
	T40.3	2	1	3	3	1	4	10	1	11
	T40.4	14	0	14	71	9	80	87	12	99
	T40.5							1		1
	T40.6	88	11	99	5		5		1	1
	T40.9	3	0	3						
X62	T40.2	1	0	1						
	T40.9	1	0	1						
Y12	T40.3				1		1			
	T40.4	1	0	1	1		1	3		3
	T40.6	6	1	7						
Total		**120**	**13**	**133**	**89**	**12**	**101**	**108**	**15**	**123**

3. Recent specific analysis / studies on drug-related mortality

In 2012 two articles were published as a result of joint study by Estonian Forensic Science Institute and National Institute for Health Development co-financed by EMCDDA:
Tuusov, Jana; Vals, Kaire; Tõnisson, Mailis; Riikoja, Aime; Denissov, Gleb; Väli, Marika (2012). Fatal poisoning in Estonia 2000-2009. Trends in illegal drug-related deaths. Journal of Forensic and Legal Medicine, 1-6
Denissov, Gleb; Tuusov, Jana; Tõnisson, Mailis; Lepik, Delia; Väli, Marika (2012). The impact of changing classifications on official fatal poisoning figures. Romanian Journal of Legal Medicine, 20(3), 197 - 202. (available on Internet http://www.rjlm.ro/?doc=1347889024)

Recent developments concerning the DRD Key Indicator in Finland

Recent developments concerning the DRD Key Indicator in France

1. Brief overall situation on DRD

According to the official data available, DRD reached its peak in 1994 and experienced a sharp reduction connected with the diffusion of opioid substitution treatment. However, since 2003 a new upward trend has been detected and has maintained.

2. Recent trends

In 2010 the figure of overall DRD provided by the general mortality registry showed a new rise – primarily connected with the increase in the coded X62 cases (accidental poisoning by and exposure to narcotics and psychodysleptics) - after an apparent stabilisation in 2009. But in a more detailed analysis, with restricted drug-users' age ranges (i.e. 15-49 year old), this increase was no longer apparent.

Opiates uses remain the main cause of death, with heroin and methadone misuses the two most quoted substances in death certificates. Cocaine ranges third and remains stable. Note that polysubstance uses are often involved in DRD (up to 40% or more of the total amount of DRD-DID). The lack of adequate detailed information on substances stipulated in the death certificates remains a major barrier to a better understanding of this on-going process, supporting the use of special registry (forensic laboratories). *This special registry showed that heroin was responsible for a third of death from overdose in 2010, whereas opioid substitution treatment (methadone and buprenorphin) was responsible for half. Opioid substitution treatment, in particular methadone is responsible for a greater share of death from overdose compared to the previous years. It should however be kept in mind that this registry does not include all forensic laboratories and that in France toxicological analysis are not carried for all cases of overdose death.*

The new abovementioned rise may be related to the availability of highly dosed heroin (superior to 30% with a few samples superior to 50%) after several years of poor quality supply. Qualitative studies also suggest the rise of a new type of irregular, parties-related, socially well included users, steering clear of treatment centres and less aware of harm reduction practices.

3. Recent specific analysis / studies on drug-related mortality

Following the EMCDDA's recommendations, a prospective cohort study, based on treatment centres and a few harm reduction facilities, was launched in December 2009. 1000 individuals were included during the first draft which ended in June 2010. *A second draft included 186 individuals in 2011.* Subjects will be followed-up to up to 5 years. Note that for technical reason, these individuals are requested to provide their names, date and place of birth, putting a brake on their (voluntary) inclusion.

4. Emerging problems: new substances, characteristics of victims

DRD remain a male characteristic, *with a ratio of 3.3 male to 1 female.* According to the information provided by the GMR, generally the victims show low scholar levels and precarious occupational status (inactive, unemployed).

Recent developments concerning the DRD Key Indicator in Germany

Recent developments concerning the DRD Key Indicator in Hungary

Recent developments concerning the DRD Key Indicator in Ireland

1. Brief overall situation on DRD

The National Drug-Related Deaths Index (NDRDI) in Ireland provides all data on drug-induced deaths (DRD) and mortality among drug-users in Ireland.

2. Recent trends

In 2010, the most recent figures available, there were 164 deaths owing to poisoning recorded in Ireland by the NDRDI. This represents a substantial drop compared to 2009, when 216 such deaths were recorded.

Table 1 Poisonings (Selection D) by year, NDRDI, 2001–2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Selection D	109	127	108	128	171	189	208	215	216	164

Source: Unpublished data, NDRDI

The number of deaths where heroin was implicated (alone or with another drug or substance) also dropped, from 115 in 2009 to 70 in 2010. This is the first time since 2005 there has been a decrease in the number of deaths owing to poisoning where heroin was implicated.

In early 2011, there were at least six fatal heroin overdoses reported by the Irish media. These deaths had been preceded by a reported heroin drought in December 2010. Comparing the number of deaths where heroin was implicated, by month, for the years 2009 and 2010, shows that the reduction in the number of deaths occurred throughout the year and not just in November and December 2010. The figures do not reflect a sudden event such as a heroin drought late in the year. However, the biggest difference in the number of deaths recorded was for the month of December: 16 deaths in December 2009 compared to three in December 2010. It will be important to analyse the numbers and trends in 2011, to see if there was, as reported in the media, an increase in deaths where heroin was implicated in January–March of 2011.

Regardless of the overall decline in deaths owing to poisonings, opiates continue to be associated with most poisoning deaths recorded in the NDRDI, and indeed was higher than in previous years (93.9%). Similar to 2009, heroin or unspecified opiates *alone* accounted for 23.7% of all poisonings.

The number of deaths where cocaine was implicated (either alone or with another drug or substance) declined from 53 in 2009 to 20 in 2010.

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. The number of non-poisoning deaths increased by 67% over the reporting period, from 162 deaths in 2004 to 271 in 2009. 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.

3. Recent specific analysis / studies on drug-related mortality

No new studies since last year.

4. Emerging problems: new substances, characteristics of victims

In 2010, there were six deaths owing to poisoning where ‘head shop’ drugs (new psychoactive substances) were implicated (either alone or with another drug or substance), a very slight increase on 2009. This may be partially due to the lack of availability of standards for laboratory testing during this time.

The mean age of those who died owing to poisonings remained stable compared to previous years at 34.1 years.

Recent developments concerning the DRD Key Indicator in Italy

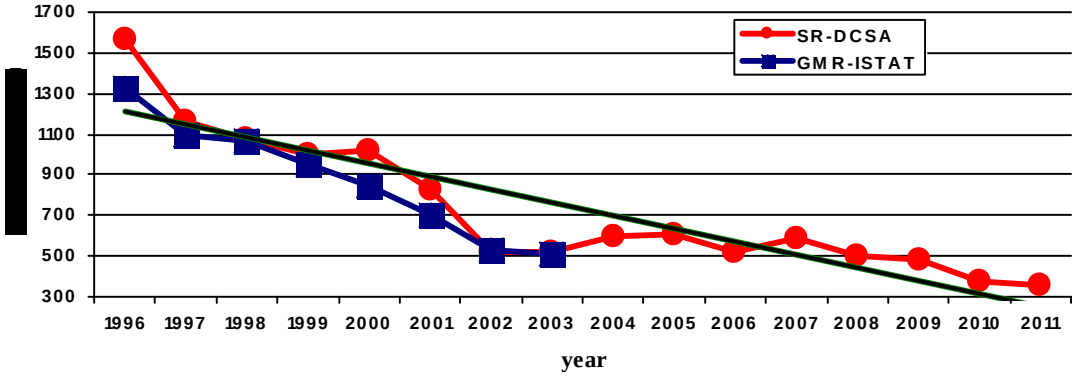
1. Brief overall situation on DRD

No changes in the recording and monitoring data happened in Italy. SR, held by the Ministry of the Interior-Central Directorate for Anti Drug Services, followed the same procedures as in the past years. The GMR, since 2003 (year of the coding system change) DRD data are non available yet.
According to the SR, the number of direct DRD in **2011** decreased further on confirming a lessening trend.

2. Recent trends

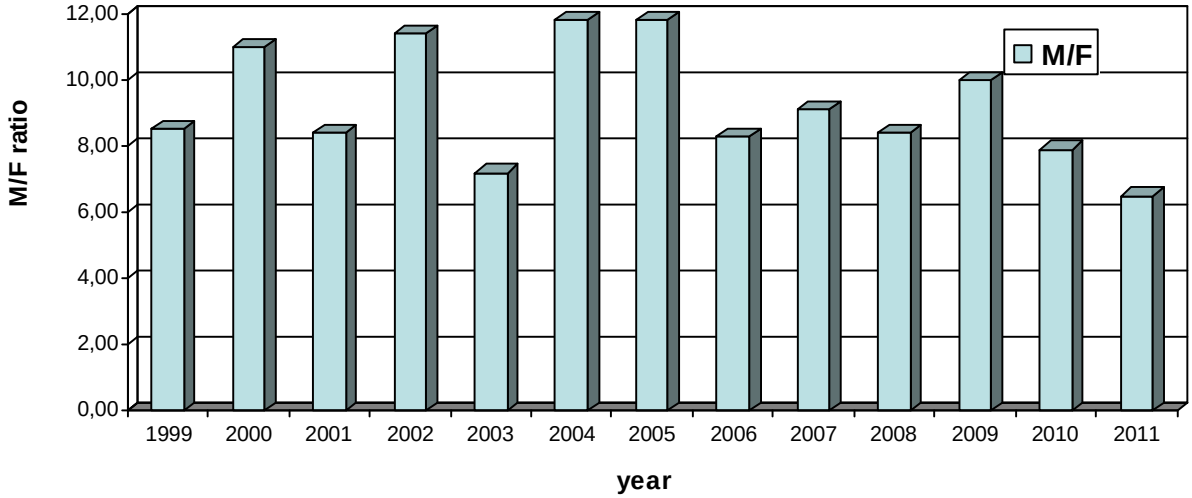
In 2011, **362 direct drug-related deaths** vs the **374** cases recorded in 2010 **(- 3.2 %) occurred; t**he DRD trend keeps in decrease (Figure 1).

