The National Drug Related Deaths Database (Scotland) Report 2009

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EXECUTIVE SUMMARY

This is the first report from the National Drug Related Death Database (NDRDD) for the calendar year 2009. Against a background of a continuing rise in the number of drug related deaths in recent years in Scotland, the NDRDD was established to collect in depth information on the nature and circumstances of individuals who had died a drug related death. Drawing from a wide range of local data sources, the report provides a comprehensive picture of the majority of nationally reported drug related deaths. It sets these 432 deaths in a wider context including the individual's social circumstances and their previous contact with health and criminal justice services.

The majority of those who had died a drug related death were male, white and from a deprived area. Almost 9 out of 10 were under the age of 45 representing a considerable loss of life. Three quarters were unemployed, with a similar proportion being single or not in a long term relationship and nearly half were living alone, suggesting a high degree of social exclusion. By contrast, nearly half were living with family and nearly 9 out of 10 were living either at their own home or with relatives or friends. One third were parents or a parental figure of children (under 16 years) and almost 1 in 10 were living with a child, theirs or otherwise, at the time of death. In 2009, a total of 254 children lost a parent or parental figure from a drug related death and 59 children were living with someone (who had died a drug related death) at the time of death.

Those who had died a drug related death were not an unknown group with the vast majority known to services or others. Nor were these novice drug users. Nearly two thirds had been long term users for 5 or more years and over half had used drugs intravenously, a known risk factor for drug related deaths. Where known, heroin was the most frequently reported drug of use. The majority had not undergone a drug detoxification within the previous twelve months and almost half had experienced a drug overdose with many having had multiple episodes.

The group is one with multiple physical and mental health problems. Overall, in the 6 months prior to death, 2 out of 5 had problem alcohol use; over 1 in 10 had Hepatitis C and 1 in 20 had liver disease. For the cohort as a whole, in the 6 months prior to death, two fifths were reported as having a psychiatric condition with a quarter having depression and 1 in 20 having schizophrenia. The high prevalence of mental ill health is also illustrated by the fact that 1 in 4 of all cases had attempted suicide and that 1 in 5 overall had a history of self harm at some point in their lives, the latter being more likely for women. Over half had a report of a recent significant event, the most common being ill health or the breakdown of a significant relationship. Just under 1 in 10 were reported as having been sexually abused at some point in their lives, markedly more so for women than men. A similar proportion of all cases had been a victim of domestic violence.

Three quarters of deaths overall occurred in a home setting and a person was in the vicinity for two thirds of deaths. Resuscitation was attempted in nearly half of deaths and for a quarter of deaths, this had been attempted by someone in the vicinity. This suggests that there are opportunities to intervene to save lives. Although an ambulance attended in 4 out of 5 cases, there were still a sizeable number where one did not.

The toxicology results reported the presence of a given drug in the body with *no* attribution as to whether it caused the death or not. The two most common drugs present were diazapem and heroin, each found in three quarters of cases overall. Methadone was present in 2 out of 5 cases and poly drug use was the norm. Only one fifth of the cohort was receiving a substitute prescription with the majority of these receiving a prescription for methadone. Two thirds of substitute prescribing had been supervised. Of the 2 out of 5 of all cases who had methadone present in their body at the time of death, less than half of those had been prescribed it. This does indicate that methadone use occurs in those who have not been prescribed it, likely from

illicit sources. However, it is important to note that methadone may not have directly caused these deaths as attribution was not determined from the toxicology reporting.

The group had an inconsistent pattern of contact with services. Overall, over a third had no record of any contact with a drug treatment service at any point in their life. By contrast, over a third overall *had* been in contact with drug treatment services within 6 months prior to their death. Most of those who were in contact with their GP had been so in the past year. This reiterates the importance of primary care as a point of initial contact with drug treatment services. The fact that two thirds of all cases had been in contact with either a drug treatment service or a GP within the 12 weeks prior to death demonstrates that these individuals have not all disconnected from service use and therefore there is the potential to intervene.

Many of those who died had been in contact with the criminal justice services with over half having been in prison at some point in their lives and over a third having been in police custody within the 6 months prior to death. Of all those who had been released from prison, less than 1 in 5 died within 4 weeks of their release. Although a relatively small proportion, these deaths may have been preventable with prison potentially a good opportunity for intervention.

The report illuminates that this group is not a uniform one. Although many have multiple physical and mental health problems, evidence of poly drug use and are likely to have had contact with the criminal system, there is no one single story. The combination of addiction over many years, severe co-morbidity and social isolation paints a picture of extreme difficulty and indeed peril. Whilst some lead isolated lives, others are in close contact with family and friends, some of whom did make attempts to resuscitate them. There are clear indicators in support of better delivery of evidence based interventions such as substitute prescribing and the roll out of a national naloxone programme. The report also underlines the importance of person centred, holistic, integrated care services underpinned by the principles of recovery. This provides hope for what may seem an impossible challenge, to reduce drug related deaths.

INTRODUCTION

This is the first report from the National Drug Related Deaths Database (NDRDD) for Scotland for the calendar year 2009. Against a background of the continuing rise in the number of drug related deaths in recent years in Scotland, the NDRDD was established to collect in depth information on the nature and circumstances of individuals who have died a drug related death. This is supplementary to national reporting of drug related deaths in Scotland by the General Register Office for Scotland (GROS) and reports on a subset of the overall drug related deaths in 2009. Drawing from a wide range of data sources, the NDRDD provides a comprehensive picture of these deaths and sets them in a wider context such as the individual's social circumstances and their previous contact with health and criminal justice services. This will provide insight for both policy and practice for development of optimal preventive, harm reduction and therapeutic interventions to reduce drug related deaths.

The structure of the report is as follows:

Section 2 gives an overview of the epidemiology of drug related deaths in Scotland in recent years as well as the background, policy context and rationale for the establishment of the National Drug Related Deaths Database.

Section 3 outlines the development of and process for data collection and construction of the cohort as well as data quality and information governance.

Section 4 presents the results. These include sociodemographic details; drug use history; medical/psychiatric history and adverse life events; details of the death; toxicology and substitute prescribing as well as contact with services.

Section 5 provides a discussion of the findings and what the implications of these might be.

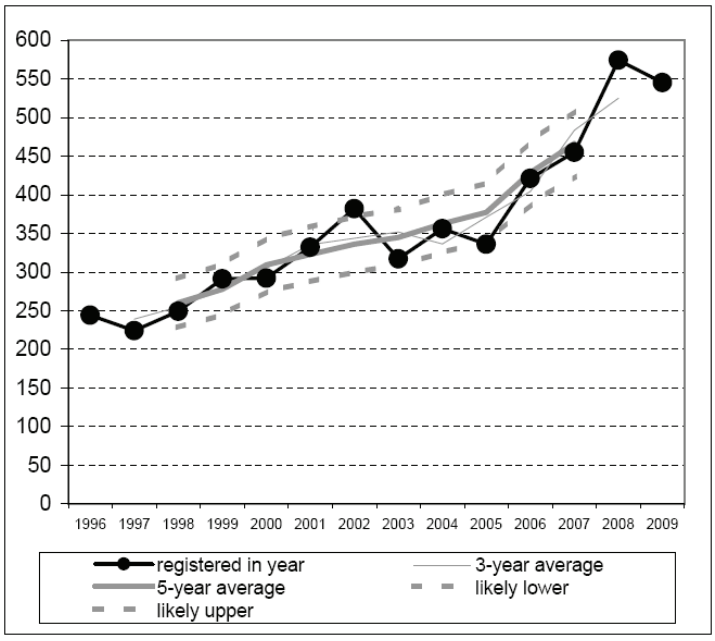
Section 6 outlines the next steps for taking forward the NDRDD.

2. BACKGROUND, POLICY CONTEXT AND RATIONALE

2.1 Overview of the epidemiology of Drug Related Deaths in Scotland

Although numbers of drug related deaths in Scotland have fluctuated in recent years, routine mortality reporting from the General Register Office for Scotland (GROS) shows that there has been an overall upward trend from 244 in 1996 to **545 deaths in 2009** with a peak of 574 in 2008 [1].

Figure 1: Drug Related Deaths in Scotland, 3- and 5-year moving averages and likely ranges of values around 5-year moving average



Source: Drug-related deaths in Scotland in 2009, GROS 2010

Previously reported GROS national drug related death figures show that in 2009 three quarters of deaths (76%) were male, with similar proportions for previous years. The percentage increases (based on annual averages for 1996-2000 and 2005-2009) show near equivalent percentage increases over time for both men and women (80% and 77% respectively).

In 2009, 80% (438) of drug related deaths occurred in persons under the age of 45 representing considerable years of life lost. 35% (189) of all drug related deaths occurred in those aged 35-44 years and 33% (178) in those aged 25-34. Crude mortality rates were highest in the 25-34 age group (0.28 per 1,000 population). From 2000, drug related mortality rates rose more in older age groups with a five fold increase in those aged 45-54 (from 0.02/1,000 population to 0.10/1,000 population); trebling in those aged 55-64 (from 0.01/1,000 population to 0.03/1,000 population) and near trebling in those aged 35-44 (from 0.09/1,000 population to 0.25/1,000 population). A smaller rise (56%) was seen in those aged 25-34 (from 0.18/1,000 population to 0.28/1,000 population). By contrast there was a 17% fall in mortality rates for those aged 15-24 (from 0.12/1,000 population to 0.10/1,000 population).

Drug related mortality rates (annual averages 2005-2009) were highest in Greater Glasgow and Clyde (0.14/1,000 population) and lowest in Orkney (0.02/1,000 population).

From pathologists reports for drug related deaths in 2009, heroin and/or morphine were implicated, or potentially contributed to 59% (322) deaths; methadone was implicated in, or

potentially contributed to 32% (173) deaths; alcohol was implicated in or potentially contributed to 30% (165) deaths and benzodiazepines were implicated in, or potentially contributed to 28% (154) deaths. Due to changes in drug related death reporting, direct comparisons cannot be made on individual implicated drugs prior to 2008. However, by comparing annual averages for 1996-2000 and 2003-2007, previous trends showed a marked increase in the proportions of deaths for which there were reports of heroin and/or morphine (+79%); ecstasy (+86%); cocaine (+533%) and alcohol (+42%) with less change in the proportions of deaths reporting methadone (+22%) and a fall in the number of deaths reporting diazepam (-11%) and temazepam (-74%). It should be noted that the numbers of annual deaths reporting either ecstasy or cocaine are small and so caution should be used in interpreting these changes. The majority of drug related deaths involved poly-drug use [1].

2.2 Background, Policy Context and Rationale

Following the rise in drug related deaths in the early 2000s, the then Scottish Executive set up a National Investigation into drug related deaths [2]. Reporting in 2005, this examined the clinical and social circumstances surrounding all drug related deaths in Scotland for the calendar year 2003. The Scottish Advisory Committee on Drug Misuse (SACDM) convened a short life working group in 2005 to develop a policy response to the findings and proposals from both the National Investigation and the Association of Drug and Alcohol Teams report on Drug Related Deaths published earlier that year [3, 4]. Key recommendations from both reports with regard to future monitoring of drug related deaths included the need to improve record keeping of both clinical details and social circumstances of service users; the need for standardisation of the definition and reporting of a drug related death (including a standard approach by pathologists); that local areas establish drug related deaths databases to be overseen by Critical Incident Groups; the need to develop a comprehensive minimum dataset for reporting of deaths and the proposal of the establishment of a national confidential enquiry. The then Scottish Executive responded to these recommendations in the plan Taking Action to Reduce Scotland's Drug Related Deaths Dec 2005, a principle action of which was to set up a National Forum on Drug Related Deaths (NFDRD) to study trends of drug related deaths and disseminate good practice [5].

In its first annual report in 2007, the National Forum on Drug Related Deaths proposed that a new system for data collection on drug related deaths should be established [6]. Local Alcohol and Drug Action Teams (ADATs) should be 'asked to gather data in a systematic format on each death after being notified of these by the police or the SCDEA (Scottish Crime and Drug Enforcement Agency)' and that 'the data should be standardized by ISD (Information Services Division) in a suitable electronic format which will allow analysis and reporting'. In 2008 the Scottish Government published the national strategy for tackling drug misuse, the Road to Recovery, in which it outlined the commitment to work with ISD to create a Drug Related Deaths Database 'to give a more complete picture of a person's treatment pathway prior to death' [7]. The development of the NDRD Database and collection of NDRDD data was led by ISD working in close collaboration with the Alcohol and Drug Partnerships (which replaced Drug and Alcohol Teams) and local DRD monitoring groups under the auspices of the National Forum on Drug Related Deaths through its Data Collection Sub-Group.

3. METHODS

3.1 Data Collection Development

3.1.1 The NFDRD Data Collection Sub-Group

Membership of the Data Collection Sub-Group included representatives from the NFDRD, the project lead for the NDRDD for ISD as well as experts from the field of drug related deaths and drug misuse (Appendix 1).

3.1.2 Case Definition for the National Drug Related Deaths Database

The case definition of a drug related death for the 2009 NDRDD data collection is based on the UK wide definition as reported by the General Register Office for Scotland (GROS) **but excludes confirmed suicides** i.e. those coded by GROS as intentional self-poisoning by drugs, medicaments and biological substances (ICD 10 codes X60 – X64). The case definition for the NDRDD **includes** deaths by self-poisoning which are of **undetermined intent** (ICD10 codes Y10-Y14) i.e. those which GROS do not know whether the death was due to accident, assault or act of intentional self-harm. It would be expected that many of these deaths will actually be suicides but they have not been 'confirmed' as such for GROS statistics.

The GROS defines a drug related death as one where - ' *the underlying cause is poisoning, drug abuse or drug dependence and where any of the substances controlled under the Misuse of Drugs Act (1971) are involved*.' A full description of the GROS definition of a drug related death including relevant ICD 10 codes can be found in Appendix 2.

3.1.3 The NDRDD Data Collection Form

A data collection form was developed by the Data Collection Sub-Group to gather data on a wide range of variables. These included socio-demographic details such as accommodation, employment and relationship status; drug using and medical history including drug treatment; the nature and circumstances of the death and prior contact with health, care and criminal justice services. The group drew from the experience of previous drug related death data collection work in Scotland and elsewhere, at both national and local level. Full data definitions and guidelines were also developed including guidance on each individual question, highlighting of those questions that were mandatory and advice on potential data sources. The data collection form can be found in Appendix 3.

3.2 Data Collection Process

3.2.1 Local Area Drug Related Death Surveillance

Most areas of Scotland had already established drug related death monitoring (Critical Incident) groups to review local drug related deaths and provide recommendations for interventions to reduce them. In addition, some areas (e.g. Fife and Lanarkshire) were collecting detailed information on each death. These areas were able to refine their data collection to enable them to complete forms to return to the NDRDD.

Each area assigned a NDRDD Data Collection Co-ordinator whose role has been to gather information on each drug related death from the primary data sources and enter this into the NDRDD form for return to ISD. The Data Collection Co-ordinators worked closely with (or was a member of) the local DRD monitoring group. A list of all Data Collection Co-ordinators can be found in Appendix 4.

3.2.2 Case Identification

For each unexpected death, the police create a Sudden Death Report (SDR). If the SDR has evidence of a fatal overdose of controlled drugs, the local drug related death monitoring group is alerted. At local level, the death can only be confirmed as being a NDRDD case (as per definition, see 3.1.2) on completion of the pathologist's report following both post mortem examination and toxicology testing. If the death is rejected at local level as complying with the NDRDD case definition, a record will not be returned to ISD.

3.2.3 Data Sources and Data Collection

Information was gathered from a wide range of primary data sources including the police SDR; drug treatment services; General Practitioner notes; the Scottish Ambulance Service; pathology reports; and prescribing data. For most NDRDD data items the key sources of information were identical for all Health Board areas (the main data sources for NDRDD information are described in Appendix 5). There was some local variability as to where certain data items were recorded depending on local practice (for example, agency type for substitute prescribing). Furthermore, some areas had access to a wider range of data sources.

3.2.4 Information Support, Data Entry and Data Transfer

ISD provided IT support to local areas for data collection through provision of an electronic data spreadsheet for data collation. Data entry was assisted through useful drop down lists for variables, front end validation and look up guidance notes. The ISD NDRDD Project Manager led two workshops for local co-ordinators outlining the data collection process and highlighting examples of good practice that were being used in areas such as Fife who already had well developed DRD data collection protocols. ISD also provided continuous telephone advice throughout.

Data transfer from each local area to ISD took place through the 'Government Secure Internet' (GSI) into a restricted secure mailbox. Data was then manually entered into a secure Oracle database in ISD from which pseudo anonymised (i.e. personal identifiers removed) data were extracted for analysis in SPSS.

3.3 Data Quality Assurance

In addition to front end validation built into the electronic spreadsheet used locally, the NDRD Oracle database had been designed with front end validation including requirement of entry of mandatory data items. As data entry was manual, a robust Quality Assurance process was in place. A Data Query log was created (by local area) registering returns that were incomplete for mandatory data items or that appeared anomalous. These Data Query logs were subsequently sent to the Data Collection Co-ordinators to address and respond to. These records were identified through an assigned ID number which was not person identifiable.

Each record was then matched to GROS death records and the GROS determined ICD10 code assigned. These were then cross checked with the ICD10 codeset defining the NDRDD case definition. Further investigation was undertaken of those deaths that were reported to the GROS and which complied with the NDRDD case definition but for which a NDRDD record had not been returned. Further details on this process can be found in Appendix 6.

3.4 Data Confidentiality and Information Governance

The NDRDD data collection form contains a number of personal identifiers (e.g. name, date of birth; postcode of residence). These are collected in order that the NDRDD can be linked to

other databases held at ISD such as the Scottish Drug Misuse Database (SDMD) which collects data on those in drug treatment and Scottish Morbidity Records which collects information on hospital admissions. This will enable a fuller picture to be described of those who have died a drug related death. Full Privacy Advisory Committee approval for this linkage has been granted (the PAC grants approval for data linkage requests for data held by National Services Scotland and GROS).

The data are held in a secure firewall protected database at ISD. Access is limited to authorised ISD personnel only. All ISD staff are aware of handling of confidential data and all sign the 'Confidentiality Guidelines for ISD staff'. Although information on those who have died is not directly covered by the Data Protection Act 1998, ISD considers such data to be protected by a Duty of Confidence and that its confidentiality be protected. ISD produced the document 'How ISD's National Drug Related Deaths Database Project Meets The 6 Caldicott Guardian Principles' which was disseminated to all local areas (see Appendix 7).

4. RESULTS

4.1 The National Drug Related Deaths Database Cohort for 2009

A total of 465 records were returned to ISD for inclusion in the NDRDD for 2009. 33 of these did not match the case definition so were excluded from analysis. After cross matching to the 545 GROS drug related deaths for 2009, there were 92 cases that appeared to have been within scope for the NDRDD cohort but for which a NDRDD record was not returned. Many of these 92 deaths GROS had to classify as being due to events of undetermined intent (as it had not been informed whether they were the result of accidents, assaults or acts of intentional self harm) but were locally known (or strongly suspected) to be suicides and, as such, did not conform to the NDRDD case definition. **The final NDRDD cohort for analysis comprised of 432 cases on which findings are reported. It should be noted that these figures (432) are not synonymous with overall GROS national drug related deaths figures for 2009 (545) with the findings only relating to a subset of the latter.** Appendix 6 gives further explanation on construction of the cohort and comparison to other national DRD reporting.

Multiple record sources were searched to complete each record. It is inevitable that, for a given individual who has died, not all facts would be known. The NDRDD Project Manager at ISD and the Data Collection Co-ordinators worked together extensively to ensure that the data quality was as robust as possible. For example, this would clarify that if a question on the record was answered as 'unknown' this was indeed the case. As such, there are very few data items that are 'missing'. In general, satisfactory information was received for the majority of data items with the exception of the domain of Drug Use History.

It should be noted that reporting of findings is based on the number of cases where the information was known with that number (n) stated both in the text and corresponding table. Caution should therefore be used in interpretation as reported percentages do not always relate to the cohort *as a whole* unless stated.