Figure 1. Direct Drug-Related Deaths: SR and GMR. Italy, 1996-2011.



Out of the 362 deaths, 87% were men (314) and 13% were women (48), the M/F ratio was equal to 6.5, (Figure 2).

Figure 2. Direct Drug-Related Deaths (SR) by year and M/F ratio. Italy, 1999-2011



The average age of death has been increasing for many years. In 1999, the average age was 32 years, whereas in 2011 it had gone up to 37 years. In 1999, near 31% of dead people was >35 ys old; in 2011 this percentage was 60%, the highest recorded value.

The **2011**, shows a decrease of cocaine fatal intoxication (8.0% vs 11.2% in 2010); on the contrary, a slow but steady increasing (+ 2.3 percentage points) of cases by substances other than heroin is pointed out (figure 3). Drug-related deaths are mainly due to heroin In 2011 too (48.1%) and a light increase in heroin fatal accidents is noticed (+ 13% compared with 2010). A diversification of used drugs is still observed, most of them hard to identify on circumstantial basis as the anyway high percentage of “unspecified” drug suggests (figure 4).

Figure 3. Deaths by cocaine and substances other than heroin: percentage by year. Italy, 2007-2011

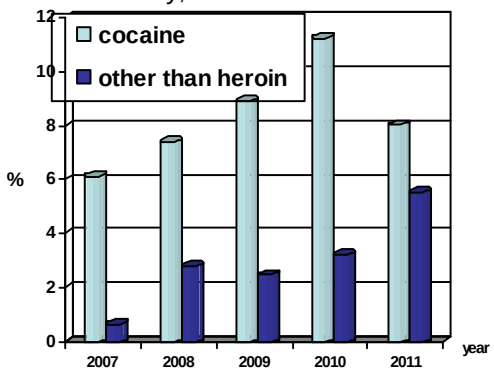
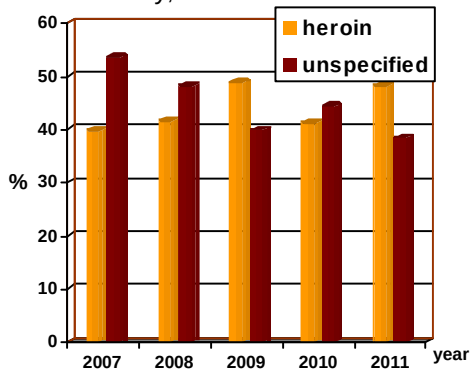


Figure 4. Deaths by heroin and "unspecified" drug by year. Italy, 2007-2011



Among the 362 recorded cases, 174 are referred to the heroin, 29 to cocaine, 15 to methadone (9 cases in 2010), 2 to MDMA, methamphetamine, 1 to hashish, 2 barbiturates, 139 to unspecified drug. Opiates remain the main cause of DRD (about 4 cases out of 10), fatal poisoning by cocaine is decreasing in number (29 vs 41,- 29.3%). It seems clear when the heroin/cocaine cases ratio by year is considered: 6.5 in 2007, 5.6 in 2008, 5.5 in 2009, 3.7 in 2010 and 6.0 in 2011. The lack of information on substances (unspecified in more than 38% of the cases) is a significant hindrance in DRD trend monitoring.
Among young people under 25 ys the percentage of poisoning deaths is 11 % (10.4% in 2010); 3.3% % under 20 ys where heroin, cocaine and MDMA are recording as causing the fatal event.
The 59.1% of the cases (90% of the female victims) happens at home, 12.8% on hospital, 8.0% in public place, 10.8% on the street.

3. Recent specific analysis / studies on drug-related mortality

Mortality of patients hospitalized for drug related diseases at national level is carried out by extraction from the hospital discharge forms coming from the Ministry of Health.
In 2010, 208 deaths (<1%) among patients admitted to the hospitals for health conditions and diseases comorbid with drug use were recorded. The number of deaths among these patients was increased (+17.5%): 206 cases in the 2007, 192 in the 2008, 177 in the 2009. Opiates were the cause of death in 32.7% of the cases (36.2% in the 2009); in near 1 case out 4 (23.6%) the drug was unspecified.
With respect to road traffic accidents recorded in 2010, national data coming from the National Institute of Statistics (ISTAT), showed a drug-related deaths increasing (+ 1.47% vs 0.83% in 2009), unlike alcohol-related fatalities that was falling (- 3.3%).
Within the DRDS Project, funded by the Italian Government, a study on Drug-related injuries in Italy was carried out. A population based approach was adopted to assess the burden of drug related events in the entire population; the study was focused on morbidity measures using the Italian National Hospital Register and, for the Piedmont, the Regional Emergency Department Register. For fatal events, the General Mortality Register was used. Year of reference: 2008.
During 2008, in Italy, 6.5 x million inhabitans died for directly drug abuse. Excluding pharmaceuticals, the incidence rate of inpatients in Italy was equal to 26.5 x 100,000 inhabitants. The 11.6% of these drug related hospitalizations were associated with **injury (3.2%)**, poisoning (8.4%) or intoxication. In Piedmont, in the considered year, the corresponding inpatient rate (pharmaceutical excluded) was 28.7 x 100,00o, injuries and poisoning accounting for 5.4% of inpatients. The incidence rate of attendances to ED for drug related diseases (pharmaceuticals excluded) was equal to 116.9 x 100,000 because of opioids (10.7%), cocaine (3.9%), cannabis (1.8%).
Unlike what observed in hospitalized patients, in the ED drug-related cases, **25.4% of the patients had an associated diagnosis of injury**, of intoxication or poisoning in the 10.9% of the cases. A specific study about drug-related mortality through the Emergency Department Registers is considered.

4. Emerging problems: new substances, characteristics of victims

The Methorphan in heroin seizures and levamisole/tetramisole in cocaine seizures were identified in 2011 too;
Intoxications and deaths were related to high purity (up to 54%) of available heroin and to high level of 6-monoacetylmorphine even if in powder with low percentage of heroin.
As regards new substances, use of such drugs, diversification of abused drugs and poly-drug assumption makes hard to identify on circumstantial basis the substance cause of death. Furthermore, analytical standards for toxicological post-mortem control of many new drugs were not available.

Recent developments concerning the DRD Key Indicator in Latvia

Recent developments concerning the DRD Key Indicator in Lithuania

1. Brief overall situation on DRD

In 2011 compared to 2010 was registered small decrease on Drug-related in Lithuania.

Changes occurred in drug related data collection system (institutional fremework). After the Mortality register law changes adopted by Parliament, since 2010 Lithuanian General Mortality register was moved from the Department of Statistics under the Government of the Republic of Lithuania to the Institute of Hygiene Health Information Centre. Lithuania NFP in 2010 agreed on annual DRD data gather and data collection form from the Institute of Hygiene Health Information Centre and in 2011 got requested data for DRD.

2. Recent trends

According to data of the Institute of Hygiene in 2011, 45 deaths (37 males and 8 females) due to drugs and psychotropic substance use were registered (in 2010– 51 case; in 2009– 68 cases), and this level accounts for 0,12 percent of all deaths registered in Lithuania (in 2010 – 0,12 percent; in 2009 – 0,16 percent). According to age distribution in 2011, the biggest number of deaths was in the young subgroup aged from 20 to 29 (21 individuals), with the average age in time of death was 33,4 years (in 2010 - 31 years), for men – 31,5, women – 41,9, the youngest was 17 years old, the oldest - 80 years old. In 2011, the main death cause was intoxication with drugs and psychotropic substances (44 deaths), mostly opiates – 24 deaths cases (of them in 2 cases was found methadone), unknown or non-specified narcotic or psychotropic substance – 19 cases, cocaine – 1 case.

3. Recent specific analysis / studies on drug-related mortality

No

4. Emerging problems: new substances, characteristics of victims

No

Recent developments concerning the DRD Key Indicator in Luxembourg

1. Brief overall situation on DRD

At the national level two complementary drug-related deaths indexing routines do currently exist:

1. **The Special Drug Unit of the Judicial Police (SPJ) maintains a register on acute drug deaths (RSPJ).** The RSPJ indexes all direct overdose cases due to illicit drug use documented by forensic evidence provided by the Division of Toxicology of the National Laboratory of Health (LNS)
2. **The statistical department of the Directorate of Health maintains the General Mortality Register (GMR)** indexing all deaths that occurred on the national territory by means of death certificates provided by GPs. Since 1998 the GMR applies the 10th revision of the International Classification of Diseases (ICD-10). A **computerised DRD extraction protocol** (SPSS ®) conceived by the statistical department of the Directorate of Health (GMR) and the national focal point allows extracting drug-related death cases from the GMR by the application of a predefined standard (e.g. DRD)and to deliver requested DRD data to the EMCDDA.

The consolidated use of a standardised data reporting protocol produced by the NFP and applied by the SR team (Judicial Police) currently allows a comparative approach towards data included in the GMR and the SR.

Quality of national DRD data is assessed to be high in terms of coverage and consistency since all related data are centrally reported to the national focal point via specialised law enforcement agencies and the Toxicological Division of LNS and double-checked by GMR specialists at the Ministry of Health. **DRD 2011 data** have been provided to the EMCDDA in due time according to agreed standards.

2. Recent trends on the numbers and characteristics

As can be seen in figure 1. the DRD v. 3.0 standard (selection B) appears to be fairly weak proxy of direct, indirect and total drug deaths as indexed nationally by the RSPJ. Overall drug related mortality should not be assessed by the same standard as far as Luxembourg is concerned.

The number of **fatal acute overdoses** indexed at the national level has shown an overall discontinuous decrease since the beginning of the 21st century. In 2000, 26 acute drug deaths were registered whereas 6 cases have been reported in 2011. Indirect drug-related deaths have known broad variations in number during the same period (2011 data not available).

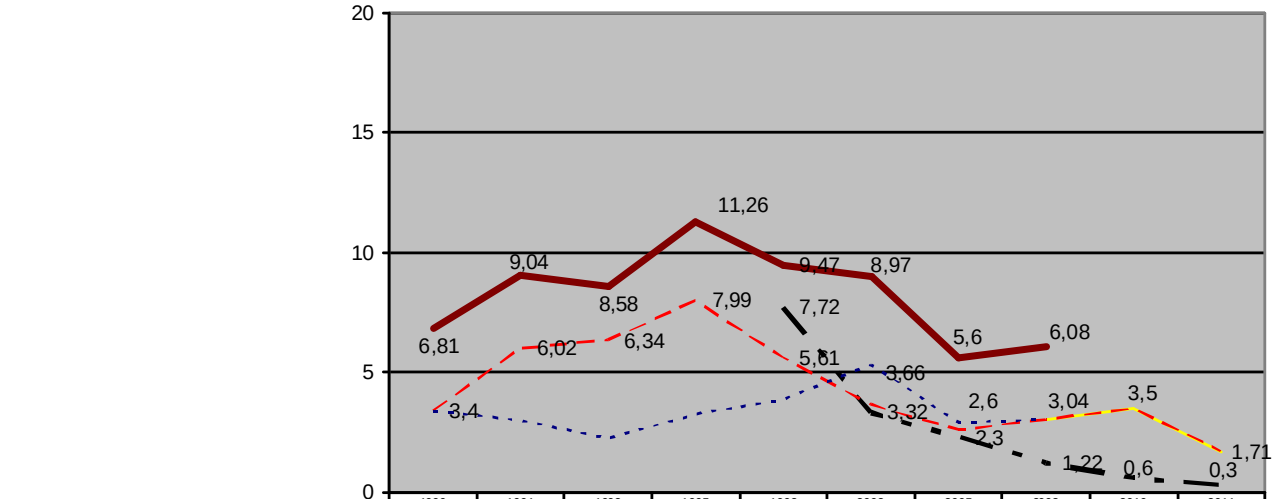
Confronted to most recent national prevalence figures on problem drug users referring to data of 2007 (*N* = 2.470), (Origer, 2009), **overdose rate in PDUs** situates at 0.24 % cases (2011) / PDU (1.1 % in 2000).

Referred to the total number of drug-related deaths, indexed by national law enforcement agencies and forensic institutes, the same proportion shows weaker variations: 0.8% in 2008, 1.346% in 2000, and 1.333% in 1997. The overdose rate in the national general population figured 6.43 overdose deaths per 100,000 inhabitants[1] in 2000. In 2011 overdose rates of 1.17 and 1.66 per 100.000 inhabitants and 100.000 inhabitants aged 15 to 64 years respectively have been observed, thus witnessing the lowest rate since 1986. International comparison should be considered with caution since methodologies used to determining prevalence of DRD deaths are not necessary comparable throughout EU as shows for instance the structural underestimation of the number of acute drug death based on the EDMCDDA DRD v.3 standard.

The overall discontinuous decrease of acute overdose cases from 1994 onwards has been associated to the regionalisation and extension of the methadone substitution programme as well as to the further development of low threshold facilities. The decreasing trend from 2000 to 2002 is thought to be a medium term consequence of the higher proportion of non-i.v. opiate users observed during that same period followed by a stabilisation around 4.5 percent. The positive evolution of direct drug deaths is to be associated to the implementation of a drug consumption room in 2005. Considering that since the opening in 2005 of the drugs injection room more than 1,000 overdose victims could be assisted and reanimated in this same facility, the life-saving effectiveness of such an offer is beyond doubt.

[5] All age groups included

Figure 1 Evolution of drug-related mortality rates (direct - indirect - total mortality) per 100,000 inhabitants aged 15 to 64 from 1990 to 2010 (Origer 2011)



	1990	1991	1992	1995	1998	2002	2005	2008	2010	2011
Drug related mortality rate DRD (vers.3.0 selection B)					7,72	3,32	2,3	1,22	0,6	0,3
Drug-related mortality rate: RSPJ (SR)	6,81	9,04	8,58	11,26	9,47	8,97	5,6	6,08	na	
Drug related mortality rate DRD (vers.3.0 selection D)								3,04	3,5	1,71
Acute/direct drug deaths mortality rate: RSPJ (SR))	3,4	6,02	6,34	7,99	5,61	3,66	2,6	3,04	3,5	1,71
Indirect drug deaths mortality rate: RSPJ (SR)	3,4	3,01	2,24	3,27	3,86	5,32	2,9	3,04	na	

Forensic data provided by the by Division of Toxicology of the LNS[2] show that the most frequently involved substance in overdose cases is heroin, followed by benzodiazepines, methadone and cocaine. In 2010, 91% of known cases showed presence of heroin and benzodiazepines respectively, in 45% of cases methadone and in 27% cocaine presence were reported. To stress that since 2000, methadone presence in blood samples of overdose victims has been increasing. The vast majority of victims are male and their mean age at the moment of death shows an important increase over the past 15 years (in 1992: 28.4 years and in 2011: 31.5 years).

3. Recent specific analysis / studies on drug-related mortality

A new national study is currently conduced (Provisional title: *Opiate and cocaine related fatal overdoses in the Grand Duchy of Luxembourg from 1985 to 2011: a longitudinal and gender specific analysis*). Aims: to describe trends in the national prevalence of fatal overdose (FOD) cases related to opiates and cocaine use between 1985 and 2011. To analyze gender specificities in FOD victims in a longitudinal perspective. Final results should be available by the beginning of 2013.

4. Emerging problems: new substances, characteristics of victim.

Death cases primarily due to new emerging drugs (legal highs, research chemicals, etc.) have not bee reported thus far.

In recent years the mean age of acute overdose victims has been continuously increasing an currently situates around 32 years. The mean age of female victims is sensibly lower than the age of their male counterparts. However, the proportion of victims aged less than 20 years did also show an increasing trend, especially in women. No underage victims were reported in 2011. Typically around 3 fatal od victims in 4 are natives. Since the beginning of this century Portuguese citizens rank second.

[6] Division de Toxicologie du Laboratoire National de Santé

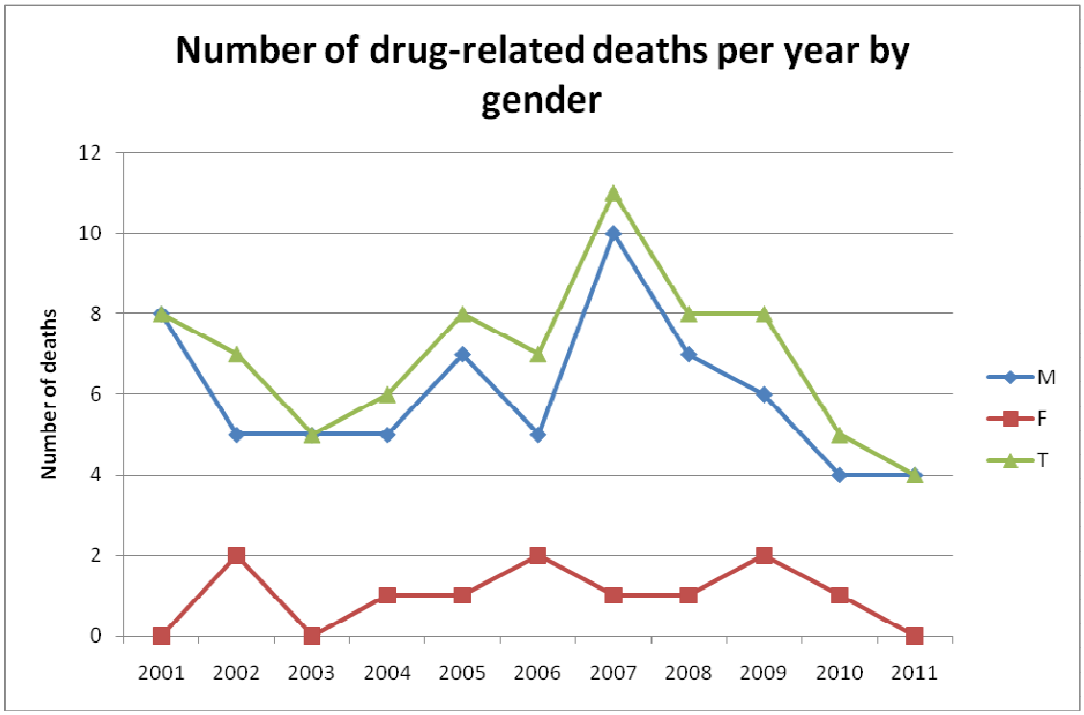
Recent developments concerning the DRD Key Indicator in Malta

1. Brief overall situation on DRD

During the year 2011 there were 4 drug related deaths, a decrease from the previous year of 1. All were male and fell in the age-group of 15-54 years. They were coded either as intentional poisoning or poisoning of undetermined intent. Drugs of abuse included heroin, cocaine and psychostimulants with abuse potential, in order of importance.

2. Recent trends

The following linear graph shows the trend in the number of DRDs since the year 2001. The trends must be interpreted with caution given the small numbers. The mean and median age of death for 2011 was of 34.3 and 34.0, respectively. The mean and median age of death for the 10-year period covering 2001 to 2011 was of 32.4 and 30.0 years, respectively.



3. Recent specific analysis / studies on drug-related mortality

Malta is currently participating in a mortality cohort study which is being coordinated my EMCDDA. The study was based on a treatment centre mainly for heroin users followed up from 1994 to 2008. There were 1805 subjects followed up with mean age at enrolment of 24 years. Results of this study are being analysed.