4.2 Sociodemographics

4.2.1 Geographical Area

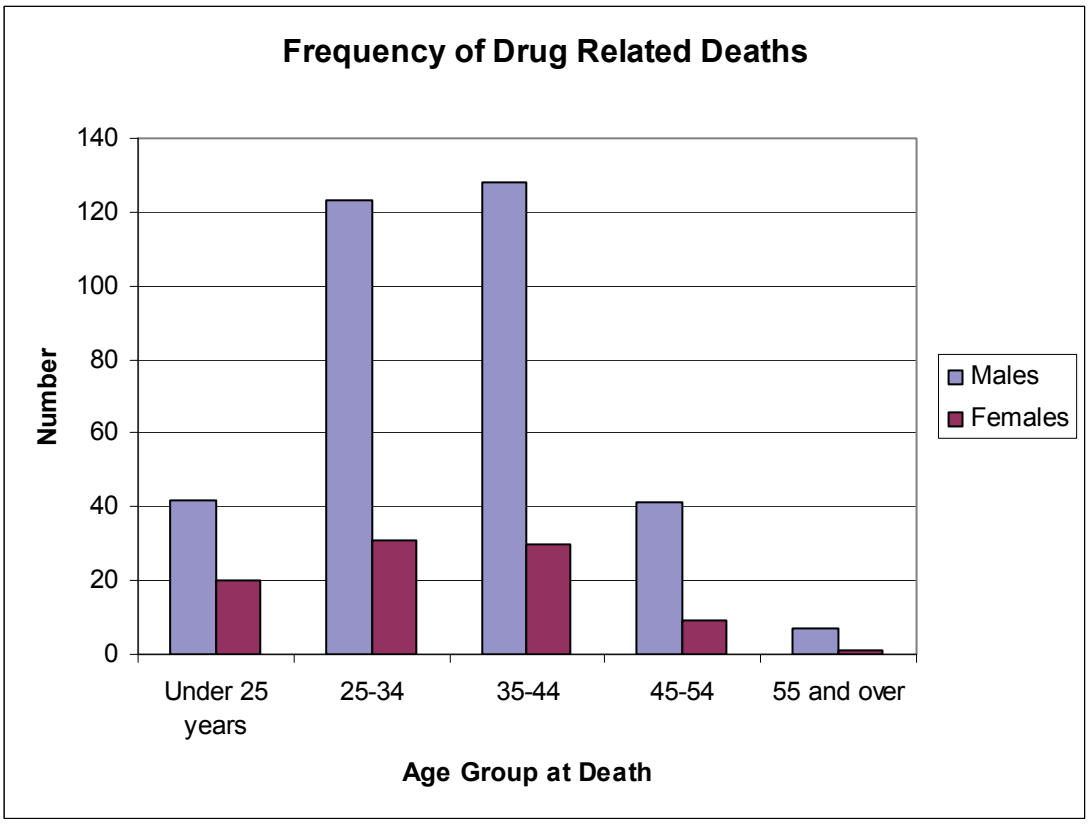
Tables 1 and 2 show the numbers and crude mortality rates for NDRDD drug related deaths by Council and Health Board areas respectively. For Council areas DRD crude mortality rates were highest for Dundee City (0.20/1,000 population) and Glasgow City (0.18/1,000 population) and lowest in the Orkney and Shetland Council areas (0.00/1,000 population). The Health Board area with the highest DRD crude mortality rate was Greater Glasgow and Clyde (0.13/1,000 population) and the lowest rates were for the Orkney and Shetland Board areas (both 0.00/1,000 population).

4.2.2 Gender, Age and Ethnicity

The gender and age group breakdown of the NDRDD cohort are set out in Table 3. Over three quarters of these were male (341, 78.9%). This is marginally higher than proportions reported in other drug using populations in Scotland such as those entering drug treatment services in 2008/09 (71%) and from estimates of the prevalence of problematic drug users (opiates and benzodiazepines) aged 15-64 years in 2006 (70%) [8, 9].The median age at death for men in the cohort was 35 years and for women it was 33 years (data not shown). The highest proportions of deaths occurred in the 25-34 and 35-44 year age groups (35.7% and 36.6% respectively), with similar patterns seen for both men and women (Figure 2). Of those whose

ethnicity was known (425), 98.9% of the cohort was White (White Scottish and White Other) with just over 1% reported as Other (Table 4).

Figure 2: NDRDD Drug Related Deaths by Age Group and Gender



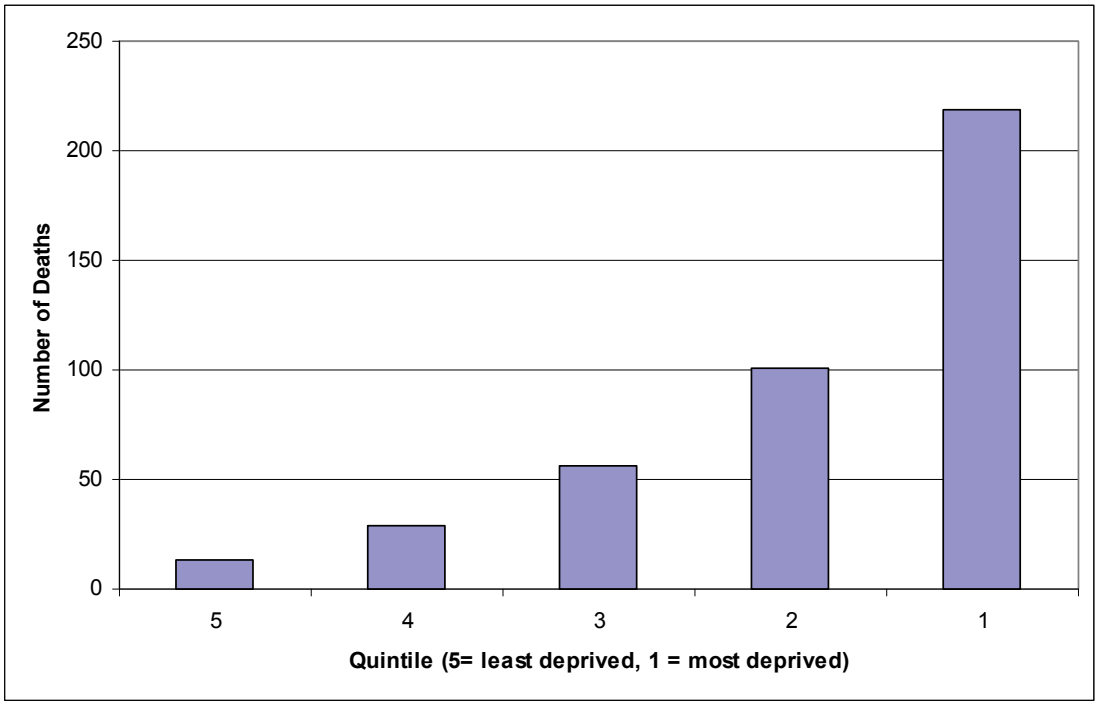
4.2.3 Deprivation

The Scottish Index of Multiple Deprivation (SIMD) classifies postcode areas on a scale of 1 to 5 with 1 being the least affluent. Deprivation status was known for nearly all the cohort (418, 96.8%). These were predominantly from deprived areas with over half (219, 52.4%) living in the highest deprivation category (SIMD quintile 1) and only 13 (3.1%) from the lowest deprivation category (Table 5) (Figure 3).

4.2.4 Employment Status

Employment status was known in 384 (88.9%) cases. Over three quarters of these (296, 77.1%) were unemployed at the time of their death with a further 37 (9.6%) long term sick or disabled. Only 42 (10.9%) were employed (paid or unpaid) and 4 (1.0%) in full time education or training. Data was unknown for 48 (11.1%) of the cohort (Table 6).

Figure 3: NDRDD Drug Related Deaths by SIMD Quintile Areas of Deprivation



4.2.5 Marital Status and Living Arrangements

Marital status was known for 407 (94.2%) of all cases. Of these, three quarters (317, 77.9%) were reported as single, separated, divorced or widowed at the time of their death. However, almost 1 in 5 (81, 19.9%) were in a long term relationship (married/civil partner/co-habiting) (Table 7). For the 418 cases where it was known whom they were living with, nearly half (195, 46.7%) of those who died were reported as normally living alone. A similar proportion (200, 47.9%) had been living with their family, either their spouse or partner (98, 23.4%), parents (77, 18.4%) or other relatives (25, 6.0%). Some individuals were reported as normally living with several different groups (Table 8). It was known where the individual was living at the time of their death in nearly all cases (427). Most were reported as living at their own home (259, 60.7%) with a further 120 (28.1%) living either in relatives or friends accommodation. It is difficult to be precise as to how many were without stable accommodation as several locations could be reported for each individual. However, more than 1 in 10 (49, 11.5%) were reported as having spent some time either living in a hostel or homeless accommodation, sleeping rough or had no fixed abode (Table 9).

4.2.6 Children Under 16 years (Parents/ Parental Figure of and Living With)

It was known whether the deceased was a parent or a parental figure of children under 16 years old in 408 (94.4%) cases. Of these, 259 (63.5 %) were reported as having no children with just over one third (149, 36.5%) being parents or parental figures. In 421 cases it was known whether they had children living with them (either their own or not). Of these 421, only 39 (9.3%) were living with children under 16 years old at the time of their death. For the study population where recorded, in 2009 a total of 254 children lost a parent or parental figure from a drug related death and 59 children were living with a person who had died a drug related death at the time of death (Table 10).

Table 1: NDRDD Reported 2009 Drug Related Deaths (and DRD Crude Mortality Rate) by Council

	Number of Deaths	Population[1]	Death Rate per 1,000 pop'n
Scotland	**432**	**5,194,000**	**0.08**
Aberdeen City	30	213,810	0.14
Aberdeenshire	8	243,510	0.03
Angus	10	110,250	0.09
Argyll & Bute	1	90,040	0.01
Clackmannanshire	2	50,540	0.04
Dumfries & Galloway	7	148,510	0.05
Dundee City	28	143,390	0.20
East Ayrshire	10	120,210	0.08
East Dunbartonshire	3	104,680	0.03
East Lothian	3	96,830	0.03
East Renfrewshire	5	89,240	0.06
Edinburgh, City of	39	477,660	0.08
Eilean Siar	2	26,180	0.08
Falkirk	6	152,480	0.04
Fife	24	363,460	0.07
Glasgow City	105	588,470	0.18
Highland	13	220,490	0.06
Inverclyde	6	80,210	0.07
Midlothian	7	80,810	0.09
Moray	3	87,660	0.03
North Ayrshire	17	135,510	0.13
North Lanarkshire	24	326,320	0.07
Orkney Islands	-	19,960	-
Perth & Kinross	3	145,910	0.02
Renfrewshire	25	169,910	0.15
Scottish Borders	1	112,680	0.01
Shetland Islands	-	22,210	-
South Ayrshire	5	111,440	0.04
South Lanarkshire	12	310,930	0.04
Stirling	4	88,740	0.05
West Dunbartonshire	13	90,920	0.14
West Lothian	16	171040	0.09

Source: NDRDD 2009 data

- Denotes (zero)

[1] GROS 2009 population data

Table 2: NDRDD Reported 2009 Drug Related Deaths (and DRD Crude Mortality Rate) by NHS Board

NHS Board	Number of Deaths	Population[1]	Crude Mortality Rate per 1,000 pop'n
Scotland	**432**	**5,194,000**	**0.08**
Ayrshire & Arran	32	367,160	0.09
Borders	1	112,680	0.01
Dumfries & Galloway	7	148,510	0.05
Fife	24	363,385	0.07
Forth Valley	12	291,383	0.04
Grampian	41	544,980	0.08
Greater Glasgow & Clyde	161	1,199,026	0.13
Highland	14	310,530	0.06
Lanarkshire	32	562,215	0.06
Lothian	65	826,231	0.08
Orkney	-	19,960	-
Shetland	-	22,210	-
Tayside	41	399,550	0.10
Western Isles	2	26,180	0.08

Source: NDRDD 2009 data

- Denotes (zero)

[1] GROS 2009 population data

Table 3: NDRDD Reported Frequency of Drug Related Deaths by Age and Gender

n = 432 for all deaths, 341 for males, 91 for females

	Number of Deaths	%
All Deaths	432	100
Under 25	62	14.4
25-34	154	35.7
35-44	158	36.6
45-54	50	11.6
55 and over	8	1.9
Males	341	78.9
Females	91	21.1
Males		
Under 25	42	12.3
25-34	123	36.1
35-44	128	37.5
45-54	41	12.0
55 and over	7	2.1
Females		
Under 25	20	22.0
25-34	31	34.1
35-44	30	33.0
45-54	9	9.9
55 and over	1	1.1

Source: NDRDD 2009 data

Note: Due to rounding the percentages of 'All Deaths' within each age group may not add up to 100%.

Table 4: Drug Related Deaths by Ethnicity n = 425

Ethnicity	Number of Deaths	%
White Scottish	401	94.4
White Other	19	4.5
Other	5	1.2
Total	425	100.0
Unknown	7	-

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 5: Drug Related Deaths by SIMD Quintile Areas of Deprivation

n = 418

SIMD Quintile[1]	Number of Deaths	%
1	219	52.4
2	101	24.2
3	56	13.4
4	29	6.9
5	13	3.1
Total	418	100.0
Missing	14	-

Source: NDRDD 2009 data

[1] Scottish Index of Multiple Deprivation (SIMD) 2009 quintiles, where quintile 1 is the most deprived and quintile 5 is the least deprived.

Note: Due to rounding percentages may not add up to 100%.

Table 6: Drug Related Deaths by Employment Status

n = 384

Employment Status	Number of Deaths	%
Unemployed	296	77.1
Employed (paid/ unpaid)	42	10.9
Long term sick/ disabled	37	9.6
Full time education/ training	4	1.0
Other	5	1.3
Total	384	100.0
Unknown	48	-

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 7: Drug Related Deaths by Marital Status

n = 407

Marital Status	Number of Deaths	%
Single	243	59.7
Married/ civil partner/ co-habiting	81	19.9
Separated	41	10.1
Divorced/ Dissolved Civil Partnership	26	6.4
Widowed/ Surviving civil partner	7	1.7
Other	9	2.2
Total	407	100.0
Unknown	25	-

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 8: Whom the Deceased Was Living With At Time of Death

n = 418

Living with Whom	Number of Deaths[1]	%
Live alone	195	46.7
Live with spouse/ partner	98	23.4
Live with parents	77	18.4
Live with friends	34	8.1
Live with relatives	25	6.0
Live with Other[2]	49	11.7
Unknown	14	-

Source: NDRDD 2009 data

[1] The total number of cases is greater than the base of 418 because individuals may have been reported as living with more than one type of person.

[2] Other people that the deceased lived with include adult children and children under 16 years (see Table 10). A considerable number of 'Others' are those the deceased lived with in places where many other people potentially resided, for example in hostels, supported accommodation, hospital or prison.

Table 9: Drug Related Deaths by Where the Deceased Was Living At Time of Death

n = 427

Living Where	Number of Deaths[1]	%
Living at Home	259	60.7
Living at Relatives	92	21.6
Living at Friends	28	6.6
Living at Hostel	25	5.9
No Fixed Abode/ Sleeping Rough	21	4.9
Supported accommodation	8	1.9
Homeless accommodation	3	0.7
Living Other[2]	24	5.6
Unknown	5	-

Source: NDRDD 2009 data

[1] The total number of cases is greater than the base of 428 because individuals may have been reported as living at more than one location.

[2] Other places where the deceased was living during the time period leading up to death were prison (see Table 55), temporary residence, hospital, residential rehabilitation and offshore.

Table 10: Drug Related Deaths by Number of Children under 16 Years the Deceased was a Parent or Parental Figure To[1] and Number of Children Under 16 Years That Lived With the Deceased

n = 408 n = 421

Number of Children	Number of Children They Were Parents To[1]	% Children They Were Parents To[1]	Number with Children Living With Them	% with Children Living With Them
No children	259	63.5	382	90.7
1 child	74	18.1	22	5.2
2 children or more	75	18.4	17	4.0
Total With Children	149	36.5	39	9.3
Total Number of Children	**254**	-	**59**	-
Unknown	24	-	11	-

Source: NDRDD 2009 data

[1] Children that the deceased was considered as being a parent to included non-biological children that were the deceased's step children and non-biological children of a partner. It was often difficult for data collectors to ascertain whether the deceased was a parent to any non-biological children that did not live with them.

4.3 Drug Use History

4.3.1 Known Drug Use by Length of Time of Use

376 of the cohort (87.0%) were known (i.e. recorded in any data source as having been known to anyone) as users of illicit drugs (data not shown). For 316 of these cases, length of time of drug use was recorded. Of these, 7 (2.3%) were thought to have been a user for a year or less. The majority (258, 81.6%) had been known users for over 5 years with 55 (17.4%) having been known to be a user for over 20 years. The length of time of drug use was uncertain for 60 (16.0%) of known drug users (Table 11).

4.3.2 Known Intravenous Drug Use by Length of Time of Use

Of the 376 known drug users, it was recorded whether they were users of intravenous (IV) drugs in 334 cases with 232 (69.5%) of these having been so. Intravenous drug use was unknown in 42 cases (11.2%). Of the 232 cases where IV use was known, length of use was known for 164 cases. Of these 164 cases, the majority (115, 70.1%) had been known to have used IV drugs for over 5 years though length of time of IV use was uncertain for 68 (29.3%) of known IV drug users (Tables 12 and 13).

4.3.3 Drug Use in the Past Month by Drug Type

Of the 316 cases where type of drug use in the last month was known, heroin was the most commonly reported drug type in 191 cases (60.4%) followed by diazepam in 124 cases (39.2%) and cannabis in 82 cases (26.0%). Illicit methadone was only reported for 18 cases (5.7%). However, the type of drug used in the month prior to death was unknown in 116 (26.9%) of all cases. Of the 191 cases who had reported use of heroin in the month prior to death, frequency of use was recorded for 89 cases. Of these, over two thirds (62, 69.7%) were daily users (although frequency of use was unknown for over half (102, 53.4%) of these 191 cases) (Tables 14 and 15).

4.3.4 Drug Detoxification in the Past 12 Months by Length of Time

Of all 432 cases, it was recorded whether they had undergone drug detoxification or not in the previous 12 months in 375 (86.8%) of cases. Of these 375, 324 (86.4%) were reported as *not* having undergone drug detoxification with only 51 (13.6%) having done so. Detoxification status was unknown for 57 cases. For the 51 cases who had undergone detoxification, length of time since detoxification was known for 50 cases. Of these, just over half (26, 52.0%) had undergone detoxification in the 3 months prior to death (Tables 16 and 17).

4.3.5 Overdose History by Length of Time

For 205 cases, it was known that they had experienced at least one overdose prior to their death. The number of overdoses experienced was known for 194 (94.6%). Of these 194 cases, 33 (17.0%) had experienced 5 or more overdoses (Table 18). Of all those who had overdosed (205), the length of time since the last overdose was known for 190 cases. Of these 190 cases, 62 (32.6%) had experienced this within 6 months prior to death (Table 19).

Table 11: Months/Years Known to be a Drug User Prior to Death[1]

n = 316

Months/Years	Number of Deaths[1]	%
Under 6 months	4	1.3
6 to 12 months	3	1.0
12 months to 5 years	51	16.1
5 to 10 years	85	26.9
10 to 20 years	118	37.3
Over 20 years	55	17.4
Total	316	100.0
Unknown	60	-

Source: NDRDD 2009 data

[1] Of those who were known drug users.

Note: Due to rounding percentages may not add up to 100%.

Table 12: Number of Known Intravenous Drug Users Prior to Death[1]

n = 334

Known IV Drug Users	Number of Deaths[1]	%
Yes	232	69.5
No	102	30.5
Total	334	100.0
Unknown	42	-

Source: NDRDD 2009 data

[1] Of those who were known drug users.

Note: Due to rounding percentages may not add up to 100%.

Table 13: Number of Months/Years Known to be an Intravenous Drug User[1]

n = 164

Number of Months/Years	Number of Deaths[1]	%
Under 6 months	3	1.8
6 to 12 months	7	4.3
12 months to 5 years	39	23.8
5 to 10 years	43	26.2
10 to 20 years	49	29.9
Over 20 years	23	14.0
Total	164	100.0
Unknown	68	-

Source: NDRDD 2009 data

[1] Of those who were known IV drug users.

Note: Due to rounding percentages may not add up to 100%.

Table 14: Drug Used in the Month Prior to Death[1]

n = 316

Drug Type Used	Number of Deaths [1,2]	%
Heroin	191	60.4
Diazepam	124	39.2
Cannabis	82	26.0
Cocaine	38	12.0
Amphetamines	27	8.5
Illicit Methadone	18	5.7
Temazepam	11	3.5
Volatile Substances	5	1.6
Crack cocaine	5	1.6
Other Drugs	17	5.4
Not known to have used any particular drug	116	-

Source: NDRDD 2009 data

[1] Of those who were known drug users.

[2] The total number of cases where different drugs were used is greater than the base of 316 because individuals may have been reported as using more than one drug in the past month.

Table 15: Frequency of Heroin Use in the Month Prior to Death[1]

n = 89

Frequency of Heroin Use	Number of Deaths[1]	%
Daily	62	69.7
Weekly/ Weekends	12	13.5
Occasionally	15	16.9
Total	89	100.0
Unknown Frequency	102	-

Source: NDRDD 2009 data

[1] Of those who were known Heroin drug users.

Note: Due to rounding percentages may not add up to 100%.

Table 16: Drug Detoxification within the 12 Months Prior To Death

n = 375

Drug Detox	Number of Deaths	%
Yes	51	13.6
No	324	86.4
Total	375	100.0
Unknown	57	-

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 17: Number of Months Prior To Death since Last Drug Detoxification[1]

n = 50

Number of Months	Number of Deaths[1]	%
Within 1 month of death	12	24.0
1 to 3 months	14	28.0
3 to 6 months	13	26.0
6 to 9 months	6	12.0
9 to 12 months	5	10.0
Total	50	100.0
Unknown period	1	-

Source: NDRDD 2009 data

[1] Of those who were known to have experienced drug detoxification in the last 12 months prior to death.

Note: Due to rounding percentages may not add up to 100%.

Table 18: Number of Overdoses Experienced Prior to Death[1]

n = 194

Number of Overdoses	Number of Deaths[1]	%
1	86	44.3
2	35	18.0
3	27	13.9
4	13	6.7
5 - 9	27	13.9
10 +	6	3.1
Total	194	100.0
Unknown	11	-

Source: NDRDD 2009 data

[1] Of those who were known to have experienced a non-fatal overdose prior to death.

Note: Due to rounding percentages may not add up to 100%.

Table 19: Number of Months/Years since Last Overdose Event[1]

n = 190

Months/Years	Number of Deaths[1]	%
Within 3 months of death	39	20.5
3 to 6 months	23	12.1
6 months to 1 year	24	12.6
1 to 3 years	42	22.1
Over 3 years	62	32.6
Total	190	100.0
Unknown	15	-

Source: NDRDD 2009 data

[1] Of those who were known to have experienced a non-fatal overdose prior to death.

Note: Due to rounding percentages may not add up to 100%.

4.4 Medical and Psychiatric History and Adverse Life Events

4.4.1 Previous Medical History (Ever and In Previous 6 Months)

Only 35 cases (8.1%) had no previous medical history recorded at any point prior to their death. For the 397 cases where a medical condition at some point in their life was recorded, the most common conditions were problematic alcohol use in 275 (69.3%) cases), a psychiatric condition in 257 (64.7%) cases, Hepatitis C in 87 (21.9%) cases, a respiratory condition in 85 (21.4%) cases and liver disease in 31 (7.8%) of cases (Table 20). For the 366 cases where a medical condition in the 6 months prior to death was recorded, 180 (49.2%) had a history of problematic alcohol use, 171 (46.7%) had a psychiatric condition, 70 (19.1%) had a respiratory condition, 59 (16.1%) had Hepatitis C and 22 (6.0%) had liver disease. 66 (15.3%) of cases overall had no medical conditions recorded in the 6 months prior to death (Table 21).

4.4.2 Previous Psychiatric History (Ever and In Previous 6 Months)

Of the 257 cases with a previous history of a psychiatric condition recorded at any point prior to their death, the most common condition was of depression in 186 (72.4%) of these 257 cases, followed by anxiety in 110 (42.8%) cases with 23 (9.0%) of these cases reported as having schizophrenia (Table 22). Over half of these 257 cases, 136 (52.9%) were reported to have 2 or more psychiatric conditions (Table 23). 171 cases had a psychiatric condition recorded in the 6 months prior to death. The most common condition recorded was depression in 100 (58.5%) of these 171 cases followed by anxiety in 66 (38.6%) cases with 19 (11.1%) of these cases reported as having schizophrenia (Table 24).

4.4.3 Suicide and Self Harm by Gender (Ever and In Previous 6 months)

Of all 432 cases, 111 (25.7%) had a record of attempted suicide at some point in their lives, with 27 (6.3%) having done so within the 6 months prior to death. Patterns were similar for both men and women (Table 25). Of the 111 people who had previously attempted suicide at some point, the attitude to living was recorded after the attempt in 40 cases. Of these 40, 27 (67.5%) did not want to die, 8 (20%) wanted to die and the remaining 5 (12.5%) were ambivalent (data not shown).

91 (21.1%) of all cases had a report of self harm at some point in their lives and 29 (6.7%) had done so within the 6 months prior to death. Women were more likely than men to have ever self harmed (28.6% compared to 19.1%) though proportions were similar for the 6 months prior to death (7.7% and 6.5% respectively) (Table 26).

4.4.4 Recent Significant Event

238 cases (55.1%) had a report of one or more recent significant event in the six months prior to death. Of these, 62 (26.1%) had experienced ill health or a recent diagnosis, 35 (14.7%) had had a breakdown of a significant relationship and 27 (11.3%) had experienced a bereavement (Table 27).

4.4.5 Sexual Abuse Victim (Ever)

Overall, a total of 38 cases (8.8%) had a record of sexual abuse at some point during their life, 22 (57.9%) of whom were women. The vast majority of cases (394, 91.2%) had no known history of sexual abuse. (Table 28).

4.4.6 Domestic Violence Victim (Ever)

Overall, 48 cases (11.1%) were recorded as having ever been a victim of domestic violence. Women were six times more likely to have been a victim than a man (31.9% compared to 5.6%) (Table 29).

Table 20: Number of People Who Are Known To Have Experienced a Particular Medical Condition at Some Time Prior To Death

n = 397

Medical Condition	Number of Deaths[1]	%
Problem alcohol use[3]	275	69.3
Psychiatric conditions	257	64.7
Hepatitis C	87	21.9
Respiratory condition	85	21.4
Liver disease	31	7.8
Epilepsy	23	5.8
DVT	23	5.8
Cardiac Condition	16	4.0
Diabetes	11	2.8
Hepatitis B or HIV / AIDS	12	3.0
Other medical conditions[2]	134	33.8
No known medical conditions	35	-

Source: NDRDD 2009 data

[1] The total number of medical conditions experienced is greater than the base of 397 because individuals may have been reported as having experienced more than one medical condition.

[2] The category "Other medical conditions" encompasses a broad range of diagnoses.

[3] Anyone who was reported as having ever been diagnosed with alcoholism in Q35 of the dataset (see Appendix 3) or reported as ever having experienced problematic alcohol use in Q56 of the dataset was considered as having experienced 'problem alcohol use' at some time.

Table 21: Number of People Who Are Known To Have Experienced a Particular Medical Condition in the 6 Months Prior To Death

n = 366

Medical Condition	Number of Deaths[1]	%
Problem alcohol use[2]	180	49.2
Psychiatric condition	171	46.7
Hepatitis C	59	16.1
Respiratory condition	70	19.1
Liver disease	22	6.0
Epilepsy	17	4.6
DVT	*	*
Cardiac Condition	5	1.4
Diabetes	9	2.5
Hepatitis B or HIV / AIDS	6	1.6
Other medical conditions[3]	86	23.5
No known medical conditions	66	-

Source: NDRDD 2009 data

[1] The total number of medical conditions experienced is greater than the base of 366 because individuals may have been reported as having experienced more than one medical condition.

[2] Anyone who was reported as having been diagnosed with alcoholism in the 6 months prior to death (Q35 of the dataset – see Appendix 3) or reported as having experienced problematic alcohol use in the 6 months prior to death (Q56 of the dataset) was considered as having experienced 'problem alcohol use' at some time.

[3] The category "Other medical conditions" encompasses a broad range of diagnoses.

[4] Apparent anomalous differences between the number of people who were diagnosed with a certain medical condition at any time and the number who were diagnosed with the same condition in the 6 months prior to death are, at least in part, explained by the fact that data collectors could only record the diagnoses that were actually reported in data sources e.g. GP Notes

* Indicates values that have been suppressed due to the potential risk of disclosure and to help maintain patient confidentiality.

Table 22: Number of People Who Are Known To Have Experienced a Particular Psychiatric Condition at Some Time Prior To Death

n = 257

Psychiatric Condition	Number of Deaths[1]	%
Schizophrenia	23	9.0
Depression	186	72.4
Anxiety	110	42.8
Bi-polar Disorder	14	5.4
Post Traumatic Stress Disorder	15	5.8
Personality Disorder	34	13.2
Other psychiatric conditions[2]	55	21.4
No known psychiatric conditions	175	-

Source: NDRDD 2009 data

[1] The total number of psychiatric conditions experienced is greater than the base of 257 because individuals may have been reported as having experienced more than one psychiatric condition.

[2] Conditions that were commonly reported under 'Other psychiatric conditions' are behavioral problems, psychosis, panic attacks, bereavement issues, ADHD, and agrophobia.

Table 23: Number of Psychiatric Conditions Experienced At Any Time per Individual

n = 257

Number of Conditions	Number of Deaths	%
1 condition	121	47.1
2 conditions	96	37.4
3 conditions	35	13.6
4 conditions	5	1.9
Total	257	100.0

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 24: Number of People Who Are Known To Have Experienced a Particular Psychiatric Condition in the 6 Months Prior To Death

n = 171

Psychiatric Condition	Number of Deaths[1]	%
Schizophrenia	19	11.1
Depression	100	58.5
Anxiety	66	38.6
Bi-polar Disorder	10	5.8
Post Traumatic Stress Disorder	6	3.5
Personality Disorder	24	14.0
Other psychiatric conditions[2]	23	13.5
No known psychiatric conditions	261	-

Source: NDRDD 2009 data

[1] The total number of psychiatric conditions experienced is greater than the base of 171 because individuals may have been reported as having experienced more than one psychiatric condition.

[2] Conditions that were commonly reported as 'Other psychiatric conditions' (that were experienced in the 6 months prior to death) are behavioral problems, psychosis, panic attacks, bereavement issues and agrophobia.

[3] Apparent anomalous differences between the number of people who were diagnosed with a certain psychiatric condition at any time and the number who were diagnosed with the same condition in the 6 months prior to death are, at least in part, explained by the fact that data collectors could only record the diagnoses that were actually reported in data sources e.g. GP & Psychiatric notes.

Table 25: Number of People with Previous Suicide Attempts by Gender

n = 432 for all deaths, 341 for males, 91 for females

	Within 6 Months Prior To Death[1]	%	Outwith 6 Months Prior To Death[1]	%	Total	%
All Deaths	27	6.3	84	19.4	111	25.7
Male	20	5.9	67	19.6	87	25.5
Female	7	7.7	17	18.7	24	26.4

Source: NDRDD 2009 data

[1] Where the same person had a suicide attempt both within the 6 months prior to death and out with the 6 months prior to death only the most recent suicide attempt is recorded in the above table.

Table 26: Number of People Who Self Harmed Prior To Death by Gender

n = 432 for all deaths, 341 for males, 91 for females

	Within 6 Months Prior To Death[1]	%	Outwith 6 Months Prior To Death[1]	%	Total	%
All Deaths	29	6.7	62	14.4	91	21.1
Male	22	6.5	43	12.6	65	19.1
Female	7	7.7	19	20.9	26	28.6

Source: NDRDD 2009 data

[1] Where the same person had a self harm attempt both within the 6 months prior to death and out with the 6 months prior to death only the most recent self harm attempt is recorded in the above table.

[2] Previous suicide attempts are not included in the self harm figures shown in the above table.

Table 27: Drug Related Deaths by Recent Significant Event

n = 238

Significant Event	Number of Deaths[1]	%
Ill health/ recent diagnosis	62	26.1
Breakdown of a significant relationship	35	14.7
Relapse	28	11.8
Bereavement	27	11.3
Recent homelessness/ housing problems	19	8.0
Recently assaulted	10	4.2
Job loss	8	3.4
Recently arrested, charged, witness in case, or awaiting sentence	8	3.4
Loss of child custody	5	2.1
Child custody hearings	5	2.1
Other[2]	114	47.9
No known significant events	194	

Source: NDRDD 2009 data

[1] The total number of significant events experienced is greater than the base of 238 because individuals may have been reported as having experienced more than one event.

[2] Other significant events reported as having occurred within the 6 months prior to death include release from prison (see Table 55), unwell relatives, overdose events (see Table 19), treatment for Hep C (including treatment side effects), debt problems, miscarriage and childbirth.

Table 28: Number of People Who Were Sexually Abused At Some Point during Their Life

n = 432 for all deaths, 341 for males, 91 for females

	History of Sexual Abuse	%	No History Of Sexual Abuse	%
All Deaths	38	8.8	394	91.2
Male	16	4.7	325	95.3
Female	22	24.2	69	75.8

Source: NDRDD 2009 data

Table 29: Number of People Who Were a Victim of Domestic Violence at Some Point during Their Life

n = 432 for all deaths, 341 for males, 91 for females

	Number of Deaths	%
All Deaths	48	11.1
Male	19	5.6
Female	29	31.9

Source: NDRDD 2009 data

4.5 The Death

4.5.1 Place of Death and Place of Drug Use Resulting in Death

Half (219, 50.7%) of the 432 deaths occurred in the person's own home with a further 108 (25.0%) occurring in someone else's home, 43 (10.0%) occurred in hospital and 20 (4.6%) of deaths were outdoors (Table 30). For the 390 cases for which there were a record of place of drug use which resulted in the death, 214 (54.9%) reported use in their own home (Table 31). In almost all (196, 91.5%) of the 214 cases where the place of drug use was the home, this was also the place of death (data not shown).

4.5.2 Death by Day of the Week

Day of the week of the death was recorded in 428 cases. There was a more or less even spread of death by day of the week, with slightly higher proportions on Saturday (73, 17.1%) and Sunday (68, 15.9%) (Table 32).

4.5.3 Persons Present at Scene of Overdose (By Exact Location and Relationship)

Of the 422 cases where it was known whether a person was present at the scene (in the vicinity) of the overdose, 271 (64.2%) had a person present and 151 (35.8%) did not (Table 33). Of the 271 cases where it was known a person was at the scene of the overdose, the exact location was known for 261. Of these 261 cases, 107 (41.0%) had someone in the same room (Table 34). For these 107, the relationship of that person was known for 104. For 54 (51.9%) it was a friend and 50 (48.0%) a family member or partner/spouse (Table 35).

4.5.4 Ambulance Attendance and Attempted Resuscitation (By Whom and Location)

An ambulance attended in the vast majority of all cases (359, 83.1%). In 32 cases (7.4%), no ambulance was required as the person had been dead for some time (Table 36). It was recorded whether resuscitation had been attempted in 427 cases. Of these 427, this had been attempted in 188 (44.0%) cases (Table 37). Of these 188 cases, ambulance staff attempted resuscitation in the majority (141, 75.0%) with 23 (12.2%) having resuscitation attempted by hospital/A&E staff and 11 (5.9%) by the police. People other than emergency service staff attempted resuscitation such as a witness for 45 (23.9%), a friend for 43 (22.9%), a spouse or partner for 19 (10.1%) or a relative for 13 (6.9%). It should be noted that in many cases several different people (of differing roles) attempted resuscitation (Table 38).

4.5.5. Attempted Resuscitation by Persons Present

Of the 271 cases where a person was present (in the vicinity) of the overdose, resuscitation was attempted in 163 (60.1%). Of these 163 cases, resuscitation was attempted by persons present at the scene in 115 (70.6%) with resuscitation being attempted in the remaining 48 (29.4%) by ambulance staff, hospital workers and the police (data not shown).

4.5.6 'Take Home' Naloxone

Naloxone is an opioid antagonist medication which blocks the effect of opiate drugs such as heroin, morphine or methadone. It can be administered by injection to reverse the respiratory depression of an opiate overdose. 'Take Home' or Community Prescribed naloxone was recorded as being available in 2 cases of the NDRDD cohort. In both cases, it was administered.

Table 30: Where the Individual was Pronounced Dead

n = 432

Pronounced Dead	Number of Deaths	%
Own home	219	50.7
Others home	108	25.0
Hospital (incl. A & E)	43	10.0
Outdoors	20	4.6
Hostel	18	4.2
Supported accommodation	6	1.4
Hotel/ B&B/ Temporary accommodation	6	1.4
Other[1]	12	2.8
Total	432	100.0

Source: NDRDD 2009 data

[1] Other places where people were pronounced dead include stairwells of private and public buildings, toilets of public buildings, and within prison.

Note: Due to rounding percentages may not add up to 100%.

Table 31: Place of Drug Use[1]

n = 390

Place of Drug Use	Number of Deaths[2]	%
Own home	214	54.9
Others home	113	29.0
Outdoors	27	6.9
Hostel	18	4.6
Supported accommodation	5	1.3
Hotel/ temporary accommodation	6	1.5
Other[3]	15	3.9
Unknown	42	-

Source: NDRDD 2009 data

[1] The reported place of drug use is not necessarily where the individual was pronounced dead.

[2] The total number of places of drug use is greater than the base of 390 because individuals may have been reported as having used the drugs that led to the fatal overdose in several locations.

[3] Other places where people used the drugs that led to the fatal overdose include stairwells of private and public buildings, toilets of public buildings, prison cells and public houses.

Table 32: Number of Deaths by Day of Occurrence

n = 428

Day of Death	Number of Deaths	%
Sunday	68	15.9
Monday	62	14.5
Tuesday	51	11.9
Wednesday	63	14.7
Thursday	64	15.0
Friday	47	11.0
Saturday	73	17.1
Total	428	100.0
Missing	4	-

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 33: Persons Present At Scene of Fatal Overdose

n = 422

Persons Present	Number of Deaths	%
Yes	271	64.2
No	151	35.8
Total	422	100.0
Unknown	10	-

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 34: Where Were Persons Present at Scene of Fatal Overdose[1]

n = 261

Where Present[1]	Number of Deaths	%
In same room	107	41.0
Not in same room	154	59.0
Total	261	100.0
Unknown	10	-

Source: NDRDD 2009 data

[1] Of those who were known to be present at the scene of the fatal overdose.

Note: Due to rounding percentages may not add up to 100%.

Table 35: Relationship to People Present In the Same Room as the Deceased[1]

n = 104

Relationship	Number of Deaths[2]	%
Friend present	54	51.9
Partner or spouse present	38	36.5
Family member present	12	11.5
Stranger present	*	*
Children present	*	*
Other	*	*
Unknown who was present	3	-

Source: NDRDD 2009 data

[1] At the time of the fatal overdose.

[2] The total number of people with different relationships to the deceased is greater than the base of 104 because several people with different relationships to the deceased may have been present at a death.

* Indicates values that have been suppressed due to the potential risk of disclosure and to help maintain patient confidentiality.

Table 36: Did Ambulance Attend n = 432

Ambulance Attended	Number of Deaths	%
Yes	359	83.1
No	41	9.5
Not Applicable[1]	32	7.4
Total	432	100.0

Source: NDRDD 2009 data

[1] i.e. it was clear that the person had been dead for some time and an ambulance was not required

Note: Due to rounding percentages may not add up to 100%.

Table 37: Was Resuscitation Attempted n = 427

Resuscitation Attempted	Number of Deaths	%
Yes	188	44.0
No	239	56.0
Total	427	100.0
Unknown	5	-

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 38: Resuscitation Attempted by Whom

n = 188

Resuscitation By	Number of Deaths[1]	%
Ambulance Staff	141	75.0
Witness	45	23.9
Friend	43	22.9
Hospital/ A & E Staff	23	12.2
Spouse/ Partner	19	10.1
Relatives	13	6.9
Police	11	5.9
Other	10	5.3

Source: NDRDD 2009 data

[1] The total number of people (with different roles) who attempted resuscitation is greater than the base of 188 because in many cases several people (with different roles) attempted resuscitation.

4.6 Toxicology and Substitute Prescribing

4.6.1 Deaths By Drug Type Present, Gender and Age Group

Toxicology results were reported for 427 (99%) of all 432 cases, 337 of which were male and 90 female (data not shown). **These reports are of any finding of a drug present in the body. There has been no attribution to the cause of death concluded.** Table 39 shows the numbers of deaths by drug type present, gender and age group.

The most common drug present was Diazepam which was found in 335 (78.5%) of these 427 deaths, with similar proportions for men and women (78.0% compared to 80.0%).

Heroin was present in 313 (73.3%) of these deaths, with slightly higher proportions for men (75.7%) than women (64.4%).

Alcohol was present in 248 (58.1%) of these deaths, with higher proportions for men (61.7%) than women (44.4%).

Methadone was present in 168 (39.3%) of these deaths, and was more likely for women (54.4%) than men (35.3%) (see 4.6.8 as to whether methadone was prescribed or not).

Anti-depressants were present in 96 (22.5%) of these deaths, with higher proportions for women (33.3%) than men (19.6%).

Codeine was present in 88 (20.6%) of these deaths, more so for men (22.9%) than women (12.2%).