4. Emerging problems: new substances, characteristics of victims

No new problems.

Recent developments concerning the DRD Key Indicator in Norway

1. Brief overall situation on DRD

Since the peak in DRDs in 2000/2001 there has been a decrease, and the 2010 number of 248 deaths in Norway seems to be a continuation of the trend in recent years. The decrease in DRDs has coincided with higher availability of opioid maintenance treatment (OMT) during recent years. Although a decrease since the 2000 peak, the number of DRDs is still high in Norway. Reasons for the high frequency may be several; In Norway injecting of drugs is prevalent and typically drugs are taken in a poly-drug fashion. Additionally a relatively high post mortem frequency of the DRDs including toxicological investigations in Norway allows high rates of detection of DRDs.

OMT is increasingly available and currently more than 6500 patients are in treatment as the treatment system has become less restrictive and more harm reduction oriented in recent years.

2. Recent trends

38 % of the registered deaths (248) were due to heroin intoxication, however a total of 70 % of cases involved one or more specified opioids. Methadone was recorded as a cause in 14 % of cases, whereas no death was due to cocaine in 2010. 25 deaths (10 %) were due to intentional poisoning (suicide). 27 % of the deceased were females.

In 2010 73 % of the deceased were 30 years and older, and there was a trend towards increasing age of the DRD cases.

3. Recent specific analysis / studies on drug-related mortality

During 2009-2010 a study of overdose deaths in the capital of Oslo was performed and all DRDs that were taking place in Oslo during the 3 years 2006-2008 were included.

The findings show that one third of deaths taking place in Oslo were non-residents who died in Oslo. The non-Oslo-residents differed from the Oslo residents by being; younger, more often intoxicated by heroin and more often found outdoors or in public spaces.

Among the Oslo deaths included in the study, heroin was the main intoxicant in 2/3 of cases and the combination of opioids and benzodiazepines was prevalent.

4. Emerging problems: new substances, characteristics of victims

Norway has experienced at least 26 deaths related to PMMA (para-metoksymetamfetamin) since 2010. In 75% of examined cases PMMA was found in combination with other psychoactive substances post mortem. In addition to the DRDs related to PMMA, the substance PMMA has been detected in approximately 100 analyses from persons suspected of intoxicated driving.

Recent developments concerning the DRD Key Indicator in Portugal

1. Brief overall situation on DRD

Until 2007, due to the limitations of general mortality registries of the National Statistics Institute, Portugal privileged in the context of this key indicator data records of the National Institute of Forensic Medicine (INML). These data referred to positive post-mortem toxicological results from the INML, which in the absence of information on the cause of death did not allow an accurate assessment of the number of overdoses, yet possessing rich and quality toxicological data allowing trend analysis (temporal series with more than 25 years).
Following a strategic recommendation of the Action Plan on Drugs 2009-2012, as well as the implementation of procedures to improve the quality of general mortality registries - new circuits for data transmission and the transition to ICD-10 from 2002, the work to implement the medical certificate online as already started; from 2008, Portugal began to privilege the general registries in the context of this indicator. Simultaneously we intensified the work on optimizing the information of specific registries (complementing the information of toxicology and pathology reports in order to determine the cause of death in cases with toxicological positive results).
As a result of the work undertaken in 2008 and 2009 concerning specific registries records (reason why 2008 data was not sent in 2009), for the first time it is possible to provide information from specific registries on overdose cases.
In a near future this information will contribute to improve the general mortality registries – being expected that the second phase of this work will optimize the flow of information circuits between these specific registries and the general registries - and will now overcome some constraints related to statistical secrecy[3] in the provision of toxicological information and social demographic in the context of general mortality registries. However, it should be noted that these methodological improvements in the general and specific mortality registries, require additional caution in the analysis of trends.
It is important to refer that Portugal filled *in 2010* the Questionnaire on Special Registries on drug related death in Europe, providing detailed information on national specific registries.

Recent trends
With regard to drug-related deaths in the context of general registries, in *2010 and 2011 were registered according to the EMCDDA criteria 26 and 10 deaths respectively.*
Between 2006 and 2009, there has been an increase in the number of these deaths, contrary to the downward trend observed in previous years, *verifying a decrease in 2011* (-62%). *For 2011, is not possible to make available the toxicological and socio demographic information due to constrain related to statistical secrecy[1].*
Concerning the information on specific registries , as already mentioned, it was possible in 2009 for the first time to obtain information on causes of death in cases with positive toxicological results (for 2008 and 2009), and thus distinguish in this set of positive results the cases of overdose. Since these deaths require forensic investigation and difficulties in collecting this information remain, whether due to the delay in completing the final report or to access it, *2011 data can suffer updates next year*, which limit the comparative analyses with previous year.

In 2011, from the 157 deaths with information on the cause of death (73% of the cases with positive toxicological results), approximately 12% were considered overdoses. Despite the comparative limitations referred, is registered a decrease in the number of overdoses between 2010 and 2011, considering the proportion of overdoses in the set of deaths with information on the cause of death (12% in 2011 and 27% in 2010) and the percentage of deaths with information on the cause of death (73% in 2011 and 65% in 2010). It is also noted the decrease in the proportion of overdoses in comparison to 2009 (28%) and 2008 (36%). Concerning the substances detected in these cases of overdoses once more opiates were predominant (89%), registering an increase of cases with the presence of methadone. Cocaine was detected in 26% of the cases. As occurred in previous years the majority (79%) of these overdose cases was detected more than one substance (87% in 2010, 84% in 2009 and 87% in 2008), considering the associations with illicit and/or licit substances. In 2011, the majority (84%) of overdose cases are from the male gender (88% in 2010, 89% in 2009 and 92% in 2008) being the mean age 38 years old (39 in 2010, 38 in 2009 and 36 in 2008).

2. Recent specific analysis/studies
Nothing to report

3. Emerging problems
Nothing to report

[3] Law of the National Statistic System – SEN, Law n.º 22/2008 of 13 May.

Recent developments concerning the DRD Key Indicator in Slovakia

1. Brief overall situation on DRD

42 deaths caused by the direct effects of psychoactive substances were reported in 2011. The important proportion of these were caused by opioids only - 3 cases, by methadone only - 1 case and by opioids in combination with various substances – 8 cases, which represents together 75% of all direct deaths caused by illicit drugs and solvents. Another 26 deaths (62%) of all direct deaths were caused by medicines. Other substances excluding opioids were identified in 4 cases (10%).

2. Recent trends

Reported numbers of DRD in 2004 and 2005 in Slovakia were very similar. The number of drug-related deaths reported in 2006, 2007 and 2008 was lower. The number of reported cases has increased again in 2009 and 2010. The total number of cases reported in each year were 124 (2004), 123 (2005), 102 (2006), 85 (2007), 96 (2008), 115 (2009) and 112 in 2010. Direct drug-related deaths were the same in 2004 and 2005 – 46, while in 2006 there were 32 cases, in 2007 28 cases and in 2008 there were 46 cases reported again. During last two years the number of direct DRD had increased up to 56 cases in 2009 and has decreased again in 2010 to 42 cases. There are no recent and relevant new trends in methadone and cocaine related deaths. During the year 2010 in Slovakia methadone was detected in one case and cocaine was detected in two cases in the group of indirect drug-related deaths. The number of cases of direct DRD in the year 2011 was the same – 42 cases as in the year 2010. During the year 2011 in Slovakia methadone was detected in one case of direct and in one case of indirect death. Cocaine was not detected. In one case fentanyl was detected.

3. Recent specific analysis / studies on drug-related mortality

There were not realized recent specific analyses or studies on drug-related mortality except of routine data collection and evaluation in the year 2011.

4. Emerging problems: new substances, characteristics of victims…

There are not bigger problems with data collection in Slovakia at the moment. There were no new substances detected and reported in the both groups of drug-related deaths during the year 2011.

Recent developments concerning the DRD Key Indicator in Slovenia

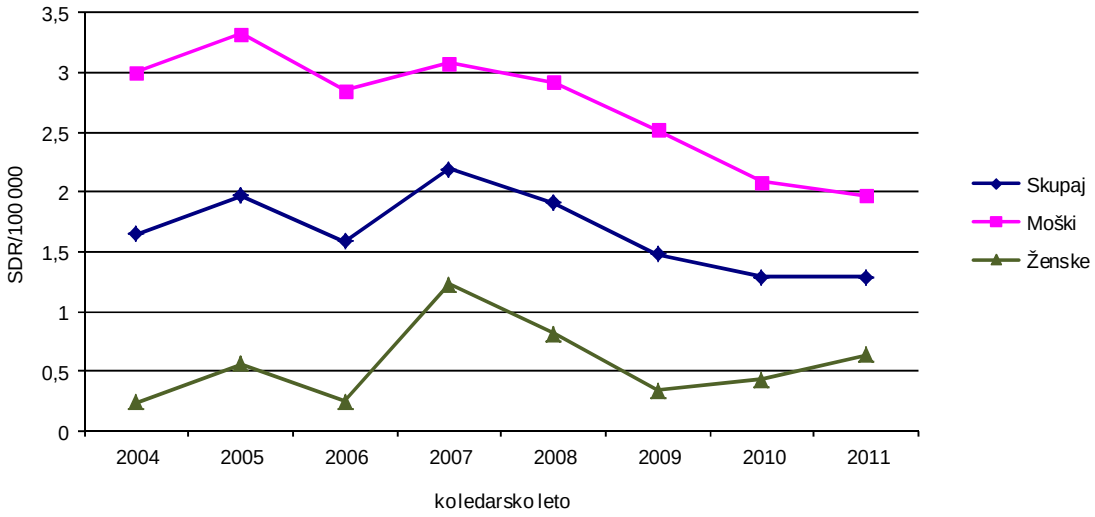
1. Brief overall situation on DRD

After abolishing, in 2008, the efforts to build up and running special register on Drug Related Deaths (DRD) to get indirect and direct causes of death among drug users, only direct DRD were possible to get from General Mortality Register (GMR). In 2009, due to lack of indirect causes of DRD we planned to run a prospective cohort study. The decision was made to include in a cohort clients treated in 17 centres for treatment of opioid drug users in Slovenia, those who were registered for treatment first or repeated time in the period 2004-2006, and to follow them up at least ten years.