Dihydrocodeine was present in 70 (16.4%) of these deaths and cocaine in 58 (13.6%) with similar proportions for men and women (see 4.6.9 as to whether dihydrocodeine was prescribed or not).

In general, there was little difference in drug type present by age group although for some drug types, numbers broken down to both age group and gender were very small making it difficult to draw definitive conclusions. It is of note that, when comparing rates, presence of dihydrocodeine was more likely in older age groups (particularly men); cannabis was more likely to be present in those under 25 years and methadone was most commonly present in women aged 35-44 years (data not shown).

4.6.2 Drug Deaths by Combination of Drug Types Found, Gender and Age Group

Table 40 shows the number of the 427 deaths where toxicology was reported by combinations of drugs type present, gender and age group.

The most common combination of two drug types was of heroin and diazepam with 247 (57.9%) of the 427 cases having these two drugs present.

The next most common combination of two drug types was diazepam and alcohol with 189 of these cases (44.3%) having these two drugs present; followed by heroin and alcohol which were both present in 188 of these cases (44.0%).

Other combinations included methadone and diazepam which were both present in 140 of these cases (32.8%) and heroin and methadone which were both present in 77 (18.0%) of these cases.

Men were more likely than women to have a combination of heroin and alcohol (47.5% compared to 31.1%) and diazepam and alcohol (46.6% compared to 35.6%). Women were more likely to have a combination of methadone and diazepam (46.7% compared to 29.1%) and heroin and methadone (26.7% compared to 15.7%).

For combination of drug type by age group, of particular note is that the combination of heroin and methadone is proportionally higher in older age groups.

4.6.3 Substitute Prescribing by Drug Prescribed and Supervision

Of all 432 cases, 91 (21.1%) were receiving a substitute prescription at the time of death and 341 (78.9%) were not. Of these 91 people, 79 (86.8%) were prescribed methadone, 7 (7.7%) were prescribed dihydrocodeine and 5 (5.5%) were prescribed suboxone (Table 41).

Of the 91 cases who were receiving a substitute prescription at the time of their death, it was known whether dispensing of the prescription was supervised or not for 88 cases. Of these 88, 59 (67.1%) took their prescription under supervision whereas 29 (33.0%) did not (Table 42).

4.6.4 Substitute Prescription by Time Last Collected and Length of Time of Prescribing

Of the 91 cases who were receiving a substitute prescription, it was recorded when the prescription was last collected for 82 of which over half (46, 56.1%) had collected their prescription within the week before death. The vast majority (73, 89.0%) had collected their prescription within the 4 weeks before death (Table 43).

Of the 91 cases who were receiving a substitute prescription, it was recorded how long they had been receiving a prescription for 83. Of these 83, 59 (71.1%) had been receiving a prescription for more than a year and 33 (39.8%) had been receiving one for more than 3 years (data not shown).

4.6.5 Methadone Present in Toxicology and Methadone Prescribed

A total of 168 cases overall had methadone present in their body at the time of their death. Of these 168, 72 (42.9%) had been prescribed methadone whereas 96 (57.1%) had not (Table 44).

4.6.6 Dihydrocodeine Present in Toxicology and Dihydrocodeine Prescribed

Of the 70 cases who had dihydrocodeine present in their body at the time of death (Table 39), only 7 (10%) were recorded as being prescribed dihydrocodeine as substitute prescription (data not shown). It should be noted that dihydrocodeine may have been prescribed for reasons other than for substitution.

4.6.7 Drug Type Found in Toxicology by Substitute Prescription

Of the 427 cases for whom there were toxicology results, 90 were on substitute prescribing (toxicology results were missing for 1 case on a substitute prescription and for 4 cases who were not receiving a substitute prescription). Results can be found in Table 45.

51 (56.7%) of those who were receiving a substitute prescription at the time of their death had heroin present in their body compared to 262 (77.7 %) of people who were not receiving a substitute prescription at the time of their death.

74 (82.2%) of those who were receiving a substitute prescription at the time of their death had methadone present in their body compared to 94 (27.9%) of people who were not receiving a substitute prescription at the time of their death (Table 45). 72 (91.1%) of the 79 people who

were being prescribed methadone at the time of death had methadone present in their body (Table 44).

4 (4.4%) of those who were receiving a substitute prescription at the time of their death had cocaine present in their body compared to 54 (16.0%) of people who were not receiving a substitute prescription at the time of their death.

35 (38.9%) of those who were receiving a substitute prescription at the time of their death had alcohol present in their body compared to 213 (63.2%) of people who were not receiving a substitute prescription at the time of their death.

32 (35.6%) of those who were receiving a substitute prescription at the time of their death had anti-depressants present in their body compared to 64 (19.0%) of people who were not receiving a substitute prescription at the time of their death.

4 cases who were receiving a substitute prescription at the time of their death had only 1 drug present (Table 45). Of these, 3 had methadone only present (data not shown).

7 cases who were not receiving a substitute prescription at the time of their death had only 1 drug present (Table 45). Of these 7, 5 had heroin only present (data not shown).

Table 39: Number of Cases[1] with Particular Drugs Reported In Toxicology for All Deaths, by Age and Gender n=427

	Heroin/ Morphine	Methadone	Dihydro-codeine	Tramadol	Codeine	Diazepam	Cocaine	Amphet-amines	Ecstasy	Cannabis	Alcohol[2]	Anti-depressants	Other Drugs[3,4,5]
All deaths	**313**	**168**	**70**	**18**	**88**	**335**	**58**	**10**	**2**	**51**	**248**	**96**	**148**
Under 25	39	24	7	4	11	50	12	0	2	14	27	10	17
25-34	116	53	27	2	31	127	16	3	0	19	96	39	55
35-44	116	67	22	7	31	117	21	4	0	14	90	36	53
45 +	42	24	14	5	15	41	9	3	0	4	35	11	23
Males	**255**	**119**	**53**	**12**	**77**	**263**	**46**	**7**	**2**	**37**	**208**	**66**	**112**
Under 25	27	18	4	4	9	33	6	0	2	7	23	7	10
25-34	93	40	21	2	26	102	13	1	0	14	77	27	39
35-44	101	41	16	3	30	93	19	3	0	13	76	23	45
45 +	34	20	12	3	12	35	8	3	0	3	32	9	18
Females	**58**	**49**	**17**	**6**	**11**	**72**	**12**	**3**	**0**	**14**	**40**	**30**	**36**
Under 25	12	6	3	0	2	17	6	0	0	7	4	3	7
25-34	23	13	6	0	5	25	3	2	0	5	19	12	16
35-44	15	26	6	4	1	24	2	1	0	1	14	13	8
45 +	8	4	2	2	3	6	1	0	0	1	3	2	5

Source: NDRDD 2009 data

[1] The total number of cases where a particular drug was present is greater than the number of drug related deaths reported because individuals may have multiple drugs present.

[2] All cases with alcohol present in the toxicology report have been included in the above table. However, it should be noted that in a small number of cases it is not possible to be certain whether a relatively low level of alcohol in the blood reflects recent ingestion of alcohol or post mortem artifact.

[3] 'Other Drugs' include all other drugs that were present in the body whether they are illicit or not.

[4] The drug temazepam was present in 71 cases although it was only reported as a cause of death in 4 pathology reports (temazepam can appear in toxicology as a metabolite of diazepam). Temazepam has therefore been included as 'Other Drug' for this report.

[5] In most cases where the toxicology report listed a metabolite or a derivative the associated primary drug was also listed and the metabolite or derivative was therefore ignored. However, where a metabolite or derivative was listed and the associated primary drug was not listed we have added one to the frequency of occurrence of that primary drug.

Table 40: Number of Cases with Particular Combinations[1] of Drugs Reported In Toxicology for All Deaths and by Gender and Age n=427

	Heroin & Methadone	Heroin & Alcohol[2]	Heroin & Diazepam	Methadone & Alcohol[2]	Methadone & Diazepam	Diazepam & Alcohol[2]	Heroin, Diazepam & Alcohol[2]	Methadone, Diazepam & Alcohol[2]
All Deaths	77	188	247	79	140	189	144	61
Males	53	160	199	59	98	157	121	46
Females	24	28	48	20	42	32	23	15
Under 25	10	12	31	12	23	25	11	12
25-34	22	75	102	28	42	78	65	20
35-44	33	75	84	29	56	63	51	22
45 +	12	26	30	10	19	23	17	7

Source: NDRDD 2009 data

[1] The particular drug combinations are not necessarily the only drug types reported in the Toxicology of each individual.

[2] All cases with alcohol present in the toxicology report have been included in the above table. However, it should be noted that in a small number of cases it is not possible to be certain whether a relatively low level of alcohol in the blood reflects recent ingestion of alcohol or post mortem artifact.

Table 41: Number of People who were Prescribed a Substitute Drug at Time of Death

n = 432

Substitute Prescription	Number of Deaths	%
Methadone	79	18.3
Dihydrocodeine	7	1.6
Suboxone	5	1.2
Total number prescribed a substitute at time of death	91	21.1
Not prescribed a substitute at time of death	341	78.9
Total	432	100.0

Source: NDRDD 2009 data

Table 42: How the Substitute Drug Was Dispensed

n = 88

Dispensing of Drug	Number of Deaths	%
Supervised	59	67.1
Not supervised (take away)	29	33.0
Total	88	100.0
Missing	3	-

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 43: How Many Weeks Before the Death was the Substitute Prescription Last Collected

n = 82

Weeks	Number of Deaths[1]	%	Cumulative %
Under 1 week	46	56.1	56.1
1 - 2 weeks	15	18.3	74.4
2 - 4 weeks	12	14.6	89.0
4 - 10 weeks	5	6.1	95.1
Over 10 weeks	4	4.9	100.0
Total	82	100.0	-
Missing	9	-	-

Source: NDRDD 2009 data

[1] The number of people reported to have been prescribed a substitute drug at time of death.

Note: Due to rounding percentages may not add up to 100%.

Table 44: Whether People with Methadone in Their Toxicology Were Being Prescribed Methadone at the Time of Death

n = 168

People With Methadone In Their Toxicology					
Prescribed Methadone	%	Not Prescribed Methadone	%	Total	%
72	42.9	96	57.1	168	100.0

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 45: Drugs Reported In the Toxicology of Those who were Prescribed a Substitute Drug at the Time of Death versus Those Not Prescribed a Substitute Drug at the Time of Death

n = 90 for those Prescribed a Substitute Drug and 337 for those not Prescribed a Substitute Drug

	Heroin/ Morphine	Methadone	Dihydro-codeine	Tramadol	Codeine	Diazepam	Cocaine	Amphet-amines	Ecstasy	Cannabis	Alcohol[2]	Anti-depressants	Other Drugs[3,4,5]	Only One Drug Present
All deaths[1]	**313**	**168**	**70**	**18**	**88**	**335**	**58**	**10**	**2**	**51**	**248**	**96**	**148**	**11**
Prescribed a Substitute[6]	51	74	16	4	12	75	4	1	-	11	35	32	35	4
% of those Prescribed a Substitute	56.7	82.2	17.8	4.4	13.3	83.3	4.4	1.1	-	12.2	38.9	35.6	38.9	4.4
Not Prescribed a Substitute	262	94	54	14	76	260	54	9	2	40	213	64	113	7
% of those not Prescribed a Substitute	77.7	27.9	16.0	4.2	22.6	77.2	16.0	2.7	0.6	11.9	63.2	19.0	33.5	2.1

Source: NDRDD 2009 data

[1] The total sum of drug types found in the toxicology is greater than the reported number of drug related deaths because individuals may have consumed more than one drug.

[2] All cases with alcohol present in the toxicology report have been included in the above table. However, it should be noted that in a small number of cases it is not possible to be certain whether a relatively low level of alcohol in the blood reflects recent ingestion of alcohol or post mortem artifact.

[3] 'Other Drugs' include all other drugs that were present in the body whether they are illicit or not.

[4] The drug temazepam was present in 71 cases although it was only reported as a cause of death in 4 pathology reports (temazepam can appear in toxicology as a metabolite of Diazepam). Temazepam has therefore been included as 'Other Drug' for this report.

[5] In most cases where the toxicology report listed a metabolite or a derivative the associated primary drug was also listed and the metabolite or derivative was therefore ignored. However, where a metabolite or derivative was listed and the associated primary drug was not listed we have added one to the frequency of occurrence of that primary drug.

[6] Includes information about 79 people who were prescribed methadone (at the time of death), 6 people who were prescribed dihyrocodeine and 5 people who were prescribed suboxone. A 7th person who was prescribed dihydrocodeine has been excluded from the above table as toxicology results were not available for this person.

4.7 Contact with Services

4.7.1 Length of Time Since Contact with Drug Treatment Services

There was a record of whether the individual had been in contact with drug treatment services (including GPs who provide specialist drug treatment) for all but one case. Of these 431 cases, 259 (60.1%) had been in contact with drug treatment services at some point in their lives compared to 172 (39.9%) that had not (Table 46). Of the 259 cases who had been in contact, 168 (64.9%) had been in contact in the 6 months prior to death and 91 (35.1%) had been in contact more than 6 months previously (Table 47). Of the 168 cases who had been in contact with drug treatment services within the last 6 months, 5 (3.0%) had subsequently left the service and been placed on a waiting list for another service and 6 (3.6%) had subsequently left the service and been referred to another service which they failed to attend. Of all cases (263) who had not been in contact with a drug treatment service in the 6 months prior to death, 9 (3.4%) had been on a waiting list (within the 6 months prior to death) and 27 (10.3%) had been referred but did not attend (within the 6 months prior to death) (data not shown). Table 48 shows that, of those 168 who had been in contact with a drug treatment service within the 6 months prior to death, nearly two thirds (105, 64.4%) had been in contact within the previous 4 weeks.

4.7.2 Contact with Drug Treatment Services within Previous 6 Months by Source of Referral

For the 168 cases who had been in contact with drug treatment services in the previous 6 months, source of referral was known for 131. 60 (45.8%) were referred from a Health Care source, 43 of which (32.8%) were referred from a GP. 39 (29.8%) had self referred (Table 49).

4.7.3 Contact with Drug Treatment Service by Type of Service

Of the 259 cases who had had contact with a drug treatment service at some point prior to death the most common services were statutory addiction service (188, 72.6%) and GP (162, 62.6%) (Table 50).

4.7.4 Contact with Primary Care by Length of Time Since Contact

Table 51 shows that, of the 338 cases who had been in contact with a GP within the year prior to death, 157 (46.4%) had been in contact within the previous month.

4.7.5 Contact with Drug Treatment Services and Primary Care by Length of Time since Contact and Health Board Area

Table 52 shows length of time since last contact with a drug treatment service or General Practitioner. 405 (93.8%) of all 432 cases had had some contact with a drug treatment service or a GP at some point with nearly half (202, 46.8%) having had contact within the 4 weeks prior to death. Only 27 cases (6.3%) had no known previous contact.

4.7.6 Police Custody Within 6 Months Prior to Death

It was known whether an individual had been in police custody or not for 423 cases. Of these 423, 148 (35.0%) had been in police custody in the 6 months prior to death (Table 53). The median number of days since release from police custody was 58 days (data not shown).

4.7.7 Ever Been in Prison by Length of Time Since Release

Overall, 426 cases were recorded as having been in prison or not. Of these 426, 236 had been in prison (55.4%) of whom 209 were men and 27 were women (Table 54). Data was known about length of time since release from prison in all but 1 case. Of these 235, 17 cases (7.3%) had been released within one week of death with 39 (16.7%) having been released within 4 weeks of death (Table 55).

Table 46: Contact with Drug Treatment Services n = 431

Contact	Number of Deaths	%
In contact with drug treatment service at some point prior to death	259	60.1
Not in contact with drug treatment service at any time prior to death	172	39.9
Total	431	100.0
Missing	1	-

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 47: Time of Last Contact with Drug Treatment Services n = 259

Last Contact	Number of Deaths	%
In contact with drug treatment service within the 6 months prior to death	168	64.9
In contact with drug treatment service outwith the 6 months prior to death	91	35.1
Total	259	100.0

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 48: Number of Weeks since Last Contact with Drug Treatment Service

n = 163

Number of Weeks	Number of Deaths[1]	%
Under 1	36	22.1
1 to 2	28	17.2
2 to 3	31	19.0
3 to 4	10	6.1
4 to 8	24	14.7
8 to 12	9	5.5
12 to 16	7	4.3
16 to 26	18	11.0
Total	163	100.0
Unknown	5	-

Source: NDRDD 2009 data

[1] Of those who were known to have been in contact with a drug treatment service within the six months prior to death.

Note: Due to rounding percentages may not add up to 100%.

Table 49: Source of Referral to Drug Treatment Service[1]

n = 131

Source of Referral	Number of Deaths[1]	%
Self	39	29.8
Health: GP	43	32.8
Health: Mental Health	6	4.6
Health: Other	11	8.4
Social Work	6	4.6
Criminal Justice: Prison	7	5.3
Criminal Justice: Other	8	6.1
Other	11	8.4
Total	131	100.0
Unknown	18	-
Missing	19	-

Source: NDRDD 2009 data

[1] Of those who were known to have been in contact with a drug treatment service within the six months prior to death.

Note: Due to rounding percentages may not add up to 100%.

Table 50: Type of Service[1] That People Were In Contact With At Some Point Prior to Death[2]

n = 259

Service Type[1]	Number of Deaths[3]	%[3]
GP	162	62.6
A & E	48	18.5
Psychiatric services	52	20.1
Residential rehab	18	7.0
Statutory Addiction Service	188	72.6
Specialist Drug Service	33	12.7
Police Surgeon	*	*
Arrest referral	4	1.5
Probation	15	5.8
Voluntary sector	13	5.0
Addiction psychology	4	1.5
Prison (Healthcare)	29	11.2
Voluntary Throughcare	4	1.5
Enhance Addiction Casework Service	4	1.5
Throughcare Addiction Service	-	-
Drug Testing and Treatment Order	8	3.1
Drug crisis centre	6	2.3
Completed detox	7	2.7
Social work services	33	12.7
Social work offender services	12	4.6
Supported accommodation	12	4.6
Harm Reduction Team	4	1.5
Hospital inpatient treatment	30	11.6
Hospital outpatient treatment	7	2.7
Day care service	-	-
Family Support Service	*	*
Community Rehabilitation	6	2.3
Other services	47	18.2

Source: NDRDD 2009 data - Denotes (zero)

***** Indicates values that have been suppressed due to the potential risk of disclosure and to help maintain patient confidentiality.

[1] The service type is either generic or specialist but providing drug treatment.

[2] The analysis uses the most recent set of drug treatment service contacts for the 259 people who had been in contact with a drug treatment service at some point prior to death whether this set of contacts occurred within the 6 months prior to death or out with the 6 months prior to death.

[3] The total number of service types that people were in contact with is greater than the base of 259 because individuals may have been in contact with more than one service type.

[4] 'Other' services were made up of a variety of specialist services including Community Casework Team, Community Mental Health Team, Persistent Offenders Project, Homeless Addiction Team, and Challenging Behavior Practice.

Table 51: Months since Last Contact with GP

n = 338

Number of Months	Number of Deaths[1]	%
Under 1	157	46.4
1 to 2	53	15.7
2 to 3	30	8.9
3 to 4	20	5.9
4 to 5	24	7.1
5 to 6	20	5.9
6 to 7	8	2.4
7 to 8	11	3.3
8 to 9	5	1.5
9 to 10	5	1.5
10 to 12	5	1.5
Total	338	100.0

Source: NDRDD 2009 data

[1] Of those who were known to have been in contact with a GP within the 12 months prior to death

Note: Due to rounding percentages may not add up to 100%.

Table 52: Weeks/Years since Last Contact with Drug Treatment Service OR GP

n = 432

Weeks/Years	Number of Deaths	%
Less than a week	82	19.0
1 to 4 weeks	120	27.8
4 to 12 weeks	89	20.6
12 to 24 weeks	51	11.8
24 weeks to 1 year	24	5.6
1 to 2 years	20	4.6
2 to 3 years	8	1.9
Over 3 years	11	2.5
Total with previous contact	405	93.8
No known previous contact	27	6.3
Total	432	100.0

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 53: Police Custody within the 6 Months Prior To Death

n = 423

Police Custody	Number of Deaths	%
Yes	148	35.0
No	275	65.0
Total	423	100.0
Unknown	9	-

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

Table 54: Served Time in Prison

n = 432 for all deaths, 341 for males, 91 for females

Prison	Male	Female	Total
Yes	209	27	236
No	128	62	190
Unknown	4	2	6
Total	341	91	432

Source: NDRDD 2009 data

Table 55: Number of weeks between Prison Release and Death

n = 235

Weeks	Number of Deaths	%	Cumulative %
Within week one	17	7.3	7.3
1 to 4 weeks	22	9.4	16.7
5 to 8 weeks	8	3.4	20.1
9 to 12 weeks	10	4.3	24.4
13 to 16 weeks	7	3.0	27.4
17 to 20 weeks	8	3.4	30.8
21 to 24 weeks	9	3.8	34.6
Over 24 weeks	154	65.5	100.0
Total	235	100.0	-
Missing	1	-	-

Source: NDRDD 2009 data

Note: Due to rounding percentages may not add up to 100%.

5. DISCUSSION

This is the first report from the National Drug Related Death Database and describes in detail the characteristics and circumstances of death of the majority of those dying a drug related death in Scotland in 2009. It is a comprehensive and rich source of information which can point to what might be risk factors (for example, age) and can suggest potential effective practice interventions to reduce drug related deaths in the future.

Examining the findings, the majority of those in the cohort who died a drug related death in 2009 were male, white and from deprived areas. Nearly 9 out of 10 were under the age of 45, representing a considerable loss of life. For those whose status was known, three quarters were unemployed and a similar proportion were either single, separated, divorced or widowed and nearly half were living alone. This suggests a high degree of social exclusion for many, with limited support networks to draw from. Efforts to engage individuals such as these and make connections through, for example, drug user networks, may be helpful.

By contrast, nearly half (46.3% of overall cohort) were living with family and the majority were living either at home or with relatives or friends (87.5% overall). Nearly a fifth (18.8% overall) were described as being in a long term relationship. Conclusions cannot be drawn as to the quality and stability of these circumstances but there is the opportunity for services to work with families and others to support and enhance these arrangements. One third (34.5% overall) were parents or a parental figure of children under 16 years and nearly 1 in 10 (9.0% overall) were living with a child (theirs or not) at the time of death. In 2009, a total of 254 children lost a parent or parental figure from a drug related death and 59 children were living with someone (who had died a drug related death) at the time of death. This emphasises the vital importance of identifying such children and ensuring they are not at risk. Additionally, it emphasises the need for support for those coping with the loss of a parent, such as through bereavement counselling.

Those who had died a drug related death were not an unknown group with the vast majority (87.0% of overall cohort) known to services or others as drug users. Nor were these novice drug users. Where known, two thirds had been long term users for 5 or more years (59.7% overall). However, length of time of use was unknown for nearly a quarter of cases. If those with shorter term use are less likely to be known, the number of recent users may be underestimated. Again, where status was known, over two thirds were IV users (53.7% overall), an established risk factor for drug related deaths [11]. This is a higher proportion compared with drug users attending a drug treatment service (27%) [8]. It was unknown what drug had been used in the previous month for just over a quarter of all individuals. However, where known, heroin was the most frequently used (44.2% overall) with most heroin use having been daily (14.4% overall). However, given the large numbers of cases where both drug use and type of drug used was unknown, caution should be taken in interpreting these findings. Most of those who died had not undergone a recent drug detoxification (88.2% overall) suggesting there had been limited attempts to withdraw with clinical support although recent drug detoxification is a known risk factor [12]. Nearly half of all cases (47.5%) had experienced a previous overdose with many having experienced multiple episodes (a known risk factor [13]) suggesting that this was not an isolated event in the life of these drug users.

This is a group with major co-morbidities. In the 6 months prior to death for those where known, nearly half had problem alcohol use (41.7% of cases overall), a known risk factor [14], nearly one fifth had Hepatitis C (13.7% overall) and 1 in 20 had liver disease (5.1% overall). Alcohol is not only a direct cause of liver disease but its use potentiates liver damage in those with liver disease due to Hepatitis C [15]. It is therefore important that drug treatment services be aware of the high prevalence of alcohol problems in this group and take the opportunity of a contact to detect,

intervene or signpost into treatment those with alcohol problems and or a Blood Borne Virus. The use of alcohol can also be observed through the high proportion of those with alcohol present in the body at the time of death, particularly for men, though for a small proportion of cases this finding may be due to a post mortem artefact.

There was also a high prevalence of mental ill health, with, where known, nearly half (39.6% of the overall cohort) of those who had died reported as having a psychiatric condition in the 6 months prior to death with many having had multiple diagnoses. Over half of these cases had depression (23.1% of overall cases) and over 1 in 10 had schizophrenia (4.4% of overall cases). Anti-depressants were found present in the body of nearly a quarter (22.2%) of all cases, again suggesting considerable mental health problems in this group. Drug treatment services should be aware of the likelihood of mental health problems and ensure effective, integrated mental health treatment can be delivered. This high prevalence of mental ill health is also illustrated through the fact that 1 in 4 of all cases had attempted suicide and that 1 in 5 overall had a history of self harm at some point in their lives, the latter being more likely for women. Given the chaotic lifestyles and sparse social support networks found for some in this group it is reasonable to assume that these individuals may find coping with traumatic life events challenging. Over half had a report of a recent significant event, the most common being ill health or the breakdown of a significant relationship. Just under 1 in 10 (8.8% overall) had been sexually abused at some point in their lives, markedly more so for women than men. A similar proportion of all cases had been a victim of domestic violence. In summary, these individuals have multiple health problems, both physical and mental as well as negative life experiences. This reinforces the need for high quality, integrated health and care services for this highly vulnerable group as well as for drug users in general.

Most deaths occurred in a home, with only 1 in 10 occurring in hospital and less than 5% outdoors. Place of drug use was also most commonly in a home. In almost all cases where place of drug use was the home, that was where the death occurred. This may indicate that there was little time from drug use to death. There was little variation in deaths by days of the week perhaps suggesting limited access to services over the weekend is not a major issue. In the majority of cases, there was someone present at the scene of death (62.7% of the overall cohort), with many of those having been in the same room (24.8% overall). Given the illicit nature of drug use, it is possible that where the presence of someone was unknown, in some instances someone had actually been there but had fled the scene. That persons were present undoubtedly gives rise to the potential for resuscitation attempts by non service personnel. Indeed, a considerable number of those present had attempted resuscitation which is encouraging (26.6% overall). Engaging with family and friends as well as fellow drug users and providing training in resuscitation such as CPR and/or administration of naloxone is important and could be lifesaving. Although take home naloxone was only reported in 2 cases, it was used both times. Given the definition of this study population (i.e. those who have died), successful use of naloxone will not have been recorded. The national programme for roll out of naloxone should increase its availability in the future and hopefully reduce the occurrence of drug related deaths. Although an ambulance attended in 4 out of 5 cases, there were still a sizeable number of cases for whom one did not. Encouragement should be given to known drug users along with friends and families that an ambulance to be called in all overdose cases.

The toxicology results in this report are for the presence of a given drug in the body and there is *no* attribution as to whether it caused the death or not. Toxicology reports were available for virtually all cases, providing very robust results. The two most common drugs present were diazapem and heroin, both found in three quarters of cases. Given the high frequency of reporting of heroin use, this is not surprising. Methadone was present in nearly 40% of cases with higher proportions for women. Poly drug use was the norm which may increase the risk of death [11]. Frequently, alcohol

and drug use was combined. For those with liver disease, poly drug use may cause further damage. It is important to continue to emphasise that non injecting drug use may also be lethal.

Only one fifth of the cohort was receiving a substitute prescription at the time of death with the majority of these receiving a prescription for methadone. How the prescription was dispensed was known for most, with two thirds having had their prescription supervised. For most, their last prescription had been dispensed relatively recently. Overall, given that most individuals who died a drug related death were not on a substitute prescription known protective factor [16], this does suggest that continuing efforts to engage with these users should be pursued to encourage them into treatment. Nearly 40% of all cases had methadone present in their body at the time of death but less than half (16.7% overall) of those had been prescribed it. This does indicate that methadone use occurs in those who have not been prescribed it, likely from illicit sources. However, it is important to note that methadone may not have directly caused these deaths as attribution was not determined from the toxicology reporting. Heroin or morphine was less likely to be found in those on a substitute prescription as was alcohol. By contrast, anti-depressants were more likely to be found, perhaps consistent with more contact with services. The pattern of poly drug use as described in the history was also reflected in toxicology reporting as the number of cases with a single drug present was very small.

This is a group with an inconsistent pattern of contact with services. Over a third (39.8%) of the cohort had no record of any contact with a drug treatment service at any point in their life. By contrast, nearly 40% overall *had* been in contact with drug treatment services within 6 months prior to their death. Within this group, general referral patterns to services were similar to those seen in the wider Scottish drug misusing population who are in contact with services, with many referred through primary care and other health sources [8]. Most of those who were in contact with their GP had been so in the past year. This reiterates the importance of primary care as a point of initial contact with drug treatment services. However, the proportion of the cohort who approached drug services themselves (i.e. self referral) was less than that seen in the general drug using population who attend drug treatment services. This may indicate a reduced interest or belief in treatment [8]. The fact that two thirds of all cases had been in contact with either a drug treatment service or a GP within the 12 weeks prior to death demonstrates that these individuals have not all disconnected and therefore there is the potential to intervene.

Many of those who died had been in contact with the criminal justice services with over half overall (54.6%) having been in prison at some point in their lives and over a third overall (34.3%) had been in police custody within the 6 months prior to death. Previous research has suggested that release from prison and subsequent heroin use could result in unintentional overdose [17]. Of all those who had been released from prison, less than 1 in 5 (16.5%) died within 4 weeks of their release. Although a relatively small proportion, these deaths may have been preventable with prison potentially a good opportunity for intervention.

A key strength of this report is the detailed picture depicted of the nature and circumstances of the majority of those dying a drug related death in Scotland in 2009, drawn from a wide range of sources at local level. Standardisation of data collection was supported by the NDRDD definitions and guidelines. The dedicated local Data Collection Co-ordinators and the NDRDD Project Manager at ISD worked closely together to ensure data was as accurate and complete as feasible.

However, it is important to note some of the limitations of a study such as this. There was some local variation as to where data were held and which sources were searched though this was limited. This may introduce a degree of bias as to likely completion of data items although, in general, there were no noted major differences for this area by area. Some data items required

more interpretation than others and therefore the variability this may have introduced by different data collectors must be borne in mind. Although there was very little missing data, where considerable data was unknown this can introduce bias and caution has to be used in interpretation. This was particularly the case for the domain of previous drug use. Steps to strengthen future data collection are outlined in Section 6 below.

More fundamentally, due to the inherent hidden nature of drug misuse, it is not possible to make comparisons with those who use drugs and have not died a drug related death and so definitive conclusions about cause and effect cannot be determined. In other words, it cannot be said what are protective or risk factors for the likelihood of dying a drug related death with this kind of study. However, it can point to what might be risk factors and suggest avenues of research for potential practice interventions to reduce drug related deaths in the future.

In summary, this report has illuminated that this group is not a uniform one. Although many have multiple physical and mental health problems, evidence of poly drug use and are likely to have had contact with the criminal system there is no one single story. This combination of addiction over many years, severe co-morbidity and social isolation paints a picture of extreme difficulty and indeed peril. Whilst some lead isolated lives, others are in close contact with family and friends, some of whom did make attempts to resuscitate them. There are also clear indicators in support of better delivery of evidence based interventions such as substitute prescribing and the roll out of a national naloxone programme. These findings also underline the importance of person centred, holistic, integrated care services underpinned by the principles of recovery. This provides hope for what may seem an impossible challenge, to reduce drug related deaths.

6. NEXT STEPS FOR THE DRUG RELATED DEATHS DATABASE

The data collection process and the resultant quality of the data would not have been possible without the immense effort and co-operation of the Data Collection Co-ordinators and their many partners at local level. The reporting process has also shown up where both success and difficulties have arisen for particular data items in the collection. These experiences will be drawn from in going forward with the NDRDD.

6.1 Data Collection 2010

The intention is that data collection records for the National Drug Related Death Database will be returned to ISD from all areas on an ongoing basis for annual reporting. Data collection for deaths in 2010 is already underway at local level. Given that there were 92 drug related deaths which complied with the NDRDD definition and for which a record was not returned to ISD, it will be important to continue to support data collection and returns to ensure as complete a cohort as is possible.

6.2 Dataset Review

A formal NDRDD Dataset Review will be carried out in early 2011 led by ISD, reporting to the Data Collection Sub-Group of the NFDRD. Informal feedback from stakeholders has already been gathered, for example Data Collection Co-ordinators were asked to comment on which of the data items were particularly difficult to collect and whether they consider any to be of limited value. Insights from the data analysis will also contribute to this. It is not intended to implement the outcome of this review until the 2011 data collection unless the Data Collection Sub-Group considers a change to be essential.

6.3 Toxicology

The National Forum on Drug Related Deaths report for 2010 recommended that 'Pathology departments should arrive at common standards of sampling, laboratory testing and interpretation of results. Testing in forensic laboratories should include a standard range of substances…'(10). Consistency in toxicology testing would enhance data quality of reporting as well as contribute to decisions as to whether the death is drug related or not. Although nearly all areas returned toxicology results for all of their drug related deaths, delays from one area meant that a small number of their deaths had to be omitted from the NDRDD 2009 cohort and others were included based on other criteria.

6.4 Partnership Working

Successful partnership working is central to ensuring the coverage and quality of the data collected. It will be important to sustain and build on the excellent communication networks that local areas have developed with partners such as the police; the Procurators Fiscal; pathologists and the local DRD monitoring groups.

6.5 Future Research

The Drug Related Deaths Database holds data which provides a detailed description of the nature and circumstances of those who have died a drug related death in Scotland. As discussed, there are limits to what can be inferred as to risk and protective factors given the absence of a control group. The DRDD can be linked to other data sources, such as the Scottish Drug Misuse Database

(which collects information on those in drug treatment services) and the Scottish Morbidity Records (which collect information on those admitted to hospital). This can then describe a more detailed picture of an individual's circumstances prior to death. For those attending drug treatment services, it would enable comparisons to be drawn between those who subsequently died a drug related death and those who did not, so defining what risk and protective factors might be. Data linkage will be taken forward by ISD through the Substance Misuse Programme and will be subject to full ISD Information Governance protocols.

REFERENCES

1. General Register Office for Scotland Drug-related deaths in Scotland in 2009, GROS 2010
http://www.gro-scotland.gov.uk/statistics/theme/vital-events/deaths/drug-related/drd2009/index.html
(accessed 22 November 2010)

2. Zador et al National Investigation into Drug Related Deaths in Scotland, 2003 Scottish Executive 2005
http://www.scotland.gov.uk/Publications/2005/08/03161745/17507
(accessed 22 November 2010)

3. Scottish Advisory Committee on Drugs Misuse (SACDM) Working Group on Drug Related Deaths: Report and Recommendations, Scottish Executive August 2005
http://www.scotland.gov.uk/Publications/2005/08/04154654/46558#6
(accessed 22 November 2010)

4. Report of the Association of Drug and Alcohol Action Teams, Drug Related Deaths Working Group, January 2005

5. Taking Action to Reduce Scotland's Drug Related Deaths, Scottish Executive Dec 2005
http://www.scotland.gov.uk/Publications/2005/12/12114228/42283
(accessed 22 November 2010)

6. National Forum on Drug Related Deaths in Scotland Annual Report 2007, Scottish Government 2008
http://www.scotland.gov.uk/Publications/2007/12/17095935/0
(accessed 22 November 2010)

7. The Road to Recovery, Scottish Government 2008
http://www.scotland.gov.uk/Publications/2008/05/22161610/9
(accessed 22 November 2010)

8. Drug Misuse Statistics Scotland 2009, ISD 2010
http://www.drugmisuse.isdscotland.org/publications/09dmss/09dmss-000.htm
(accessed 22 November 2010)

9. Hay et al. Estimating the National and Local Prevalence of Problem Drug Misuse in Scotland, University of Glasgow 2006 and 2009
http://www.drugmisuse.isdscotland.org/publications/local/Prevalence_2009.pdf
(accessed 22 November 2010)

10. National Forum on Drug Related Deaths Annual Report 2009/10, Scottish Government 2010
http://www.scotland.gov.uk/Publications/2010/07/30140320/8
(accessed 22 November 2010)

11. Darke, S., Hall, W.,. Heroin overdose: research and evidence-based intervention. *J. Urban Health* 2003 80, 189–200.

12. Davoli M, Bargagli AM, Perucci CA, Schifano P, Belleudi V, Hickman M, et al. Risk of fatal overdose during and after specialist drug treatment: the VEdeTTE study, a national multi-site prospective cohort study. *Addiction* 2007;102:1954-9.

13. Stoove, M. A., Dietze, P. M. and Jolley, D. Overdose deaths following previous non-fatal heroin overdose: Record linkage of ambulance attendance and death registry data. *Drug and Alcohol Review*, 28: 347–352. 2009

14. Best D, Man LH, Zador D, Darke S, Bird S, Strang J, Aston M. Overdosing on opiates. *Drug and Alcohol Findings* 2000 Issue 4,

15. Hutchinson S, Bird S, Goldberg D. Influence of alcohol on the progression of hepatitis C virus infection: a meta-analysis. *Clinical Gastroenterology and Hepatology.* 2005;3(11):1150-9

16. Connock M, Juarez-Garcia A, Jowett S, et al. Methadone and buprenorphine for the management of opioid dependence: A systematic review and economic evaluation. *Health Technology Assessment.* 2007;11:1-190.

17. Merrall L. C., Kariminia A., Binswanger I. A., Hobbs M. S., Farrell M., Marsden J. et al. Meta-analysis of drug-related deaths soon after release from prison. *Addiction* 2010; 105: 1545–54.

Appendix 1: National Forum on Drug Related Deaths Data Collection Sub-Group Membership

Name	Title/ Organisation
Dr Roy Robertson (Chair)	Reader, Department of Community Health Studies, Edinburgh University and Muirhouse Medical Group, Edinburgh
Dr Jane Jay	Consultant Physician, Chair of Scottish Drugs Forum
Dr Malcolm Bruce	Consultant Psychiatrist in Addiction, NHS Lothian
Jim Sherval	Specialist in Public Health, NHS Lothian and Chair of Edinburgh and Lothians Drug Related Deaths Review Group
Lorna Jackson (until June 2010)	NHS National Services Scotland, Information Services Division
Dr Lesley Graham (from June 2010)	Associate Specialist in Public Health, NHS National Services Scotland, Information Services Division
Ian Smillie	Lead Officer for Perth & Kinross Alcohol and Drug Partnership
Siôn Matthews	NDRDD Project Lead, NHS National Services Scotland, Information Services Division

Appendix 2: The General Register Office for Scotland (GROS) Definition of a Drug Related Death

The following is extracted from the report ‘General Register Office for Scotland Drug-related deaths in Scotland in 2009 [1].

A1. The definition of a “drug-related death” is not straightforward. Useful discussions on definitional problems may be found in articles in the Office for National Statistics publication “Population Trends" and in the journal "Drugs and Alcohol Today". A report by the Advisory Council on the Misuse of Drugs considered current systems used in the United Kingdom to collect and analyse data on drug related deaths. In its report, the ACMD recommended that “a short life technical working group should be brought together to reach agreement on a consistent coding framework to be used in future across England, Wales, Scotland and Northern Ireland”. GROS was represented on this group, and this paper presents information on drug-related deaths using the approach that was agreed, on the basis of the definition as it was implemented by GROS.

A2. The “baseline” definition for the UK Drugs Strategy covers the following cause of death categories (the relevant codes from the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision [ICD10], are given in brackets):

a) Deaths where the underlying cause of death has been coded to the following sub-categories of “mental and behavioural disorders due to psychoactive substance use”:
(i) opioids (F11);
(ii) cannabinoids (F12);
(iii) sedatives or hypnotics (F13);
(iv) cocaine (F14);
(v) other stimulants, including caffeine (F15);
(vi) hallucinogens (F16); and
(vii) multiple drug use and use of other psychoactive substances (F19).

b) Deaths coded to the following categories and where a drug listed under the Misuse of Drugs Act (1971) was known to be present in the body at the time of death:
(i) accidental poisoning (X40 – X44);
(ii) intentional self-poisoning by drugs, medicaments and biological substances (X60 – X64);
(iii) assault by drugs, medicaments and biological substances (X85); and
(iv) event of undetermined intent, poisoning (Y10 – Y14).

NB: if a drug's legal status changes, GROS aims to count it on the basis of its classification on the day the person died (as GROS does not know when the drug was taken). For example, mephedrone was banned under the Misuse of Drugs Act with effect from 00.01 on 16 April 2010. Therefore, if mephedrone was the only drug found to be present in the body, a death coded to one of the categories listed under (b) would not be counted in GROS's implementation of the “baseline” definition if it occurred before 16 April 2010.
A3. A number of categories of what may be regarded as “drug-related” deaths are excluded from the definition because the underlying cause of death was not coded to one of the ICD10 codes listed above. These include:
- deaths coded to mental and behavioural disorders due to the use of alcohol (ICD10 code: F10), tobacco (F17) and volatile substances (F18);
- deaths from Acquired Immune Deficiency Syndrome (AIDS) where the risk factor was believed to be the sharing of needles;

- deaths from drowning, falls, road traffic and other accidents (except the inhalation of gastric contents) which occurred under the influence of drugs; and
- deaths due to assault by a person who was under the influence of drugs, or as a result of being involved in drug-related criminal activities.