As a routine statistics we prepare every year an analyses on the direct DRD using data from GMR. In the year 2011 there were 24 direct drug-related deaths in Slovenia; 19 men and 5 women which gives male to female ratio 4:1, one point of the decreasing ratio in the last three years. Median age at death for both sexes was 31.4 years the same as in the year 2010. Heroin was the most frequent drug of fatal poisoning in almost one half of deaths practically the same share as in the year before. Compared to 2010, the number of deaths due to methadone and other opioids remained unchanged, but the number of deaths caused by cocaine was jumping up and down in the all observed period.
Out of 24 poisonings two were suicidal; one was commited by overdose of a synthetic narcotic which was not opium, heroin or an opiate of another kind or methadone, and the other case was a heroin poisoning. Four another poisonings were of undetermined intent and the remaining 18 were accidental overdoses.
According to data from the Slovenian Mortality Register, 231 people died due to direct effects of illicit drugs between 2004 and 2011, which means there were 7,508 years of potential life lost due to premature death (death before the age of 65) in the period 2004–2011, and an average of 938,5 years of potential life lost in one year.
The year to year variability of data is a consequence of small number of deaths that occurred each year in Slovenia of two million inhabitants. We hope that decreasing number of direct DRD is reflecting the situation in a field, and that it is not a consequence of changing data gathering in 2008 and coding practice in 2006.

2. Recent trends

Figure 1. Trends of age-standardized direct drug-related mortality by sex, Slovenia, 2004–2011

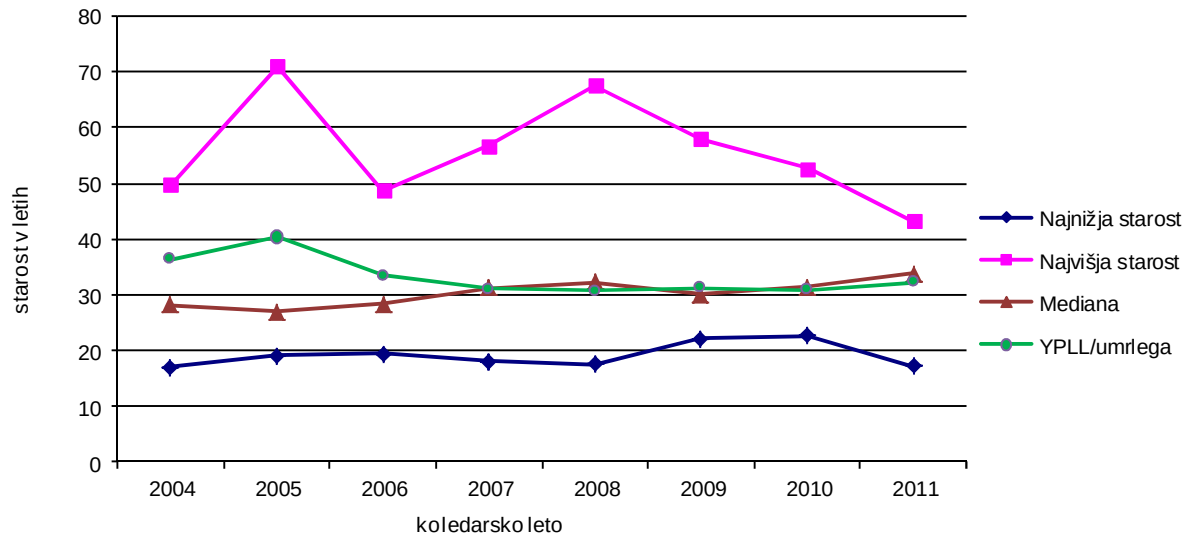


Source: IPH, Mortality Database 2004–2011

- *calendar year= koledarsko leto*
- *Total = Skupaj*
- *Men= Moški*
- *Women = Ženske*

In the observed period, the direct drug-related mortality increased until 2007, peaking in 2007 and then declining: the whole trend was not statistically significant, as was the trend of drug-related mortality in women, while drug-related mortality in men was decreasing significantly in this period ($R^2 = 0.576$)

Figure 2. Changes in the highest and the lowest age at death, median age at death of drug users and the average number of years of potential life lost per deceased in Slovenia in the period 2004–2011



Source: IPH (Medical Report on the Deceased Person – IVZ 46)

- *age in years, starost v letih*
- *calendar year, koledarsko leto*
- *youngest, najnižja starost*
- *oldes, najvišja starost*
- *median, mediana*
- *YPLL/deceased, YPLL/umrlega*

The highest age at death ranged from 49 to 71 years, and the median age increased slightly from 27 to 32 years (R^2 = 0.5862) while the youngest deceased persons were between 17 and 22 years old. In 2010 and 2011 the maximum number of deaths, by five years age period, moved from les than 30 years to above 30 years. Despite the increasing age at death, the number of years of potential life lost per 1,000 decreased remained constant after 2007.

The number of deaths due to methadone and cocaine increased in the observed period 2004-2011 (R^2=0.4603; R^2=0.364) while deaths due to opium and opioids decreased (R^2=0.8725)

3. Recent specific analysis / studies on drug-related mortality

In 2011 we prolonged with follow up of the cohort members, and some basic results were calculated and sent on Table 18 through Fonte system to EMCDDA. The exact methodology of the cohort study and data collection is described in an article (Lovrečič B, Šelb Šemerl J, Tavčar R, Maremmani I: Sociodemografic and clinical differences among deceased and surviving cohort members of opioid maintenance therapy. Heroin Addiction and Related Clinical Problems 2011; (13) 3: 39-48.).

Analyses of cohort data were done with specific regards to socioeconomic differences among deceased and survived cohort members, discrepancies in mortality of clients treated in specific geographic treatment centres in Slovenia, and detailed analyse on causes of death.
The cohort results showed that the mortality among treated drug users was more than two times higher than among their peers of the same age. The range of mortality rates of persons treated in individual CPTDAs was wide, and mortality was higher in regions where indirect indicators showed a low socio-economic status. Regarding deaths due to suicide, it has been determined that the mortality was lower in the regions where indicators of economic status were better, and in regions where education levels were higher.
Among the deceased clients followed up in the cohort there were more drug users in long-term treatment, more those with low socio-economic status, more injecting drug users and more drug users with infections caused by drug use than among survived ones. The average age of deceased was also higher than the average age of survived.

A large majority of treated drug users died of a violent death, followed by gastrointestinal diseases, cardiovascular and infectious diseases. The most violent deaths were due to heroin, opium or other opioids and methadone overdoses. Suicides as an underlying cause of death among drug users were commited by hanging and by carbon monoxide or other exhaust gases self-poisonings. The interesting findings among suicide victims were that the proportions of people in long-term treatment and people who lived with their parents were larger among those commited suicide than among the other victims of violent death.
The results of cohort follow up with specific emphasise on the differences in mortality and causes of death between 17 Treated Centres, were presented in February 2012 at regular monthly meeting of medical doctors united in Treatment Demand Centres Association. The same cohort data, with emphasis on the methodology and causes of death, were presented also at EUROPAD conference in May 2012 in Barcelona and will be presented at 5th Congres of Slovene Association of Public Health in November 2012 in Portorož, Slovenia. On the 6th of November 2012 results on differences between causes of death in treated and untreated drug users were presented as Ph D thesis at Medical Faculty, University of Ljubljana.
Cohort data were also sent to EMCDDA, DRD department to perform pooled analyse on eight different cohort data. An article on suicides among drug users was sent to the scientific journal Heroin Addiction and Related Clinical Problems, and we are waiting to be accepted.

4. Emerging problems: new substances, characteristics of victims

The most important problem in Slovenia is still unknown the whole number of illicit drug users in our country, which makes impossible to get a denominator for calculating rates of direct DRD and to asses the indirect DRD. There also is no study to uncover the indirect causes of death in untreated drug users. From mortality data on cohort members it was possible to elucidate that among deceased were higher percent of men, old patients, unemployed, injectors, cocaine and non opioid users, and infected with HIV, HBC and HC viruses than among survivors till 31st of December 2011.
There is emerging problem of how to treat non opioid dependences like cocaine, marihuana and so on in out of hospital services,. We are thinking how to start up with institutions for such needs.