GROS also excluded from its implementation of the definition a small proportion of the deaths which were coded to one of the ICD10 codes listed in paragraph A2, specifically:

- deaths coded to drug abuse where the direct cause of death was secondary infections or related complications. These include deaths caused by clostridium novyi infection, bronchopneumonia, organ failure and other later complications of drug use, in cases where drug misuse was not the direct and immediate cause of death (even though it may have damaged greatly the person's health); and
- deaths where a drug listed under the Misuse of Drugs Act was present as part of a compound analgesic or cold remedy. These deaths are excluded in order that deaths from overdoses of legally prescribed non-controlled drugs are not counted as “drug-related”. Examples of such combinations include:
    * co-proxamol (paracetamol and dextropropoxyphene);
    * co-dydramol (paracetamol and dihydrocodeine); and
    * co-codamol (paracetamol and codeine sulphate).

All three of these compound analgesics, particularly co-proxamol, have commonly been used in suicidal overdoses. As it is believed that dextropropoxyphene has rarely, if ever, been available other than as a constituent of a paracetamol compound, deaths caused by dextropropoxyphene have been excluded even if there is no mention of a compound analgesic or paracetamol. However, deaths for which codeine or dihydrocodeine were reported without any mention of paracetamol have been included, as these drugs are available on their own and are known to be abused in that form.

Appendix 3: The National Drug Related Deaths Database 2009 Data Collection Form and Data Collection Guidance

A. PERSONAL DETAILS

1. FORENAME *

2. SURNAME *

3. ALIAS / MAIDEN NAME

4. GENDER * Male ☐ Female ☐

5. COMMUNITY HEALTH INDEX (CHI) NUMBER *

OR: TICK IF CHI NUMBER NOT KNOWN BECAUSE DECEASED WAS NOT REGISTERED WITH GP + ☐

6. POSTCODE * (Of usual place of residence - if homeless, record 'NFA')

7. DATE OF BIRTH * (dd/mm/yyyy)

8. DATE OF DEATH (dd/mm/yyyy) * (If unknown, record date of registration of death)

DATE DEATH + REGISTERED (dd/mm/yyyy)

9. GP DETAILS * (If deceased was not registered with a GP, tick the box below)

Practice name and address:

OR: TICK IF NOT REGISTERED WITH A GP + ☐

10. ETHNICITY *

White:
- Scottish …… ☐
- Other British …… ☐
- Irish …… ☐
- Polish……..... ☐
- Any other white background ☐

Asian:
- Indian …… ☐
- Pakistani …… ☐
- Bangladeshi …… ☐
- Chinese …… ☐
- Any other Asian background ☐

Black:
- Caribbean …….. ☐
- African …… ☐
- Any other Black background ☐

Mixed: Any mixed background ☐

Unknown…….. ☐

Other (please specify)

11. EMPLOYMENT STATUS *

- Employed (paid / unpaid) …… ☐
- Support into employment ….. ☐
- Unemployed …… ☐
- Long term sick / disabled ……. ☐
- School …… ☐
- Excluded from school …….. ☐
- Full time education / training … ☐
- Unknown…….. ☐

Other (please specify) ……

12. JOB, IF KNOWN (Most recent job within the 6 months prior to death)

13. MARITAL STATUS *

- Married / Civil Partner / Co-habiting …… ☐
- Divorced / Dissolved Civil Partnership …… ☐
- Separated …… ☐
- Single …… ☐
- Widowed / Surviving Civil Partner …….. ☐
- Unknown…….. ☐

Other (please specify)

14. LIVING WHERE? * (Can select more than one)

- Own home (owned or rented) ☐
- Relatives' home…….. ☐
- Friends' home …… ☐
- No fixed abode …… ☐
- Hostel …….. ☐
- Sleeping rough …….. ☐
- Unknown…….. ☐

Other (please specify)

15. LIVING WITH WHOM? * (Can select more than one)

- Living alone …….. ☐
- With spouse / partner …… ☐
- With friends …….. ☐
- With parents …… ☐
- With relatives …… ☐
- Unknown…….. ☐

Other (please specify)

A. PERSONAL DETAILS continued.

16. HOW MANY CHILDREN UNDER 16 YEARS? * ☐ None ☐ Unknown ☐

17. HOW MANY CHILDREN UNDER 16 LIVED WITH THE DECEASED? * ☐ Unknown ☐

18. RECENT SIGNIFICANT EVENTS * (In the 6 months prior to death)
(Can select more than one)

- Breakdown of a significant relationship… ☐
- Bereavement ☐
- Loss of child custody ☐
- Job loss ☐
- Ill health / recent diagnosis ☐
- Relapse ☐
- No known event ☐
- Other (please specify) ☐

B. DRUG USING HISTORY

19. KNOWN DRUG USER * (Known to anyone) Yes ☐ No ☐ Unknown ☐

20. IF YES, HOW LONG? +

- Up to 1 month ☐
- 1-6 months ☐
- 7-12 months ☐
- 1-5 years ☐
- 6-10 years ☐
- 11-19 years ☐
- 20+ years ☐
- Unknown ☐

21. ILLICIT DRUG USE IN THE PAST MONTH AND FREQUENCY (Tick all that apply) +

How Often:	Unknown frequency	Daily	Weekly / Weekends	Occasionally
Heroin	☐	☐	☐	☐
Temazepam (non-prescribed)	☐	☐	☐	☐
Diazepam (non-prescribed)	☐	☐	☐	☐
Ecstasy / MDMA	☐	☐	☐	☐
Amphetamines	☐	☐	☐	☐
Volatile substances	☐	☐	☐	☐
Cannabis	☐	☐	☐	☐
Cocaine	☐	☐	☐	☐
Crack cocaine	☐	☐	☐	☐
Methadone (non-prescribed)	☐	☐	☐	☐
Unknown	☐			
Other (please specify)				
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐

22. KNOWN IV DRUG USER + Yes ☐ No ☐ Unknown ☐

23. HOW LONG IV USER +

- Up to 1 month ☐
- 1-6 months ☐
- 7-12 months ☐
- 1-5 years ☐
- 6-10 years ☐
- 11-19 years ☐
- 20+ years ☐
- Unknown ☐

C. CONTACT WITH DRUG TREATMENT SERVICES AND GPs

Questions 24 to 32 refer specifically to treatment for drug use.

24. CONTACT WITH DRUG TREATMENT SERVICES: *
(Select one option)

In contact with drug treatment service? ……..	☐ Complete Q25, Q26, Q27 and Q28, then move on to Q33
On waiting list for drug treatment service? ……..	☐ Complete Q25, and Q29 onwards
Has been referred to a drug treatment service but did not attend (and not on waiting list)?..... ……	☐ Complete Q25 and Q30 onwards
Not attending or waiting for drug treatment service?……	☐ Go to Q30

25. SOURCE OF REFERRAL +
(Select one option)

Self ……	☐	Criminal Justice: DTTO……	☐
Health: GP ……....	☐	Criminal Justice: Arrest Referral …..	☐
Health: Other primary care ..	☐	Criminal Justice: Drug Court …….	☐
Health: Mental Health …….	☐	Criminal Justice: Prison ……	☐
Health: Other ……	☐	Criminal Justice: Other ……	☐
Social Work: Criminal Justice	☐	Voluntary Service ……	☐
Social Work: Child and Family	☐	Education ……	☐
Social Work: Other ……	☐	Housing ……	☐
Unknown……	☐		
Other (please specify) ……..			

If the deceased was in contact with drug treatment services complete the following three questions:

26. DATE OF LAST CONTACT (dd/mm/yyyy) + Date

27. CONTACT HISTORY IN THE 6 MONTHS PRIOR TO DEATH +
(Select all contacts that apply)

GP ……	☐	Enhanced Addiction Casework Service (EACS)……	☐
A&E ……	☐	Throughcare Addiction Service (TAS) ……	☐
Psychiatric services ……	☐	DTTO ……	☐
Residential rehab ……..	☐	Drug crisis centre ……	☐
Statutory Addiction Service ……	☐	Completed detox ……	☐
Specialist Drug Service (non-statutory)	☐	Social work services ……	☐
Specialist Drug Service (private) …….	☐	Social work offender services ……	☐
Police surgeon ……	☐	Supported Accommodation ……	☐
Arrest referral ……	☐	Harm Reduction Team ……	☐
Probation ……	☐	Hospital inpatient treatment ……	☐
Voluntary sector ……	☐	Hospital outpatient treatment ……	☐
Addiction psychology……	☐	Day care service ……	☐
Prison (Healthcare)……	☐	Family Support Service……	☐
Voluntary Throughcare……	☐	Community Rehabilitation……	☐
Other (please specify)			

28. SPECIFY WHICH SERVICE WAS THE MOST RECENTLY ATTENDED PRIOR TO DEATH +

29. IF ON WAITING LIST AT TIME OF DEATH, HOW LONG ON WAITING LIST? +

Up to 1 month ……	☐
1-3 months ……	☐
4-6 months ……	☐
7-12 months ……..	☐
More than 12 months ……	☐

30. IF ON WAITING LIST OR NOT IN CONTACT WITH SERVICES AT TIME OF DEATH, WERE THERE ANY PREVIOUS CONTACTS WITH DRUG TREATMENT SERVICES +

Yes ☐ (if Yes, complete Q31 to Q34) No ☐ (if No, go to Q33) Unknown ☐ (if Unknown, go to Q33)

Complete the following two questions if the deceased was not in contact with a drug treatment service at time of death, but had experienced contact with a drug treatment service in the past.

31. DATE OF LAST CONTACT (dd/mm/yyyy) + Unknown ☐

32. CONTACT HISTORY +
(Outwith the 6 months prior to death)

GP ……	☐	Enhanced Addiction Casework Service (EACS)…	☐
A&E ……	☐	Throughcare Addiction Service (TAS) ……	☐
Psychiatric services ……	☐	DTTO ……	☐
Residential rehab ……..	☐	Drug crisis centre ……	☐
Statutory Addiction Service ……	☐	Completed detox ……	☐
Specialist Drug Service (non-statutory)	☐	Social work services ……	☐
Specialist Drug Service (private) …….	☐	Social work offender services ……	☐
Police surgeon ……	☐	Supported Accommodation ……	☐
Arrest referral ……	☐	Harm Reduction Team ……	☐
Probation ……	☐	Hospital inpatient treatment ……	☐
Voluntary sector ……	☐	Hospital outpatient treatment ……	☐
Addiction psychology……	☐	Day care service ……	☐
Prison (Healthcare)……	☐	Family Support Service……	☐
Voluntary Throughcare……	☐	Community Rehabilitation……	☐
Other (please specify)			

C. CONTACT WITH DRUG TREATMENT SERVICES AND GPs continued.

Questions 33 and 34 relate to any contact, not just those relating to drug use.

33. DATE OF LAST CONTACT WITH GP * (dd/mm/yyyy) ☐ Unknown ☐

34. CONTACT WITH OTHER SERVICES IN THE 6 MONTHS PRIOR TO DEATH * (Select all that apply)

- Mental health services …….. ☐
- Social Work …… ☐
- Alcohol services…….. ☐
- Housing …….. ☐
- No known contact…… ☐
- Other (please specify)

D. MEDICAL HISTORY

35. MEDICAL CONDITIONS * (Taken from past medical history; tick both columns if appropriate)

	Current (in the 6 months prior to death)	Past (>6 months prior to death)
Liver disease ……..	☐	☐
Chronic hepatitis B……	☐	☐
Hepatitis C ……..	☐	☐
Mental Illness ……	☐	☐
Diabetes ……..	☐	☐
Respiratory condition……	☐	☐
Cardiac condition……	☐	☐
Alcoholism ……..	☐	☐
Epilepsy ……..	☐	☐
DVT ……..	☐	☐
Drug addiction ……	☐	☐
HIV / AIDS……..	☐	☐

Other e.g. disability (please specify)

No known medical conditions ☐

36. PSYCHIATRIC CONDITIONS * (Tick both columns if appropriate)

	Recent (in the 6 months prior to death)	Past (>6 months prior to death)
Schizophrenia ……..	☐	☐
Depression ……..	☐	☐
Anxiety ……	☐	☐
Bi-polar Disorder……..	☐	☐
Post Traumatic Stress Disorder……	☐	☐
Paranoia ……..	☐	☐
Personality Disorder……..	☐	☐

Other (please specify)

No known psychiatric conditions ☐

37. SOURCE OF INFORMATION ON PSYCHIATRIC CONDITIONS +

38. KNOWN SEXUAL ABUSE * Recent (6 months prior to death) ☐ Other (>6 months prior to death) ☐ No known incidence ☐

39. SOURCE OF INFORMATION ON SEXUAL ABUSE + (This information should be from a professional / medical source)

40. KNOWN VICTIM OF DOMESTIC VIOLENCE * Recent (6 months prior to death) ☐ Other (>6 months prior to death) ☐ No known incidence ☐

41. KNOWN PERPETRATOR OF DOMESTIC VIOLENCE * Recent (6 months prior to death) ☐ Other (>6 months prior to death) ☐ No known incidence ☐

42. SOURCE OF INFORMATION ON DOMESTIC VIOLENCE + (This information should be from a professional / medical source)

For questions 43 to 47 do not include the overdose which caused the death

43. EVER KNOWN TO HAVE OVERDOSED? * Yes ☐ No known incidence ☐

44. HOW MANY TIMES?

45. DATE OF THE LAST OVERDOSE (dd/mm/yyyy)

46. TYPES OF DRUG INVOLVED IN LAST OVERDOSE + (Can record more than one)

47. SOURCE OF OVERDOSE INFORMATION +

D. MEDICAL HISTORY continued

48. SUICIDE ATTEMPTS * Recent (6 months prior to death) ☐ Other (>6 months prior to death) ☐ No known incidence ☐

49. WHAT WAS THE PERSON'S ATTITUDE AFTER THE MOST RECENT SUICIDE ATTEMPT? +

Did not want to die…… ☐
Wanted to die…… ☐
Components of both the previous 2 answers…… ☐
Unknown…… ☐

50. SOURCE(S) OF SUICIDE INFORMATION +

51. SELF HARM HISTORY * Recent (6 months prior to death) ☐ Other (>6 months prior to death) ☐ No known incidence ☐
(Excluding drug addiction and overdose)

52. SOURCE OF SELF HARM INFORMATION +

53. DRUG DETOX IN THE YEAR PRIOR TO DEATH * Yes ☐ No ☐ Unknown ☐

54. IF YES, TYPE(S) OF DETOX +

55. IF YES, HOW LONG SINCE LAST DETOX +

< 1 month …… ☐
1-3 months …… ☐
4-6 months …… ☐
7-9 months …… ☐
10-12 months …. ☐

56. PROBLEMATIC ALCOHOL USE * Recent (6 months prior to death) ☐ Other (>6 months prior to death) ☐ No known incidence ☐

57. SOURCE OF PROBLEMATIC ALCOHOL USE INFORMATION +

58. RECENT TREATMENT RECEIVED FOR PROBLEMATIC ALCOHOL ABUSE (In the 6 months prior to death, exclude vitamin supplements, more than one can be selected) +

Pharmacotherapy and community based detoxification …… ☐
Inpatient detoxification and residential / community rehabilitation….. ☐
Community based psychosocial therapy …… ☐
Self help (individual and group-based) …… ☐
No known treatment …… ☐

Other (please specify)

E. CURRENT SUBSTITUTE PRESCRIPTION / OTHER PRESCRIPTIONS RELATING TO DRUG PROBLEM

59. TYPE OF DRUG PRESCRIBED *
(Select one option)

Methadone…… ☐
Suboxone…… ☐
Buprenorphine…… ☐
Dihydrocodeine…… ☐
Not currently prescribed
a substitute drug…… ☐

60. HOW LONG PRESCRIBED? +

< 1 month …… ☐
1-3 months …… ☐
4-6 months …… ☐
7-9 months …… ☐
10-12 months …… ☐
1-3 years …… ☐
4-10 years …… ☐
More than 10 years ☐

61. DAILY PRESCRIBED DOSE + mg per day

62. HOW OFTEN DISPENSED PER WEEK? + times per week

63. HOW WAS IT DISPENSED? + Supervised ☐ Not supervised (take away) ☐

64. WHEN WAS IT LAST DISPENSED ? (dd/mm/yyyy) +

65. OTHER PRESCRIPTIONS RELATED TO DRUG PROBLEM

Amount(s) prescribed:

F. CRIMINAL JUSTICE INFORMATION

66. BEEN IN POLICE CUSTODY? *
(In the 6 months prior to death)
Yes ☐ No ☐ Unknown ☐

67. MOST RECENT STAY IN POLICE CUSTODY + - DATE ENTERED CUSTODY (dd/mm/yyyy)

68. DATE RELEASED FROM CUSTODY +
(dd/mm/yyyy)

69. EVER BEEN IN PRISON? *
Yes ☐ No ☐ Unknown ☐

(Note: questions 70-74 refer to the most recent stay in prison)

70. IF YES, REMAND OR CONVICTED? +
Remand ☐ Convicted ☐

71. WAS THE DECEASED IN CUSTODY FOR FINE DEFAULT? +
Yes ☐ No ☐

72. LENGTH OF TIME IN CUSTODY +
(days, months, years)

73. DATE OF RELEASE (dd/mm/yyyy) +

74. PRISON OF RELEASE +
(See Guidance Note)

Aberdeen ..... ☐
Addiewell..... ☐
Barlinnie ..... ☐
Castle Huntly ..... ☐
Cornton Vale ..... ☐
Dumfries ..... ☐
Edinburgh ..... ☐
Glenochil ..... ☐
Greenock ..... ☐
Inverness ..... ☐
Kilmarnock ..... ☐
Low Moss ..... ☐
Noranside ..... ☐
Perth ..... ☐
Peterhead ..... ☐
Polmont ..... ☐
Shotts ..... ☐
Outside Scotland .. ☐
Other (please specify)

G. SCENE OF DEATH

75. PLACE OF DRUG USE *
(Can select more than one)

Own home ..... ☐
Others' home ..... ☐
Hostel ..... ☐
Supported accommodation.. ☐
Hotel / Motel ..... ☐
Outdoors..... ☐
Unknown ..... ☐
Other (please specify)

76. WHERE PRONOUNCED DEAD *

Own home ..... ☐
Others' home ..... ☐
Hostel ..... ☐
Supported accommodation.. ☐
Hotel / Motel ..... ☐
Outdoors..... ☐
Unknown ..... ☐
Other (please specify)

77. AMBULANCE ATTENDED *
Yes ☐ No ☐ Not Applicable ☐
(Select 'not applicable' if there was no-one present at the scene to call, or if there was clearly no need for an ambulance e.g. if the deceased was obviously dead)

78. DRUGS FOUND AT SCENE

Heroin ..... ☐
Temazepam ..... ☐
Diazepam ..... ☐
Methadone ..... ☐
Ecstasy / MDMA ..... ☐
Volatile substances ..... ☐
Cannabis ..... ☐
Cocaine ..... ☐
Crack cocaine ..... ☐
Buprenorphine ..... ☐
Dihydrocodeine ..... ☐
Evidence of alcohol consumption..... ☐
None..... ☐
Other (please specify)

79. DRUG PARAPHERNALIA FOUND AT SCENE

Syringe ..... ☐
Needle(s) ..... ☐
Spoon ..... ☐
Pipe ..... ☐
Tourniquet..... ☐
Citric acid..... ☐
Cannabis related items..... ☐
None..... ☐
Other (please specify) .....

G. SCENE OF DEATH continued.

80. RESUSCITATION ATTEMPTED * Yes ☐ No ☐ Unknown ☐

81. RESUSCITATION BY WHOM? +

82. NALOXONE AVAILABLE * Yes ☐ No ☐ Unknown ☐

83. NALOXONE USED * Yes ☐ No ☐ Unknown ☐

84. IF YES, ADMINISTERED BY WHOM? +

85. PERSONS PRESENT AT SCENE OF OVERDOSE * Yes ☐ No ☐ Unknown ☐

86. WHERE WERE PERSONS AT SCENE OF OVERDOSE? +
(See Guidance Note)

In same room ☐
Not in same room ☐
Unknown ☐

87. RELATIONSHIP OF PERSONS PRESENT TO DECEASED +
(Tick all that apply)

Friend ..... ☐
Family member ..... ☐
Spouse / Partner ..... ☐
Children ..... ☐
Stranger ..... ☐
Clinician ..... ☐
Mental health / Social care worker ..... ☐
Unknown..... ☐
Other (please specify)

H. TOXICOLOGY AND CAUSE OF DEATH

88. DRUGS FOUND IN TOXICOLOGY *
(Tick all that apply)

Body fluid tested (please record unit of measurement):

		Blood levels:	Urine levels	Other 1 (specify below)	Other 2 (specify below)
Heroin / morphine	☐				
Methadone	☐				
Alcohol	☐				
Diazepam	☐				
Nordiazepam	☐				
Temazepam.....	☐				
Cocaine	☐				
Cannabis	☐				
Ecstasy / MDMA.....	☐				
Amphetamines.....	☐				
Buprenorphine	☐				
Volatile substances	☐				
Dihydrocodeine	☐				
Suboxone.....	☐				

Other drugs (specify below)

89. WERE HAIR SAMPLES TAKEN POST-MORTEM? * Yes ☐ No ☐ Unknown ☐

90. IF AN OPIATE SUBSTITUTE, HOW WAS IT OBTAINED IF NOT PRESCRIBED TO DECEASED? +

Unknown ☐

91. WHAT IN THE OPINION OF THE PATHOLOGIST WAS THE CAUSE OF DEATH *

92. ANY OTHER RELEVANT PATHOLOGIES FOUND AT POST MORTEM (e.g. cirrhosis of the liver, ischaemic heart disease)

I. OTHER RELEVANT INFORMATION

NDRDD Data Collection Form - GUIDANCE NOTES

COUNCIL AREA WHERE DEATH OCCURRED (Mandatory)
Enter the Council Area where the death occurred into the field provided on the front page of the form.

A. PERSONAL DETAILS

Q1 - Q3: NAME (Mandatory)
Include both forename(s) and surname. If maiden name is known, or any aliases were known to be used by the deceased, include these.

Q4: GENDER (Mandatory)

Q5: COMMUNITY HEALTH INDEX (CHI) NUMBER (Mandatory)
This should be available from the GP. If the deceased was not registered with a GP at time of death, note this in the box.

Q6: POSTCODE (Mandatory)
This refers to the usual residence of the deceased prior to death. Record full postcode if known or partial postcode if that is all that is available. If deceased was homeless at time of death, record as 'NFA' (no fixed abode). If the deceased was living in a hostel or other temporary accommodation at time of death, record the postcode of this accommodation.

Q7: DATE OF BIRTH (Mandatory)

Q8: DATE OF DEATH (Mandatory)
This is the date that the death occurred. If this is not known, record the date of registration of the death.

Q9: GP DETAILS (Mandatory)
This is the name and address of the practice to which the deceased was registered. Details of an individual GP are not required. If the deceased was not registered with any practice, tick the 'Not registered with a GP' box.

Q10: ETHNICITY (Mandatory)
This may be available from a variety of sources. Select only one.

Q11: EMPLOYMENT STATUS (Mandatory)
This refers to the employment status of the deceased at time of death. Select only one. If the deceased was a carer or housewife / husband, note this in the 'other' box.

Q12 JOB, IF KNOWN
Note the job title of the most recent position held by the deceased in the 6 months prior to death.

Q13: MARITAL STATUS (Mandatory)
Select the one option which best reflects the marital status of the deceased at time of death. Note that where the situation is unclear the person collating the information into the form should make a judgement call based on the available evidence.

Q14: LIVING WHERE (Mandatory)
This refers to the living arrangements of the deceased at time of death. More than one can be selected if the deceased lived between more than one place around the time of death.

Q15: LIVING WITH WHOM (Mandatory)
These are the person(s) with whom the deceased had normally lived. More than one option can be selected.

Q16: HOW MANY CHILDREN UNDER 16 YEARS (Mandatory)
This includes children living with the deceased and living elsewhere. Non-biological children (for example step-children) should be included.

Q17: HOW MANY CHILDREN UNDER 16 LIVING WITH DECEASED (Mandatory)
This refers to the number of children who lived predominantly with the deceased at the time of death. Again, non-biological children should be included.

Q18: RECENT SIGNIFICANT EVENTS (Mandatory)
Record any adverse life event which occurred in the 6 months prior to death. More than one event can be recorded. Anything else which is considered relevant can be included in the 'Other' box.

B. DRUG USING HISTORY

Q19: (Mandatory) & Q20: KNOWN DRUG USER
Record whether the deceased was known to be a user of illicit drugs (including diverted prescription drugs e.g. methadone) and if so, for how long had they been a user.

Q21: CURRENT ILLICIT DRUG USE AND FREQUENCY
Note any illicit drugs known to have been used by the deceased in the past month. Tick all that apply, selecting the appropriate frequency for each drug.

Q22: & 23: IV DRUG USER
Record whether the deceased was known to be an intravenous drug user and if so, for how long? This information may come from drug treatment services.

C. CONTACT WITH DRUG TREATMENT SERVICES AND GPs

Q24: CONTACT WITH DRUG TREATMENT SERVICES (Mandatory)
Select the option which describes the situation of the deceased at time of death. Only one should be selected.
If the deceased was in drug treatment with one service at the time of death AND also waiting to get treatment from another service ONLY the 'In contact with drug treatment service?' should be marked.

Q25: SOURCE OF REFERRAL
This is the service which arranged the referral to a drug treatment service, or choose 'Self' if self referral.
Only formal referrals count as referrals e.g. if a GP strongly suggested that a person attend a drug treatment service but the GP didn't formally refer the person, and the person subsequently made contact with this service, then the source of referral should be marked as 'Self'.

Q26: DATE OF LAST CONTACT
This is the date of the deceased's last contact with any drug treatment service, if they were in contact with a drug treatment service at time of death.

Q27: CONTACT HISTORY
Select services which the deceased was in contact with in the 6 months prior to death. More than one can be selected. This is not necessarily a drug service (e.g. may be a GP consultation) but the purpose of the contact should relate to their drug use.

Q28: SERVICE MOST RECENTLY ATTENDED PRIOR TO DEATH
Specify from the contacts you selected in Q27 which of the services was the most recently attended prior to death.

Q29: HOW LONG ON WAITING LIST
If the deceased was on a waiting list for a drug treatment service, note length of time on the waiting list.

Q30: ANY PREVIOUS CONTACTS
If the deceased was on a waiting list for a drug treatment service at time of death, or not in contact with drug treatment services at all, note if there had been any contact with a drug treatment service in the past.

Q31: DATE OF LAST CONTACT (PAST)
Complete questions 31 and 32 if the deceased was neither in contact with, nor waiting for, a drug treatment service at time of death, but had experienced contact with a drug treatment service in the past. Enter an approximate date if that is all you have.

Q32: CONTACT HISTORY (PAST)
Select all services with which the deceased was last in contact, specifically for the treatment of their drug misuse. This is not necessarily a drug service (e.g. may be a GP consultation) but the purpose of the contact should relate to their drug use. This is relating to contacts more than 6 months prior to death.

Q33: DATE OF LAST CONTACT WITH GP (Mandatory)
This refers to any contact, whether related to drug use or not. Enter an approximate date if that is all you have.

Q34: CONTACT WITH OTHER SERVICES (Mandatory)
This refers to any contact, whether related to drug use or not, that occurred in the 6 months prior to death. Other services may include women's aid services, support groups etc.

D. MEDICAL HISTORY - GP notes are important source of this information

Q35: MEDICAL CONDITIONS (Mandatory)

Select any medical conditions which the deceased was known to have. Use the 'Other' box to record any medical conditions that are not on the list. These medical conditions do not have to relate to drug misuse and should be obtained from medical records. Tick the appropriate box to specify whether the condition was one which the deceased had in the 6 months prior to death or less recently - tick both boxes if appropriate.

Q36: PSYCHIATRIC CONDITIONS (Mandatory)

Select any psychiatric conditions which the deceased was known to have. Use the 'Other' box to record any medical conditions that are not on the list. These do not have to relate to drug misuse. Tick the appropriate box to specify whether the condition was one which the deceased had in the 6 months prior to death or less recently - tick both boxes if appropriate.

Q37: SOURCE OF INFORMATION ON PSYCHIATRIC CONDITIONS

If question 36 is completed, state the source of this information.

Q38: KNOWN SEXUAL ABUSE (Mandatory)

Complete if the deceased was known to have been a victim of sexual abuse either in the past (at any point in their lifetime) or in recent times (6 months prior to death). Record whether the event took place in the 6 months prior to death , or in the past. Both of these options can be selected. This should come from sources such as psychiatric report, clinical assessment or social enquiry report i.e. not anecdotal. One possible source may be a Vulnerable Person's Report.

Q39: SOURCE OF INFORMATION ON SEXUAL ABUSE

If question 38 is completed, state the source of this information, for example from the health, social care sector, police, Vulnerable Person's Report.

Q40: KNOWN VICTIM OF DOMESTIC VIOLENCE (Mandatory)

Record if the deceased was a known victim of domestic violence. Record whether the event took place in the 6 months prior to death or in the past. Both of these options can be selected. One possible source may be a Vulnerable Person's Report.

Q41: KNOWN PERPETRATOR OF DOMESTIC VIOLENCE (Mandatory)

Record if the deceased was a known perpetrator of domestic violence. Record whether the event took place in the 6 months prior to death , or in the past. Both of these options can be selected.

Q42: SOURCE OF INFORMATION ON DOMESTIC VIOLENCE

This should be from a reliable official source e.g. health, police, social care, Vulnerable Person's Report i.e. not anecdotal.

Q43: EVER KNOWN TO HAVE OVERDOSED? (Mandatory)

Record if the deceased had experienced overdose prior to the one which resulted in death. This can be any overdose involving an illicit or licit (including prescription or over the counter) drug.

Q44: HOW MANY TIMES

Note how many overdoses the deceased had in the past (not including the one which contributed to the death)

Q45: DATE OF THE LAST OVERDOSE

Date of the last known overdose, not counting the one which contributed to the death. If exact date is not known, enter the month and year.

Q46: TYPES OF DRUGS INVOLVED IN LAST OVERDOSE

This should relate to the overdose referred to in the previous question i.e. not the one which contributed to the death.

Q47: SOURCE OF OVERDOSE INFORMATION

If the previous questions on overdose are completed, state the source of the information.

Q48: SUICIDE ATTEMPTS (Mandatory)
This may have been reported to a GP or other service.

Q49: WHAT WAS THE PERSON'S ATTITUDE AFTER THE SUICIDE ATTEMPT?
You may get this information from the same source as the information used to answer question 48.

Q50: SOURCE OF SUICIDE INFORMATION

If either question 48 or 49 are completed, state the source(s) of the information. The sources for the two questions may be different.

Q51: SELF HARM HISTORY (Mandatory)
This does not include overdoses recorded in questions 43 to 47 and does not include any drug addiction. Any known incidences of cutting, burning and any other form of self harm should be included. Information may be available from medical records.

Q52: SOURCE OF SELF HARM HISTORY
If question 51 is completed, state the source of the information

Q53: DRUG DETOX IN THE YEAR PRIOR TO DEATH (Mandatory)
This refers to any medically supervised detoxification programme which the deceased had undergone in the year prior to death. This did not have to be still ongoing at time of death and should refer to treatment specifically for drugs, not alcohol.

Q54: IF YES, TYPE(S) OF DETOX
Note the type of detoxification programme attended by the deceased in the last year. More than one may be recorded.

Q55: HOW LONG SINCE LAST DETOX (IN THE LAST YEAR)
Select the appropriate time period.

Q56: PROBLEMATIC ALCOHOL USE (Mandatory)
This includes problematic alcohol use noted by any source. This is not only those who were known to a service or receiving treatment for problematic alcohol use. Record whether the event took place in the 6 months prior to death , or in the past. Both of these options can be selected.

Q57: SOURCE OF PROBLEMATIC ALCOHOL USE
If question 56 is completed, state the source of the information

Q58: TREATMENT RECEIVED FOR PROBLEMATIC ALCOHOL USE
This refers to any treatment the deceased received in the 6 months prior to death. Do not include prescribed B vitamins. More than one treatment should be selected if appropriate.

E. CURRENT SUBSTITUTE PRESCRIPTION / OTHER PRESCRIPTIONS RELATED TO DRUG PROBLEM

Q59: TYPE OF DRUG PRESCRIBED (Mandatory)
State whether the deceased was being prescribed methadone, suboxone or buprenorphine as an opiate substitute at time of death. Only one can be selected.

Q60: HOW LONG PRESCRIBED
If the deceased had been prescribed an opiate substitute, record how long this episode of treatment had been ongoing. This refers only to the most recent episode of treatment i.e. if there had been a break in prescriptions record the time period for the most recent continuous episode of treatment.

Q61: DAILY PRESCRIBED DOSE
State the daily prescribed dose.

Q62: HOW OFTEN WAS IT DISPENSED
State the frequency of dispensing per week in the last episode of treatment prior to death.

Q63: HOW WAS IT DISPENSED
Was the opiate substitute dispensed under supervision (e.g. taken within the pharmacy) or not supervised (e.g. deceased had been allowed to take it away).

Q64: WHEN WAS IT LAST DISPENSED
Give the date that the opiate substitute was last dispensed.

Q65: OTHER PRESCRIPTIONS FOR DRUG PROBLEMS

This refers to any other drug(s) which were prescribed to the deceased at time of death, specifically as treatment for a drug problem. Examples include diazepam or temazepam. Also, record the amounts prescribed (in the same order that the corresponding drug(s) have been recorded).

F. CRIMINAL JUSTICE INFORMATION

Q66: BEEN IN POLICE CUSTODY? (Mandatory)
Note if the deceased had spent time in police custody in the 6 months prior to death.

Q67: DATE OF MOST RECENT STAY IN POLICE CUSTODY
Record the day of release from custody.

Q68: LENGTH OF TIME IN POLICE CUSTODY
This can be expressed in hours or days, depending on length of stay.

Q69: EVER BEEN IN PRISON? (Mandatory)
Record if the deceased had ever spent time in prison.

Q70: IF YES, REMAND OR CONVICTED
State whether the deceased was on remand or convicted during their most recent prison stay.

Q71: WAS THE DECEASED IN CUSTODY FOR FINE DEFAULT
Note if the most recent prison sentence was for fine default.

Q72: LENGTH OF TIME IN CUSTODY
Record the length of the most recent prison stay. This can be recorded in days, months or years depending on which unit is most appropriate fo the time period.

Q73: DATE OF RELEASE
This is the date the deceased was liberated from their last prison stay.

Q74: PRISON OF RELEASE
Select the prison from which the deceased was liberated EXCEPT where the prisoner was transferred to another prison shortly before their release, having served the majority of their sentence at a different prison. In this case the prison where the deceased served the majority of their sentence should be recorded.

G. SCENE OF DEATH

Q75: PLACE OF DRUG USE (Mandatory)
This is the location of the drug use which resulted in the death. The drug taking could have occurred in more than one location and therefore more than one option can be selected.

Q76: WHERE PRONOUNCED DEAD (Mandatory)
This is the place where the deceased was pronounced dead by a doctor. It may or may not be the same as that selected in Q75.

Q77: AMBULANCE ATTENDED (Mandatory)
State whether an ambulance attended the scene of the overdose. In some cases there will have been no need to call an ambulance (e.g. if it was obvious that the deceased was dead) in which case select 'Not Applicable'. However, note that an ambulance may still have attended even after the deceased was known to have died.

Q78: DRUGS FOUND AT SCENE

Select all drugs (illicit and licit) which were found at the scene of the overdose. Any drugs which are not on the list should also be added in the 'Other' box. If a drug has not been positively identified, but merely described, then the decription should be recorded in the 'Other' box e.g. 'Brown powder'. However, if the information from the police (or whoever) says, 'Brown powder, probably heroin' please record 'heroin'.

Q79: DRUG PARAPHERNALIA FOUND AT SCENE

Select all items that were found at the scene of the incident. Any items which are not on the list should also be added in the 'Other' box.

Q80: RESUSCITATION ATTEMPTED (Mandatory)
This refers to any resuscitation attempted by anyone i.e. medical professionals or non-medical persons.

Q81: RESUSCITATION BY WHOM
State who made the resuscitation attempt (e.g. paramedic, doctor, nurse, friend, family member etc.).

Q82: NALOXONE AVAILABLE (Mandatory)
State whether naloxone was available to anyone at the scene of the drug use.

Q83: NALOXONE USED
If available, record whether naloxone was used by someone in an attempt to resuscitate the deceased.

Q84: NALOXONE ADMINISTERED BY WHOM
If Q83 was answered 'Yes', record who administered Naloxone (e.g. paramedic, doctor, friend etc.)

Q85: PERSONS PRESENT AT SCENE OF OVERDOSE (Mandatory)
State whether there were persons present at the time of the fatal drug taking episode.

Q86: WHERE WERE PERSONS AT SCENE OF OVERDOSE
This may be known by the police or others who attended the scene of the overdose. Record 'Unknown' if people were in the same house but it i not clear if they were in the same room or not.

Q87: RELATIONSHIP OF PERSONS PRESENT TO DECEASED
Record the relationship to the deceased of the people who were known to be present at the time of the drug taking episode which led to the death. More than one can be selected.

H. TOXICOLOGY AND CAUSE OF DEATH

Q88: DRUGS FOUND IN TOXICOLOGY (Mandatory)
It is mandatory to record all substances that were found as a result of post-mortem drug testing. These will have been recorded in forensic pathology toxicology reports.

It is not mandatory to record the precise levels of each drug found, however, if the levels are known they should be recorded in the table provided. The levels of each drug found should be recorded in the column that represents which body fluid was tested. If the body fluid that was tested was neither "blood" nor "urine", then the body fluid tested should be entered at the top of the 'Other 1" or "Other 2" columns. If more than 4 body fluids were tested for any one drug then the additional results should be recorded in section I: 'Other Relevant Information'.

When entering the levels of drug found in the "body fluid tested" table, please specify the units of measurement e.g. microg/100mls or mg/L or mmol/L.

Note that any drugs found that are not in the list can be entered under "Other drugs" at the bottom of the table.

Q89: WERE HAIR SAMPLES TAKEN POST-MORTEM (Mandatory)
If it is known whether hair samples were taken post-mortem, note this here.

Q90: IF AN OPIATE SUBSTITUTE WAS FOUND IN TOXICOLOGY, HOW WAS IT OBTAINED IF NOT PRESCRIBED TO THE DECEASED
Record how the drug was obtained if known (e.g. stolen, bought from other person etc.)

Q91: WHAT IN THE OPINION OF THE PATHOLOGIST WAS THE CAUSE OF DEATH (Mandatory)
This is the cause of death as recorded by the pathologist on the death certificate.

Q92: ANY OTHER RELEVANT PATHOLOGIES FOUND AT POST MORTEM
This is any other condition or observation found at post-mortem which may be relevant.

I. OTHER RELEVANT INFORMATION

Q93: ANY OTHER RELEVANT INFORMATION

Use this question to record any information, not necessarily specific to the deceased, which may be of importance. Examples include events which may affect the supply or purity of drugs in an area such as recent drug seizures in the area (state type of drug and amount where possible) and arrests of drug dealers; recent closures of large employers, closure of services (of any kind) or any changes to local drug policy.