Recent developments concerning the DRD Key Indicator in Spain

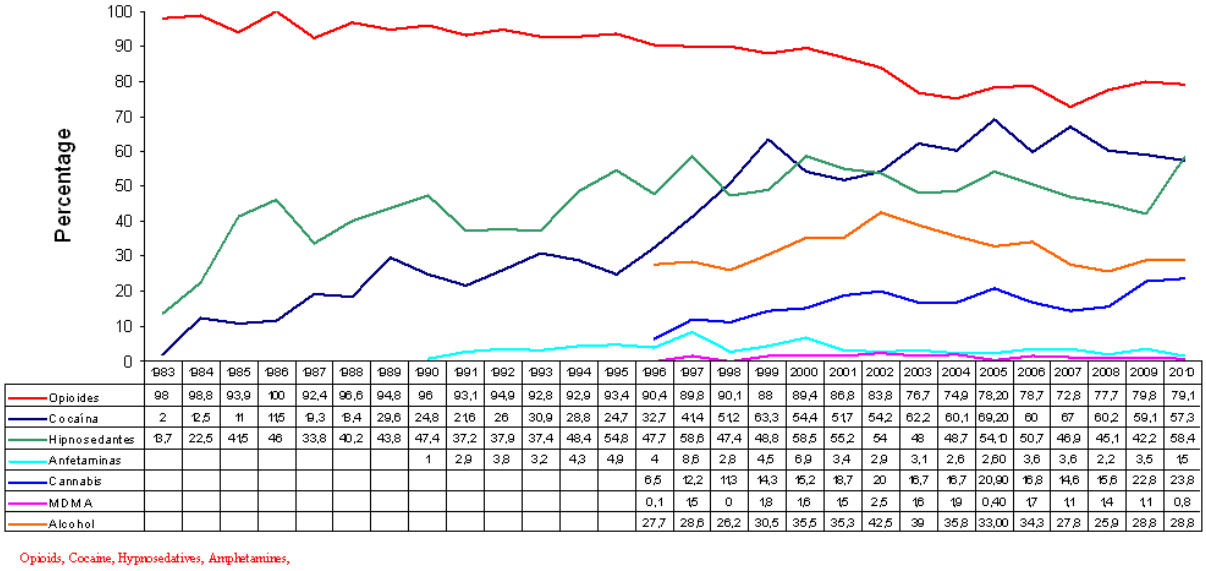
1. SPECIFIC REGISTRY

1.1. Methodology

This is a specific Death registry serving the purpose of collecting information on deaths involving judicial intervention in which the direct, main cause of the death is an acute adverse reaction following intentional, non-medical use of illicit psychoactive substances.

1.2. Main Results

Figure 1: Trend in the percentage (%) of death due to an acute reaction following the use of psychoactive substances, according to the type of substance detected in the toxicological analysis. Spain*, 1983-2010.



	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Opioides	98	98,8	93,9	100	92,4	96,6	94,8	96	93,1	94,9	92,8	92,9	93,4	90,4	89,8	90,1	88	89,4	86,8	83,8	76,7	74,9	78,20	78,7	72,8	77,7	79,8	79,1
Cocaína	2	12,5	11	11,5	19,3	18,4	29,6	24,8	21,6	26	30,9	28,8	24,7	32,7	41,4	51,2	63,3	54,4	51,7	54,2	62,2	60,1	69,20	60	67	60,2	59,1	57,3
Hipnosedantes	13,7	22,5	41,5	46	33,8	40,2	43,8	47,4	37,2	37,9	37,4	48,4	54,8	47,7	58,6	47,4	48,8	58,5	55,2	54	48	48,7	54,10	50,7	46,9	45,1	42,2	58,4
Anfetaminas								1	2,9	3,8	3,2	4,3	4,9	4	8,6	2,8	4,5	6,9	3,4	2,9	3,1	2,6	2,60	3,6	3,6	2,2	3,5	15
Cannabis														6,5	12,2	11,3	14,3	15,2	18,7	20	16,7	16,7	20,90	16,8	14,6	15,6	22,8	23,8
MDMA														0,1	1,5	0	1,8	1,6	1,5	2,5	1,6	1,9	0,40	1,7	1,1	1,4	1,1	0,8
Alcohol														27,7	28,6	26,2	30,5	35,5	35,3	42,5	39	35,8	33,00	34,3	27,8	25,9	28,8	28,8

* Autonomous Communities which notify to the death indicator (50% of Spain's population)
SOURCE: Spanish Observatory on Drugs and Drug Addiction.

2. GENERAL DEATH REGISTRY

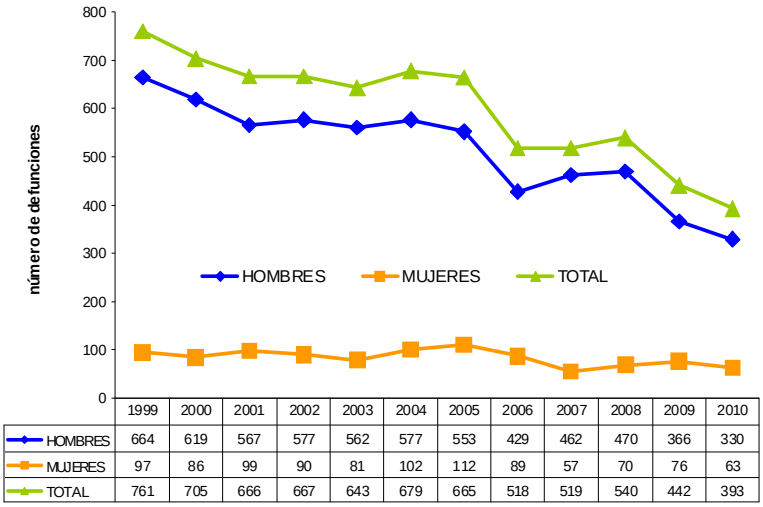
2.1. Methodology

In Spain, the National Institute of Statistics[4] (INE) keeps a general death registry including the causes of death classified as per ICD-10. An analysis of the death rate is provided in following by selecting the ICD-10 codes proposed by the European Monitoring Centre for Drugs and Drug Addiction[5], which includes ICD-10 codes: F11-F12, F14-F16, F19, X42, X62, and Y12. The X44 code is added to these codes in order to adapt to the Spanish context. This last-mentioned code includes the cases of accidental poisoning due to exposure to drugs and is used a great deal in Spain[6] for encoding deaths due to "overdose".

2.2. Main Results

Figure 2: Trend in the number of deaths due to the use of psychoactive substances, broken down by genders. Spain, 1999-2010

[4] National Institute of Statistics. http://www.ine.es/
[5] The DRD-Standard, version 3.0 EMCDDA *Scientific Report*. EMCDDA/P1/2002. http://www.emcdda.eu.int.
[6] REF: Source: Data from the General Death Registry. National Institute of Statistics.



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
HOMBRES	664	619	567	577	562	577	553	429	462	470	366	330
MUJERES	97	86	99	90	81	102	112	89	57	70	76	63
TOTAL	761	705	666	667	643	679	665	518	519	540	442	393

ICD-10 Codes: ICD-10:F11-F12, F14-F16, F19, X42, X44, X62, Y12.
Número de defunciones = No. Deaths. HOMBRES = MALES MUJERES = FEMALES TOTAL = TOTAL
SOURCE: Spanish Observatory on Drugs and Drug Addiction.

3. ESTIMATE OF MORTALITY BASED ON THE SPECIFIC DEATH REGISTRY AND THE GENERAL DEATH REGISTRY.

3.1. Methodology

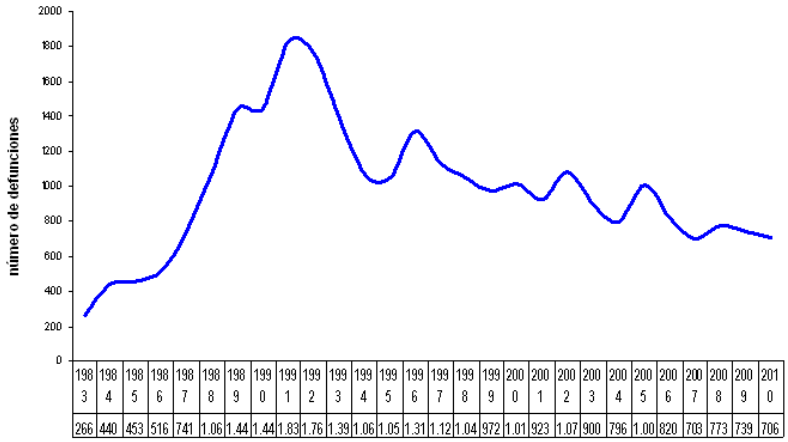
To date, the results from two sources of information have been presented, the Specific Death Registry and the General Death Registry, but both have limitations. In order to attempt to minimize these limitations in the results, an estimate has been made of deaths based on the information available. Bellow the diagram for the calculation of the estimate of the deaths due to illicit drugs in Spain.

$$\text{Estimate of deaths due to illicit drugs in Spain} = \text{Deaths due to illicit drugs from the General Death Registry} * \text{Under-registration factor}$$

$$\text{Under-registration factor} = \frac{\text{Specific Death Registry Deaths (selection}^{4}\text{ of cities/provinces)}}{\text{General Death Registry Deaths (selection}^{4}\text{ of cities/provinces)}}$$

3.2. Main Results

Figure 3: Estimate of the total number of deaths due to illicit drugs. Spain 1983- 2010.



1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
266	440	453	516	741	1.06	1.44	1.44	1.83	1.76	1.39	1.06	1.05	1.31	1.12	1.04	972	1.01	923	1.07	900	796	1.00	820	703	773	739	706

Número de defunciones = No. deaths SOURCE: Spanish Observatory on Drugs and Drug Addiction.

Recent developments concerning the DRD Key Indicator in The Netherlands

Recent developments concerning the DRD Key Indicator in Turkey

1. Brief overall situation on DRD

Data on drug-related deaths (DRD) has been collected and reported by the Ministry of Justice, Council of Forensic Medicine.

In 2011, there were 105 direct and 260 indirect drug related deaths with a total of 365 deaths.

The number of direct DRD cases (Selection D of SMR) which was 126 in 2010, decreased to 105. 95.2% of direct drug related death cases were male and 4.8% were female. These figures show that drug use is more common among men. The mean age of the patients were 33.5 for men (min:13 – max.: 79) and 43.2 for women, the overall average is 34. 25–29 age group was the most frequent. Unlike in previous years, a case of death under the age of 15 was discovered; there was a significant increase in the number of cases for 65 ages or more. The majority of the causes of the deaths were high doze or poly drug use. In 81% of the cases there was at least one opium derivative and in 19% of the cases substances were opiate free. 4.8% of the cases were due to inhaling of inhalants/solvents, with 3 deaths from solvent (toulene) and 2 deaths from lighter fluid (n – butane). Deaths were observed in a total of 28 provinces. The highest mortality rates respectively were in the provinces of; İstanbul (42.9%), Adana (8.6%), Mersin (5.7%), Antalya (4.8%), Ankara (4.8%), Gaziantep (3.8%), Nevşehir (2.9%) and Van (2.9%). 16.2% of direct drug-related deaths were of foreign nationality. Among the deaths of foreign nationals in the last 5 years, Georgia and Turkmenistan nationalities were the most frequently encountered.