Appendix 4: The National DRD Data Collection Co-ordinators

NHS Board Area	Data Collection Co-ordinator	Organisation	Other Data Collectors
Ayrshire & Arran	Lesley Robb	East, North and South Ayrshire Alcohol & Drug Partnerships Support Team (ADP)	Ruth Shepherd
Borders	Susan Walker	Scottish Borders ADP	Julie Murray
Dumfries & Galloway	Jackie Davies	Dumfries & Galloway ADP	
Fife	Julia Neufeind	NHS Fife	
Forth Valley	Anita Dufton	Forth Valley ADPs:- Clackmannanshire, Falkirk & Stirling	Elaine Lawler/ Claire McIntosh
Grampian	Lynn Sutherland	NHS Grampian	Alison McLaughlin/ Maria Rossi
Greater Glasgow & Clyde	Tony Martin	Glasgow Addiction Services	
Highland	Shona Wright	Highland ADP	
Orkney	TBA	TBA	
Shetland	TBA	TBA	
Western Isles	TBA	TBA	
Lanarkshire	Megan Ross	Lanarkshire ADP	Lucie Giles/ Fiona McIntyre
Lothian	Jim Sherval	NHS Lothian	Valerie Stewart/ Jennifer Irvine
Tayside	Julia Neufeind	NHS Fife	Caroline Snowdon
Argyll & Bute[1]	Luette Roberts	Argyll & Bute ADP	

[1] Argyll & Bute is effectively a CHP area within NHS Highland Health Board

Appendix 5: Typical Sources of National DRD Database Information

Information Type	Main Sources	Other Sources
PERSON IDENTIFIABLE INFORMATION	Police SDR	CHI database, Drug Treatment Service notes, GP notes
SOCIAL CIRCUMSTANCES	Police SDR	Drug Treatment Service notes, GP notes
DETAILS OF CHILDREN	Police SDR	Drug Treatment Service notes, GP notes
RECENT SIGNIFICANT EVENTS	Police SDR, Drug Treatment Services	GP notes, Psychiatric notes, Prison info, Hospital notes (including A & E notes)
DRUG USING HISTORY	Drug Treatment Services	GP notes, Police SDR
CONTACT WITH SERVICES	Drug Treatment Services	GP notes, Hospital notes, Police
MEDICAL HISTORY	GP notes, Psychiatric notes, Hospital notes	Drug Treatment Services
SUBSTITUTE PRESCRIBING[1]	Drug Treatment Service notes, GP notes, Pharmacists, Prescribing database	
CRIMINAL JUSTICE INFORMATION	Police, Scottish Prison Service	
SCENE OF DEATH	Police SDR	Scottish Ambulance Service
TOXICOLOGY & CAUSE OF DEATH	Pathology report	

[1] The source of substitute prescribing information depends on the mechanism of substitute prescribing in an area. For example, in some Health Board areas GPs deliver most of the substitute prescribing whereas in other areas GPs do very little substitute prescribing.

Appendix 6: Construction of the 2009 National DRD Database Cohort

1. Drug Related Deaths for 2009 Reporting By Different Agencies

NDRDD	GROS	SCDEA
432	545	469

The National Drug Related Deaths Database (NDRDD) figure of 432 drug related deaths in 2009 is **not** a National Statistics output for Scotland but represents a subset of those deaths on which detailed information was collected.

The National Statistics output for the number of drug related deaths that occur annually in Scotland is published by the General Register Office for Scotland (GROS) in their annual Drug Related Deaths in Scotland report [1].

The Scottish Crime and Drug Enforcement Agency (SCDEA) also produce an annual figure for the number of deaths that are reported to them by Scottish police forces (via the Association of Chief Police Officers, Scotland (ACPOS)) as being drug related deaths. ACPOS report all suspected drug related deaths, a small number of which are later excluded following post mortem examination and toxicology testing. The SCDEA reported figure of 469 given in the table above is the number of drug related deaths that occurred in Scotland during 2009 as confirmed by toxicology testing.

2. Matching the NDRDD Records to GROS Death Records

The GROS annual figure for DRDs is derived by reviewing the death certificates for all deaths that occur in Scotland in a given calendar year supplemented by additional information. The process by which the GROS figure is arrived at is therefore comprehensive.

To quality assure the NDRDD data collection, the returned NDRDD records were compared with GROS death records. A total of 465 National Drug Related Deaths records were returned to ISD for 2009. These records were matched to the equivalent GROS death records and the GROS assigned ICD10 codes were added to the NDRDD records. This ensured that each of the returned NDRDD records met the NDRDD definition of a drug related death (see Section 3.1.2).

33 of the returned NDRDD records did not meet the NDRDD definition of a drug related death and were removed from the dataset. This meant the final 2009 NDRDD cohort (analysed for this report) comprised of 432 records. The reasons for the removal of the 33 records are shown in the following table.

Reasons Why Returned NDRDD Records Did Not Meet the NDRDD Definition

	No. of cases excluded
GROS coded the death to something unrelated to the use of a controlled substance e.g. Hepatic failure (K72), Acute myocardial infarction (I21), Chronic ischaemic heart disease (I25)	13
GROS ascertained that the direct cause of death was secondary infection or contaminated heroin	6
GROS coded the death to 'other ill-defined and unspecified causes of mortality' (R99) and no additional toxicology and cause of death information was made available in the time since GROS attributed the code.	6
GROS coded the death to 'intentional self-poisoning by drugs, medicaments and biological substances' (X60 – X64) i.e. suicide	3
GROS coded the death to 'volatile substances' (F18)	3
GROS coded the death to 'accidental poisoning' (X40 – X44) and none of the drugs found in the body at the time of death were listed under the Misuse of Drugs Act (1971) when this report was written	1
For one record there was no match to any 2009 GROS death record, drug related or otherwise	1
	TOTAL = 33

3. Explanation of the Difference between the NDRDD and GROS Figures

The reasons why the figure of 545 DRDs reported by GROS for 2009 is much higher than the 432 DRDs that make-up the 2009 NDRDD cohort for this report are shown in the table below.

Reconciling the NDRDD Figure (For 2009 Drug Related Deaths) with the GROS Figure

	Number	Total
The number of drug related deaths reported by GROS for 2009	**545**	
Less the deaths that have been coded by GROS to 'intentional self-poisoning by drugs, medicaments and biological substances' (X60 – X64) i.e. suicides. The NDRDD definition of a DRD excludes suicides	**- 33**	512
Less the GROS deaths that occurred in 2008 but were registered in 2009 i.e. not included in the 2009 NDRDD figure	**- 11**	501
Add the NDRDD deaths that occurred in 2009 but were registered in 2010 i.e. not included in the 2009 GROS figure (but will be included in GROS's figure for 2010)	**+ 15**	516
Add the deaths that were not included in the 2009 GROS figure but that have been included in the NDRDD figure because information is now available that was not available to GROS when they coded the deaths e.g. toxicology results	**+ 8**	524
Less the deaths that were included in the 2009 GROS figure but for which a NDRDD record was not returned to ISD	**- 92**	432
Cases in NDRDD cohort to be analysed	**432**	

The table above shows that some of the difference between the GROS figure and the NDRDD figure is explained by the fact that 33 of the GROS deaths were coded to 'intentional self-poisoning by drugs, medicaments and biological substances (X60 – X64)' and these suicides have been excluded from the NDRDD figure as the NDRDD definition of a drug related death excludes suicides (see Section 3.1.2).

The table above also illustrates that the NDRDD uses the date of death to allocate the death to a particular year whereas GROS uses the date death registered resulted in a net gain of 4 cases to the NDRDD figure.

A further 8 deaths were included in the final NDRDD figure that were not counted as 2009 DRDs by GROS because information is now available that was not available to GROS when they "froze" their statistical data records for 2009 DRDs.

Taking the above explanations into account there still remains 92 deaths that GROS have counted as "non-intentional self-harm" (non-confirmed suicides) DRDs for which ISD did not receive any returns for the NDRD database. These 92 deaths were more or less evenly distributed across all NHS Board areas of Scotland.

4. Reasons Why 92 GROS DRDs Were Not Captured By the NDRDD Data Collection

1. The pathologist (or DRD Monitoring Group informed by the pathologist) decided that the death was a suicide whereas GROS had counted the death as an "event of undetermined intent" because GROS had not been told that the death was believed to be a suicide by the date on which GROS "froze" its statistical data records for 2009 (N.B. A death certificate will not state whether a death was a suicide. GROS relies on Procurators Fiscal to inform it whether a traumatic or suspicious death was believed to be the result of an accident, assault, or intentional self-harm). In this scenario a NDRDD record was not completed and returned to ISD for the death, but the death was probably counted by GROS as an "event of undetermined intent" DRD, or possibly an "accidental" DRD.

2. The pathologist (or DRD Monitoring Group) decided that the Cause of Death was "unascertained" and that the death should therefore not be classed as a drug related death whereas the information that GROS received had indicated that the death was a drug related death.

3. The GROS decided that the death was a drug related death because an illicit drug was present in the toxicology, but the pathologist (or DRD Monitoring Group) considered that:-

i) either the level of the illicit drug was so small that the death could not be considered as being a drug related death, or

ii) the only illicit drug(s) listed in the toxicology were being prescribed to the deceased at the time of death and therefore these drugs should not be considered as being illicit

GROS is not informed about the levels of drugs found, or whether the drugs had been prescribed to the deceased. In any case, the "UK Drug Strategy" definition of a drug related death (which GROS applies) does not exclude deaths because there was a low level of drug found or because they had been prescribed to the deceased (see Point A2.b in Appendix 2).

4. Where the pathologist's Cause of Death consisted of several elements, only one of which was related to illicit drug intoxication, and where the pathologist (or DRD Monitoring Group) decided that the non-illicit drug element was the main cause of death whereas the GROS decided that the death was in fact drug related (it should be noted that in the majority of cases where the Cause of Death consists of several elements the GROS reach the same conclusion as the pathologist as to what the single main Cause of Death is).

5. The Data Collection Coordinator was not informed about a drug related death. For example, when there is no evidence at the time of death to suggest that a death is drug related the Police Sudden Death report would not show the death as being a suspected drug related death (see Section 3.3.2). Occasionally, via post-mortem and toxicology testing, the Procurator Fiscal will later find that such a death is in fact a drug related death. In some areas the Procurator Fiscal does not tell the police and the DRD Monitoring Group about such a drug related death and consequently ISD will not be sent a NDRDD record. The GROS will normally know about these drug related deaths as they receive toxicology and cause of death information directly from the pathologist. Note that this scenario will not arise in areas where the pathologist has direct links with the DRD Monitoring Group and the Data Collection Coordinator.

6. There is an ongoing criminal investigation surrounding a drug related death and the Procurator Fiscal has not given permission for certain information relating to a death to be released to the Data Collection Coordinator and the Coordinator has consequently been unable to complete a NDRDD record for the death. However, the GROS may have enough available information to define the death as a DRD.

7. For the NDRDD, the place where someone dies determines what area the death is assigned to. However, GROS's figures for drug related deaths in Scotland are normally registered by the geographical area of the usual place of residence of the deceased. If the place of residence is outside Scotland, then the location of death within Scotland is assigned. In the case of someone who had recently moved residence within Scotland, GROS is likely to count the death by the former area area of residence (provided that he/she had been resident there for at least 12 months). This could lead to small discrepancies in the number of DRDs that GROS and NDRDD assign to a particular area of Scotland.

5. NDRDD versus SCDEA Figures

The definition of a drug related death used by the Association of Chief Police Officers, Scotland (ACPOS) is:-

“Where there is prima facie evidence of a fatal overdose of controlled drugs. Such evidence may be recent drug misuse, for example controlled drugs and/or a hypodermic syringe found in close proximity to the body and/or the person is known to the police as a drug misuser although not necessarily a notified addict.”

Section 3.2.2 shows that the process for identifying a death as drug related and triggering the return of a NDRDD record to ISD is the same as the process by which the SCDEA arrive at their figure for confirmed drug related deaths:-

1. The Police Sudden Death report contains information that shows that the death meets the ACPOS drug related death definition given above e.g. there is evidence of a fatal overdose of controlled drugs

2. The pathologist (or Drug Related Death Monitoring group) confirms the death as being drug related following post mortem examination and toxicology testing

Given that the criteria by which deaths are counted as being (confirmed) drug related deaths by SCDEA is the same as the criteria used to decide whether a NDRDD record is returned to ISD, one would expect the number of DRDs in the final NDRDD cohort to be similar to the number of DRDs reported by SCDEA.

The table at the start of Appendix 6 shows that for 2009 the SCDEA reported 37 more DRDs than make up the final 2009 NDRDD cohort.

However, 33 NDRDD records were returned to ISD that were excluded from the final NDRDD cohort because they were coded by GROS as being ‘intentional self-poisoning’. It is likely that these deaths are included in the SCDEA figure because there was no evidence at the scene to suggest the death was a suicide; the deceased was known to police as a drug misuser; and toxicology testing confirmed that controlled drugs were present in the deceased.

If these 33 deaths are subtracted from the SCDEA figure then the number of 2009 confirmed DRDs reported by SCDEA can be considered similar to the number of DRDs that constitute the final 2009 NDRDD cohort.

Appendix 7: How ISD's National Drug Related Deaths Database Project Meets The 6 Caldicott Guardian Principles

Principle 1: Justify the purpose(s)

The Scottish drug related death rate has been increasing significantly in recent years. Despite determined and coordinated efforts by professionals on the front line there were 574 drug related deaths in Scotland in 2008, the highest number ever.

In their first annual report published in December 2007 the National Forum on Drug Related Deaths recommended a more systematic data collection.

One of the Key Actions in the Scottish Government's May 2008 The Road to Recovery policy document is to "Work with Information Statistics Division (ISD) to create a Drug Related Deaths Database…."

This National Drug Related Deaths Database (NDRDD) has now been created by ISD. The database will gather information about every drug related death that occurs in Scotland on/ after 1st January 2009. For every deceased drug user collected information includes personal circumstances, drug use history, contact with drug treatment services and GPs, medical history, substitute prescriptions, contact with the criminal justice system, scene of death, and toxicology.

The database will be linked with other existing databases e.g. SMR01 (acute hospital discharges), SMR04 (psychiatric inpatients) and the Scottish Drug Misuse Database. This linkage is very important as it will enable as complete a picture as possible to be built up of deceased drug users and will help provide information that will help determine which living drug users are most at risk which will help interventions to be targeted effectively.

From 2010 ISD will use the database to provide national and regional analysis on a regular basis. The Scottish Government and the National Forum on Drug Related Deaths can use any national trends and patterns that are identified during analysis to help inform policy decisions designed at reducing the Scottish drug related death rate.

Alcohol and Drug Partnerships and drug treatment services can use both national and local indicators to inform the introduction of interventions aimed at reducing the drug related death rate in their area.

Many experts from the areas of Public Health and Drugs Misuse (and beyond) spent a long time debating what the final National Drug Related Deaths dataset should be and all the data items have been included because they are expected to help identify patterns and trends that may help us to decide what policies, interventions and education will give us the best chance of reducing the drug related death rate in Scotland – or at least help us to try and arrest the alarming rise in the Scottish DRD rate.

The "National Forum on Drug Related Deaths: Data Collection Sub-Group" meet regularly to discuss analytical strategy. If at any stage in the future this group decides that it is no longer necessary or appropriate to collect any of the data items in the NDRDD dataset then these data items will be dropped from the dataset and will no longer be collected.

Similarly, the Data Collection Sub-Group may later decide that it is important to collect a new data item at which point the dataset may be expanded and this new data item collected.

Principle 2: Don't use patient-identifiable information unless it is absolutely necessary

As explained under Principle 1 above, an important part of the National Drug Related Death (NDRDD) project is the linkage of NDRD database to other databases. Records of individuals in the NDRD database can only be linked to the records of the same individuals in other databases using patient-identifiable information.

In June 2009 ISD received Privacy Advisory Committee (PAC) approval for the proposed linked dataset.

Principle 3: Use the minimum necessary patient-identifiable information

The person identifiable information contained within the NDRDD dataset are:-

- Forename
- Surname
- Alias/ Maiden Name
- CHI Number
- Postcode
- Date of Birth
- Date of Death
- Date Death Registered

Within ISD we use probability matching techniques to carry out Record Linkage. For this we use a number of main identifiers. These are forename, surname, DOB, CHI, NHS Numbers and Postcode. Linkages are carried out by comparing these identifiers and calculating how probable the match between two different records is. Whilst it would be possible to carry out linkage with a reduced number of identifiers this would cause a reduction in the percentage of cases that we would be able to successfully match as well as a reduction in the robustness of any match made.

The linkages which will be carried out using the NDRD database will involve other datasets which will not all contain all the identifiers listed above. For example, forename and surname are mandatory items in the new SDMD database, but CHI Number is not mandatory. Therefore if the CHI number was the only person identifier in the NDRD database we would not be able to make many of the links between records in the NDRD and SDMD databases that we would be able to make using forename and surname.

Alias/ Maiden Name may aid linkage where several individuals have the same Forename and Surname as someone else, or where the same person has a different Forename and/ or Surname recorded in different databases.

As well as being used in the linkage process, the Postcode will also be used to allow us to perform statistical analysis by area.

The Date of Death or Date Death Registered also have the potential of being person identifiable information. However, it is essential that this information is collected so that we know what reporting period each death should be assigned to.

Principle 4: Access to patient-identifiable information should be on a strict need to know basis

The person identifiable data (e.g. name) will be held separately from other information about the person (e.g. info about social circumstances, drug taking, medical history) when it exists outwith the National Drug Related Deaths Database. This data must of course exist together within the database itself i.e. this is the only way we can link the NDRDD data to other datasets.

Analysis will be undertaken on an anonymised dataset i.e. the specialist staff carrying out the record linkage will have access to the person identifiable data as required to make the linkage work. Once the linkage has been completed the person identifiable data will be deleted from the linked file before analysis begins.

A few ISD staff members will of course have access to the entire dataset (including person identifiable data) while they are entering the collected data into the database. Datasets that have been returned to ISD are kept in a locked cabinet (if they are hard copy forms) or in a designated mail box if they are spreadsheets that have been emailed to us. All emailing of data is done within the government secure network e.g. nhs mail to nhs mail. Access to this mailbox is strictly controlled. Only a couple of individuals have access to this mail box – these individuals are entering data directly from the spreadsheets that have been returned to this mailbox into the database i.e. these spreadsheets are never printed out.

Several ISD staff members also have access to the entire datasets for quality control purposes i.e. we are checking the data for incorrect and/ or missing data and contacting the people who collected the data (Data Collection Coordinators) for clarification where required. When corresponding with the Data Collection Coordinators about any of the collected datasets we never use person identifiable data to identify what records we are talking about, instead we use the ID that has been assigned to the record by the area who collected the data e.g. the ID number written in the top-right corner of the data collection form, or the ID number in the left-hand column of the data collection spreadsheet. These ID numbers are not person identifiable.

Principle 5: Everyone should be aware of their responsibilities

ISD have issued strict instructions to everyone involved in the collection of the NDRDD data stating that the recommended method of transferring the NDRDD data from agencies to Data Collection Coordinators and from the Data Collection Coordinators to ISD is emailing of the data between any of the Government Secure Internet email domains e.g. nhs.net. The ISD instructions state that the only other legally acceptable method of data transfer is the hand delivery of NDRDD data, but the instructions stress that the appropriate Caldicott Guardian should be consulted before this “hand delivery” method is used.

At a local level, the Lanarkshire Drug Death Review Group adheres to NHS Lanarkshire Information Governance policies.

With regards the handling and processing of the NDRDD data after it has been transferred to ISD, all members of ISD staff have signed the “Confidentiality Guidelines for ISD Staff” and are aware of their responsibilities with regards the handling of confidential data.

Principle 6: Understand and comply with the law

Information about the deceased is not directly covered by the Data Protection Act 1998. However, ISD considers that the National Drug Related Deaths Database data is protected by a Duty of Confidence because the information has a quality of confidence i.e. it includes person identifying sensitive information and much of the information “became known in circumstances imposing an obligation of confidence (legitimate expectation)” e.g. the deceased may have told their GP about them self harming and then rightly expected that this information was never going to be shared by the GP.

NHS custom and practice is therefore to protect the confidentiality of the deceased, a matter on which GMC guidance to doctors ('Confidentiality', recently updated and launched) is also clear from an ethical point of view.

As far as the National DRD Database project goes we obviously cannot get the individual’s consent for their information to be sent to ISD as they are deceased. However, where a Duty of Confidence exists, information held in confidence can still be disclosed without the individual’s consent where there is either a legal requirement to disclose, or an overriding public interest.

The disclosure of the Drug Related Deaths information to ISD for analysis has the quality of being a public health interest. Many experts from the areas of Public Health and Drugs Misuse (and beyond) spent a long time debating what the final National Drug Related Deaths dataset should be and all the data items have been included because they are expected to help identify patterns and trends that may help us to decide what policies, interventions and education will give us the best chance of reducing the drug related death rate in Scotland – or at least help us to try and arrest the alarming rise in the Scottish DRD rate.

The legal framework that NHS Scotland has been given to work within in matters such as these is set out in the ‘Protecting Patient Confidentiality’ report by the Scottish Government's Confidentiality and Security Advisory Group for Scotland (CSAGS). Section 7 of this report clearly sets out the recommended approach for the handling of confidential health data for uses such as planning, monitoring and service evaluation. This recommended approach does not rely on explicit consent as the legal justification for the necessary transfer of data within the health system. This framework stresses the need to “weigh-up individual rights and claims to confidentiality against the rights and claims of individuals and the whole community to better health and to protection against threats to ill health’. In its 'Confidentiality' guidance to doctors the GMC reflects this consideration in paragraph 71 where it says the data of the deceased may be made where it is in the public interest, '...such as for education or research'.
Because we cannot get the consent of the deceased or inform them that their information is being used in the Government sponsored National Drug Related Deaths Database project, we are both protecting the individuals rights to confidentiality as much as we can by making sure that the data is handled and processed correctly, whilst simultaneously upholding the claims of the whole community to better health.