95.4% (n:248) of indirect drug related cases were male and 4.6% (n:12) were female. The average age was 33.9 (min:14 – maks:79) for men, 33.7(min 21 – max 61) for women and the average age of all patients was 33.9. 20 – 24 age group was the most frequent. Most common causes of death were respectively; firearm injuries, traffic accidents, cardiovascular disease, stab wounds and hanging. Traffic accident mortality rate of 13.8% in 2009, rose to 13.9% in 2010 and to 15.8% in 2011. This increase highlights the importance of drug control of suspected cases of drivers. In 75.8% of the cases cannabis was detected. While there were 87 cases of cannabis in 2008, this number rose to 107 in 2010 and 108 in 2010 and to 197 in 2011. These data indicate that cannabis use in Turkey is increasing. Compared to previous years an increase in the use of amphetamine and derivatives use was observed. Deaths were seen in a total of 39 provinces. The highest mortality rates were respectively; İstanbul (%37.7), İzmir (5.8%), Ankara (5.4%), Antalya (5%), Diyarbakır (4.6%), Adana (3.8%), Bursa (3.8%), Sakarya (3%), Tekirdağ (3%), Samsun (2.7%), Aydın (2.3%), Manisa (2.3%) and Balıkesir (1.9%). 3.8% of indirect cases were of foreign nationality and those from Turkmenistan and Azerbaijan were in the first place.

The use of opium-free substances increased 6% for indirect drug related deaths and 8% for direct drug related deaths in comparison to 2010. Ecstasy use shows a significant increase in direct and indirect drug related deaths compared to previous years. Again in 7 of these cases methamphetamine use was found. Methamphetamine use is expected to continue in the coming years. Along with İstanbul, direct drug related deaths are most commonly encountered in the provinces along the heroin route; the ranking of the provinces where most of the indirect drug related cases are observed are in line with the population density. Direct drug related deaths in Mersin province had been increasing and ranked 3rd in 2011 in terms of drug related deaths. In all of the cases opium and derivatives were involved. Mersin was the 6th province in Turkey in terms of the amount of heroin seizures in 2011. In İzmir province, while no drug related deaths had been encountered in previous years, there were 2 deaths in 2011. İzmir has been one of the cities where most indirect drug related deaths take place.

2. Recent trends

In 2011, the number of direct DRDs has continued to decrease as it had in 2010. The rate of decrease in 2011 was 16.7% in comparison to 2010 (2007: 136, 2008: 147, 2009: 153, 2010: 126, and 2011: 105). The main reason for the decrease is the 33.7% reduction in direct DRDs observed in the provinces of İstanbul, Antalya, Adana and Gaziantep, which are normally provinces in which the majority of direct DRDs are observed. In İstanbul, there is rapid decreasing trend in direct DRDs that has been ongoing for the last 5 years.

It is believed that there are various different reasons underlying this decrease in the number of direct DRD cases, which is associated with the decrease in the use of opium derivatives. Following the 48% decrease in the production of opium in Afghanistan in 2010 (UNODC Afghanistan Opium Survey, 2010:12), the availability of heroin in the Turkish markets was affected. Furthermore, the increased risk associated with the transfer of heroin produced in Afghanistan

through Turkey, the increase in heroin prices, the transportation of heroin to Europe via airways and seaways from Pakistan and via Airways from Iran, and the adoption of different trafficking methods by organizations in Turkey are considered as significant factors that have affected availability of heroin in Turkey.

In parallel to the adoption of different types of trafficking by organizations in Turkey, the rate of using drugs without opiate derivatives increased 6% in indirect drug related deaths and 8% in direct related deaths compared to 2010.

Cannabis was the most frequently used (75.8%) drug in indirect DRDs and the second most frequently used (19%) drug in direct DRDs. Indirect DRD data shows that there has been an increase in cannabis use over the years; the number of cases which was 87 in 2008, increased to 107 in 2009, to 108 in 2010 and to 197 in 2011.

Both in cases of direct and indirect DRDs, a very significant increase is being observed in ecstasy use compared to the previous years. Among cases of direct DRD, ecstasy use was identified in 9 individuals (6.3%) in 2010, and in 35 individuals (13.5%) in 2011. Among cases of indirect DRD, ecstasy use was identified in 1 individual (0.8%) in 2010, and in 19 individuals (18%) in 2011. It is known that some of the ecstasy tablets seized in recent times also contain amphetamine. In parallel with this information, amphetamine was identified together with MDA/MDMA/MDEA in 17 of the direct and indirect DRD cases in 2011.

3. Recent specific analysis / studies on drug-related mortality

No.

4. Emerging problems: new substances, characteristics of victims

Methamphetamine use was identified in 7 of the direct and indirect DRD cases that occurred in 2011. It is considered that the use of methamphetamine will continue in the ensuing years.

With three cases due to toluene and two cases due to lighter fluid (n-butane) in 2011, a 4.8% increase was identified in the direct DRD cases associated with the inhalation of volatiles. There have been claims in recent years regarding deaths related to lighter fluid use in Turkey. Data regarding such deaths were observed in DRD data for the first time in 2011.

Recent developments concerning the DRD Key Indicator in United Kingdom

1. Brief overall situation on DRD

Using the DRD Standard, there were *1,785 deaths in the UK in 2011 (1,930 in 2010, down 7.5%); males 74.1%, females 25.9%*. Males are generally about *5* years younger than females. Most deaths occurred in the 35-39 age-group. The number of deaths per 100,000 population shows that differences exist between the different countries within the UK. Thus, in *2011* the rate using the DRD Standard was *10.58* in Scotland compared to *2.11* in England & Wales and *2.43* in Northern Ireland. The UK average was *2.83 in 2011* (1.98 in 1996). Overall, the largest proportion of deaths in England & Wales using the wider ONS definition was described in 2011 as accidental poisoning (*1552/2652 - 58.5%*), followed by intentional/undetermined poisonings (*994 or 37.5%*), and then mental & behavioural disorders (*103 or 3.9%*). *(These proportions have changed in comparison to 2010 because of the implementation of the 2006 changes to ICD coding of drug poisoning deaths.)* Males are more likely to die at a younger age of drug dependence/non-dependent abuse of drugs and females at an older age by means of intentional/undetermined poisoning.

In England & Wales in the period 1993-*2011*, more than one drug was involved in *32.1%* and alcohol in *25.7%* of all DRDs (using the wide definition employed by ONS). Deaths in *2011* where heroin/morphine was mentioned numbered *596* (down from *791* in *2010*, but up from 155 in 1993). The number of cases in which methadone was implicated rose steadily from 206 in 1993 to peak at 437 in 1997, falling to 199 in 2002, before rising to a new peak of 408 in 2009; but fell back to 355 in 2010 *before reaching an all-time high of 486 in 2011*. Mentions of cocaine, although still comparatively few compared to heroin/morphine, rose more than 20-fold over the period 1993-2008 as a whole (from 11 to 235) but fell to 202 in 2009 and *112 in 2011*. Deaths involving ecstasy accounted for only 1% of drug-related deaths; they rose from 12 in 1993 to 56 in 2002, fell to 43 in 2004, rose again to 58 in 2005, but fell to 27 in 2009 and to only *7* in *2011*. GHB/GBL were mentioned in 76 deaths recorded by the ONS between 1996 and 2009, and had followed a rising trajectory in the last few years, but fell in 2009-2010 *before rising in 2011*. Mentions of piperazines started to appear on death certificates in 2009 (n=9) and 2010 (n=5) *but fell to 2 in 2011*. *Methcathinones such as* mephedrone made their first appearance in 2010 (n=6), *remaining at that level in 2011*.

2. Recent trends

Over the period 1996-2001, the total number of deaths rose by 73.2% from 1,152 to 1,995; fell by 20.1% to 1,595 in 2003, and then increased by 39.9% to 2,231 in 2008, before falling by *20.0% to 1785 in 2011*. There were rises of *36.7%* and *151.1%* for males and females respectively over the period 1996 to *2011*. There was a male: female ratio of *2.9:1 in 2011*. Using the broad ONS definition, the overall number of deaths fell by 4.2% between 2009 and *2010 and by 0.4% between 2010 and 2011. During the last year there was an increase in the number of deaths involving methadone (+52.1%), anti-psychotics (+37.1%), amphetamines (+ 32.0%), temazepam (+18.4%), ecstasy (+16.7%), tramadol (+10.8%), benzodiazepines as a group (+9.7%), amphetamine (+8.7%), diazepam (+6.7%), and a slight rise in antidepressants (+0.3%). There were substantive falls in the number of mentions of cannabis (-36.4%), heroin (-22.7%), cocaine (-18.4%), and a slight fall (-0.4%) in cases where paracetamol was recorded.*

Published data show there were 46 deaths associated with Volatile Substance Abuse in 2009 (38 in 2008). This is the second lowest figure since data collection methods became stable in 1983 and compares with the all-time peak of 152 in 1990 (*Ghodse et al, 2012b*). In addition, there were 46 deaths resulting from the inhalation of helium, compared to 26 in 2008.

Deaths of IDU (including sex between men and IDU) AIDS victims accounted for 7.9% (1,464/18,649) of the total number of AIDS deaths in England & Wales up to the end of December 2011. The levelling off in the number of deaths of IDU AIDS victims seen in recent years gave way to a slight increase in 2009. The UK figure of *48 for 2011 (51 in 2010) is about 23%* of the peak level in 1995 (212). By the end of *December 2011, 48* deaths had been reported for that year (Personal communication to John Corkery from Health Protection Agency, *8 June 2012*).

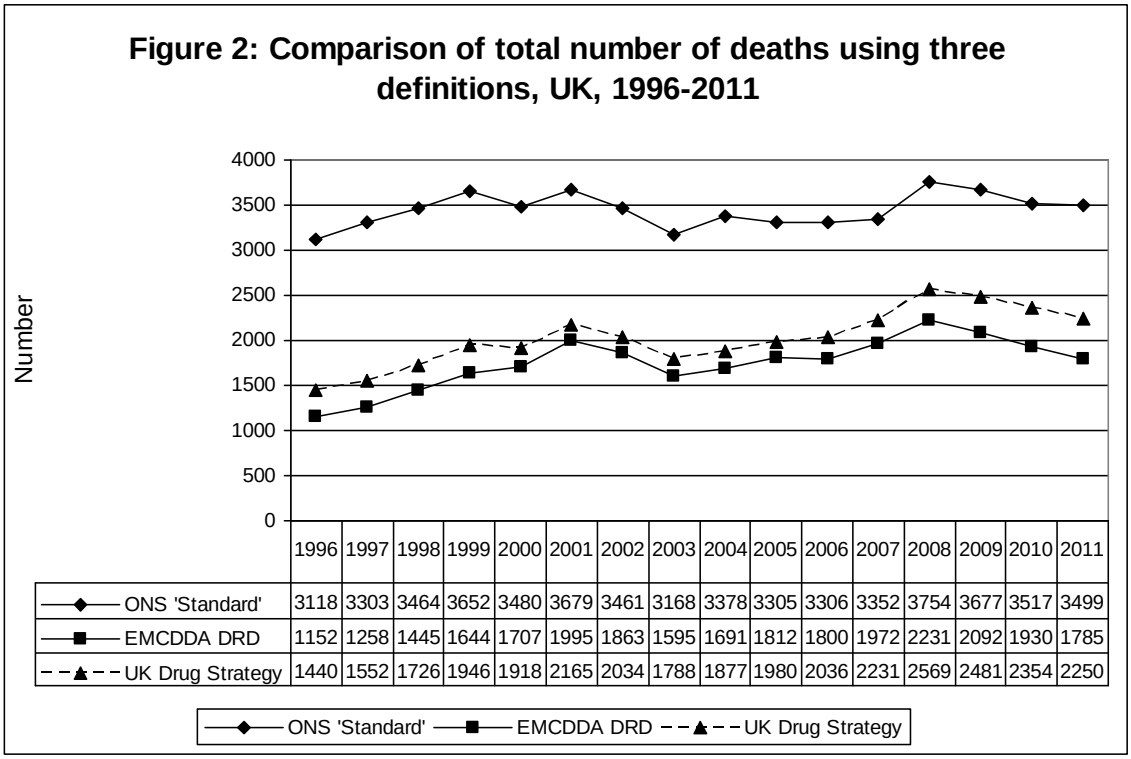
Between June and September 2012 four cases of users infected with anthtax probably acquired through contaminated heroin were reported in the UK: 2 (fatal) cases in Blackpool (England), one in Lanarkshire (Scotland) and one in Gwynedd (Wales) (HPA, 2012a). A further case was reported in November from Oxford (HPA, 2012b). It is unclear whether the British cases are linked to the European outbreak.

Table 1: Mentions of selected drugs on death certificates, United Kingdom, 2001-11

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Drug											
Heroin/morphine	1206	1118	883	977	1043	985	1130	1243	1210	1061	820
Methadone	316	300	292	300	292	339	441	565	582	503	765
Cocaine	117	161	161	192	221	224	246	325	238	180	152
Amphetamine	29	55	41	47	57	55	62	68	46	50	66
Ecstasy-type	77	79	66	61	73	62	64	55	32	9	24
Cannabis	39	49	32	24	25	22	20	63	22	11	7
All benzos, of which	445	502	427	381	316	297	344	640	441	470	516
Diazepam	288	356	282	217	205	186	223	489	300	315	336
Temazepam	35	89	114	87	55	55	56	55	48	38	46
Antidepressants	554	479	526	566	482	449	436	560	520	526	528
Antipsychotics	82	68	76	93	98	104	113	117	108	105	143
Paracetamol	681	643	544	630	477	371	304	319	302	248	257
Tramadol	37	45	51	56	75	109	116	128	135	185	183
All ONS definition deaths	3679	3461	3168	3378	3305	3235	3352	3754	3673	3517	3499

Notes: A revised data collection form was introduced in Scotland in 2008 which has resulted in more specific drugs being identified than in previous years; ONS revised how they deal with paracetamol in compounds in 2010, and revised their figures retrospectively. Year of registration of death, not year death occurred.

Figure 2: Comparison of total number of deaths using three definitions, UK, 1996-2011



3. Recent specific analysis / studies on drug-related mortality

During the past 20 years or so, more has become known about the properties of khat, its pharmacology, physiological and psychological effects on humans. However, at the same time its reputation of social and recreational use in traditional contexts has hindered the dissemination of knowledge about its detrimental effects in terms of mortality. A ground-breaking paper focuses on this particular deficit and adds to the knowledge-base by reviewing the scant literature that does exist on mortality associated with the trade and use of khat. (Corkery et al., 2011a). A complementary paper examining khat-related deaths in the UK has provoked some debate (Corkery, 2011); the papers have also been submitted to the ACMD working group reviewing khat. The second paper (Corkery et al., 2011b) describes in detail 15 deaths in the UK occurring in 2004–2009 associated with khat consumption reported to the National Programme on Substance Abuse Deaths.

4. Emerging problems: new substances, characteristics of victims…

Whilst opiates and opioids continue to dominate in the UK, towards the end of 2009 there was a noticeable decline in the number and proportion of cases involving stimulants. To some extent these changes appear to have been reversed slightly for amphetamines and ecstasy-type drugs. Substances such as piperazines, ketamine and GBL which at the time of the 2009 report were 'legal highs' but became controlled drugs, continue to be present in post-mortem toxicology reports - although possibly declining in the case of piperazines. Towards the end of 2009 new substances, chiefly methcathinones such as mephedrone started to appear in reports to np-SAD. These increased during 2010 and into 2011.

Legal highs/Novel psychoactive substances (NPS)

Suspected and confirmed fatalities associated with mephedrone (4-methylmethcathinone, "meow meow") in the United Kingdom were explained in some depth by Corkery et al. (2012a) in a seminal book chapter. A shorter version appeared as a peer-reviewed journal paper (Schifano et al., 2012). This found that based on data from the np-SAD database, by the end of the summer 2011,128 alleged mephedrone-associated fatalities had been reported. Mephedrone was identified at post mortem in 90 cases; inquests had been concluded in 69 cases, 62 of which are analyzed in the paper – the largest number investigated worldwide. Typical mephedrone victims were young (mean age, 28.8 years), male, and with a previous history of drug misuse. There was a notable number (18 cases [29%], 11 being from hanging) of deaths involving self-harm. Mephedrone alone was identified at post mortem on 8 occasions (13% of the inquests sampled).

Deaths involving the piperidine Desoxypipradrol and the tryptamine 5-MeO-DALT have been reported for the first time. Corkery et al., (2012b) describe what is known about 2-DPMPO and D2PM, especially on their toxicity, including what are believed to be the first three deaths involving the use of 2-DPMP in August 2010. There are no international controls imposed on 2-DPMP or D2PM. However, a ban on their UK importation was imposed in November 2011 and they became Class C drugs on 13 June 2012. Corkery et al. (2012c) reviewed what is known about the pharmacological, physiological, psychopharmacological, toxicological and epidemiological characteristics of 5-MeO-DALT. They also report the first death involving the use of this substance: the case involved a man in his mid-20s who died in mid-2010. The coroner concluded that the deceased "died from injuries sustained after being hit by a lorry whilst under the influence of 5-MeODALT". Other reviews of NPS have also covered aspects of toxicity and deaths, for example MDAI (5,6-Methylenedioxy-2-aminoindane) (Gallagher et al., 2012) and methoxetamine (Corazza et al., 2012).

Blood borne viruses

The report on the anthrax outbreak referred to above was published by Health Protection Scotland (HPS, 2011), acting on behalf of the National Anthrax Outbreak Control Team (NAOCT). During the course of the outbreak, 208 suspected cases were formally investigated. Of these, 119 were ultimately classed as anthrax cases, 47 of which were classed as confirmed, 35 as probable and 37 as possible cases based on the strength of the microbiological evidence. Of the 208 suspected cases investigated, 89 were classed as anthrax negative. There were 13 deaths amongst those classed as confirmed cases, and a further (fourteenth) death of a probable case.

ICD coding

Towards the end of 2009 new substances, chiefly methcathinones (such as mephedrone, methylone and MDPV), and naphyrone started to appear in reports to np-SAD and are still occurring. *In addition new classes of substances, such as aminoindanes, benzofurans, methoxetamine and synthetic cannabinoids have caused fatalities.* The past year has seen some important changes in the types of drugs being used recreationally and consequently beginning to contribute to drug-related morbidity and mortality. The UK expert has discussed with the GMRs difficulties in respect of ICD-10 coding for novel psychoactive substances/'legal highs' for which there are no specific codes or guidance. These points have been relayed to the EMCDDA in Lisbon, and fed into the discussions of the WHO body drawing up ICD-11.

Selected new reports:

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Corkery, J.M., Elliott, S., Schifano, F., Corazza, O., Ghodse, A.H. (2012b). 2-DPMP (Desoxypipradrol, 2-Benzhydrylpiperidine, 2-Phenylmethylpiperidine) and D2PM (Diphenyl-2-pyrrolidin-2-yl-methanol, Diphenylprolinol): a preliminary review. Progress in Neuropsychopharmacology and Biological Psychiatry – special issue. Dec, 39(2): 253-8. First online 11 July.

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